

Quality Assurance of Universities

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Abstrakt: Zaměstnatelnost absolventů vysokých škol je důležitým faktorem pro rozhodování středoškolských studentů, na kterou školu zamířit. Aby vysoká škola vychovávala absolventy s požadovanými kompetencemi, je nezbytné, aby systematicky spolupracovala s průmyslem. Tento příspěvek popisuje proces spolupráce vysoké školy se zaměstnavateli a absolventy. Na Ústavu řízení a ekonomiky podniku, Fakulty strojní, ČVUT v Praze, byl realizován průzkum názorů absolventů pro získání zpětné vazby a námětů pro inovaci studijního programu tak, aby lépe odpovídal požadavkům praxe. Zkušenosti s realizovaným průzkumem a výsledky jsou uvedeny v tomto příspěvku. Dalším cílem příspěvku je přiblížit proces řízení vztahů se zaměstnavateli absolventů a jejich zapojení do posuzování obsahů studijních programů.

1. Introduction

Employability of university graduates plays the important role when students are deciding what university they will choose. Systematic co-operation between a university and industry is indispensable when university wants their graduates to have required competencies. This article describes the process of collaboration between university and industry (employers and graduates). At the Department of Enterprise Management and Economics at the Faculty of Mechanical Engineering of CTU (FME CTU) a survey of the opinions of graduates and an a survey of the opinions of employers were realized. The aims and the results of both surveys are included in this article.

The Department of Enterprise Management and Economics and the Centre for Higher Education Studies are taking part in the international project Development of Elements for Quality Assurance within Practice Oriented Higher Education (DEQU). This project is being supported by the Leonardo da Vinci Agency. Its objective is to develop an appropriate methodology for the development of study programmes in co-operation with enterprises and, in this way, to facilitate a better response to the requirements of future employers as regards the knowledge and skills of higher education graduates. Five higher education institutions in various European countries are participating in the project (Austria, Finland, the UK, Spain and the Czech Republic).

A pilot study has been proposed as part of the project which aims to develop an effective mechanism for co-operation between Czech HE institutions and industry, and to ensure innovation of our study programme based on industry requirements. A primary emphasis is placed on the development of a Bachelor study programme focusing on business and technology.

In order to establish good co-operation between a university (department) and industry the university must:

- understand the needs of potential employers and employment opportunities available for its graduates (obtaining helpful information from those areas where graduates go after graduation)
- develop an institutional basis for co-operation with industry, e.g. establish a working group (an Advisory Board) consisting of representatives of industry, particularly those companies that employ its graduates. The main task of the group is to evaluate the existing study programmes, present proposals for their modification and contribute to

the development of new study programmes.

The involvement of employers in modification of study programmes could also be an important component of their accreditation.

The pilot study consists of the following stages:

1. a survey of the opinions of graduates of the programme Enterprise Management and Economics at FME CTU (a questionnaire sent via email), quantitative research;
2. a survey of the opinions of employers (qualitative research by means of managed personal interviews);
3. establishment of an Advisory Board,
4. evaluation of the content of the study programme

At the 1st stage of the project surveys of the opinions of graduates and employers were carried out.

2. Survey of graduates

The objective of the survey of the opinions of graduates of the programme Enterprise Management and Economics at FME CTU was to obtain feedback as regards the content of the study programme (the extent to which it meets industry requirements), and, most importantly, to acquire ideas as to what should be included in the programme so that it responds to the changing industry requirements. Another objective was to get an overview of companies where graduates of this programme work. Moreover, the aim was to use this information as a basis for establishing contacts with these companies, which would facilitate the development of a mechanism for co-operation between the university and industry. Last but not least, the intention was to establish a network of contacts for graduates and enter into a closer relationship with them.

As part of the survey graduates of the Enterprise Management and Economics programme who completed studies in 2003 – 2006 were addressed (within 3.5 – 0.5 years of graduation). A total of 120 questionnaires were sent along with an accompanying letter. 55 returned questionnaires were processed.

The questions concerned the following areas:

1. job description (name of company, industry, job position, nature of work performed, satisfaction in current employment);
2. the use of knowledge and skills in practice – specialist, soft skills, ICT, language skills (the extent to which the graduates were prepared in the relevant subjects to meet industry requirements and what they had to learn at work);
3. evaluation of the studies, forms and methods of instruction, proposals for improvement;
4. identification with the studies, interest in regular meetings of graduates organised by the university.

Base on the information about graduates' jobs it could be claimed that most of graduates is working in accordance with the field of their studies – in the companies of mechanical engineering, in the companies of another field of industry or in consultant firms oriented just on the industrial companies. (see the following figure). As the jobs of graduate are in the accordance with their field of study, their opinions could be considered as relevant for our purpose.

Names of companies found out throw this survey represent very important database from which we were choosing the respondents for qualitative in-depth interviews.

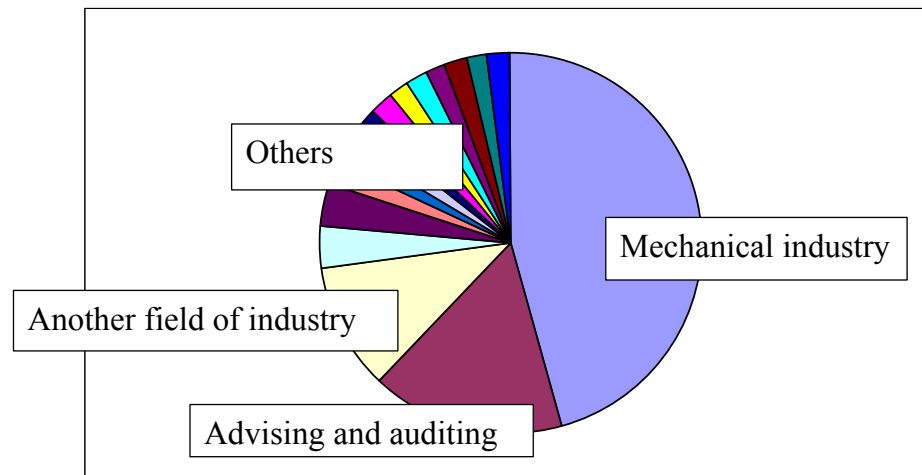


Fig.1: Fields of graduates jobs (Enterprise Management and Economics at FME CTU)

The following graph illustrate the graduates' answers to the question: Did you find the job related to your study after graduation?

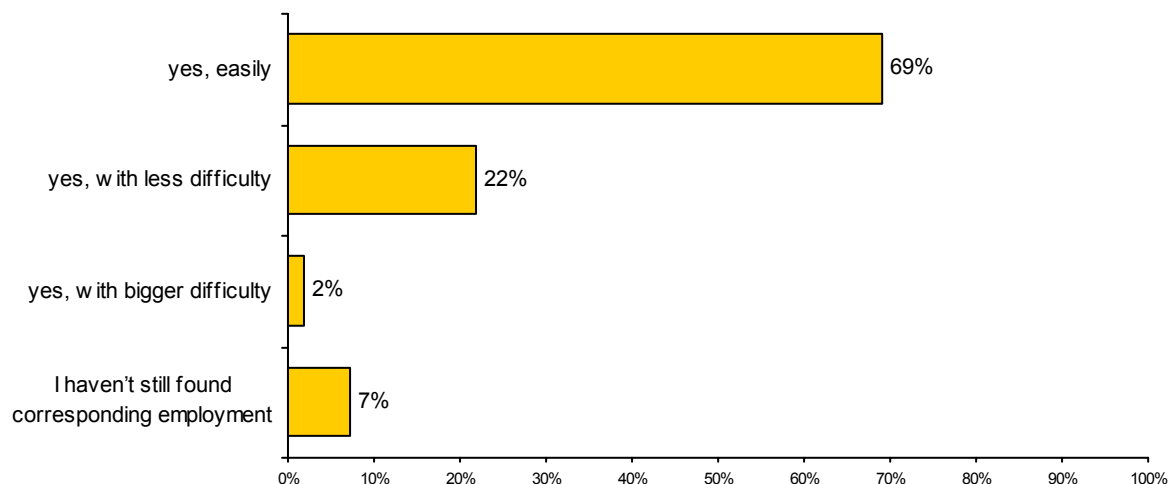


Fig. 2: Did you find the job related to your study after graduation?

From these results is evident that most of graduates had no bigger difficulties with finding corresponding job. Apparently, their specialization facilitates the finding of first job.

Graduates characterise their work especially as responsiveness requiring (96%), conceptual (91%), creative (85%) and variable (91%). 58% of graduates evaluate their work as managerial and 67% have the work with perspective of growth.

As main reasons for the satisfaction with actual job graduates mentioned: interesting work (15x), perspective position (10x), good team (9x), emphasis on another learning (7x), salary (8x), perspective company (6x).

To obtain the feed-back as regards the particular study subjects following questions were asked:

What kind of professional knowledge do you employ in your actual job?

Are you satisfied with school preparation within our department in these subjects?

What have you had to learn after leaving the faculty to deal with your work?

Graduates named fields (subjects) they use the most, they evaluated the rate of employing of these subjects and also they specified some particular knowledge. In terms of obtained results it is obvious which subjects have to be involved in prepared Bachelor study programme. Furthermore, graduates specified what they had to learn (different seminars, as autodidact). Important suggestions to innovate study programme have been obtained.

To encourage suggestions as to what should be included in the study programme so that it would better respond to industry requirements the following questions were asked:

- What is your overall view of how the Enterprise Management and Economics programme at FME CTU prepares students for practice?
- What do you think of various forms of study in terms of your preparedness for practice?
- What do you think should be added to the content of the programme to make sure it better responds to industry requirements?
- What should be changed (and how) in the form of instruction so that the programme would be more in line with industry requirements?
- An informal question: What did you learn from our programme and what, looking back, do you think you could have learnt?

The following graph shows overall graduates' view of how the Enterprise Management and Economics programme at FME CTU prepares students for practice. According to graduates (23x) it would be better to intensify the relations with companies. 8 graduates were entirely satisfied with their preparation for practice.

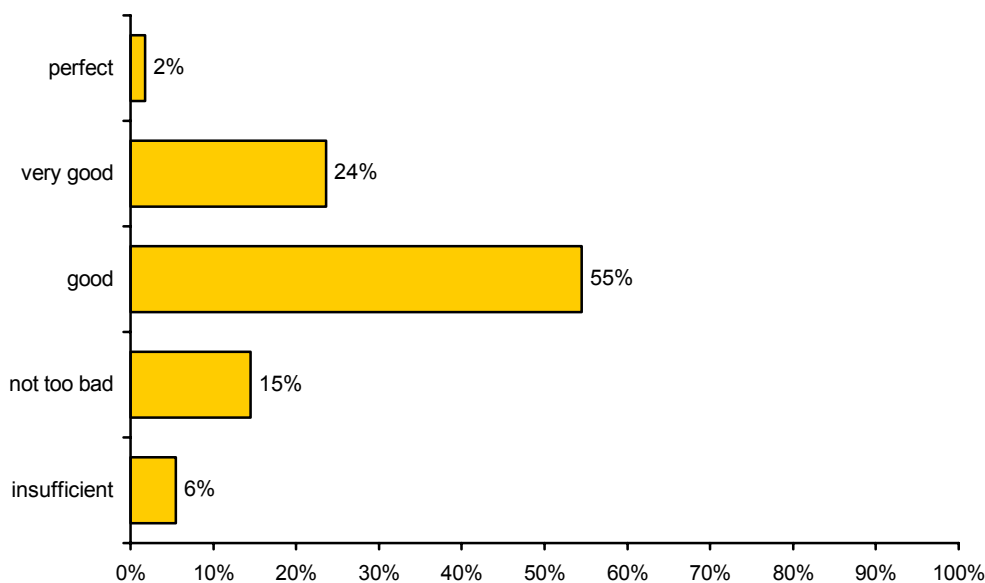


Fig.3: Graduates' view of how the Enterprise Management and Economics programme at FME CTU prepares students for practice

Very positive outcome is high identification of graduates with their studies – 80% of 55 inquired graduates would study the same degree course again. (see the following graph).

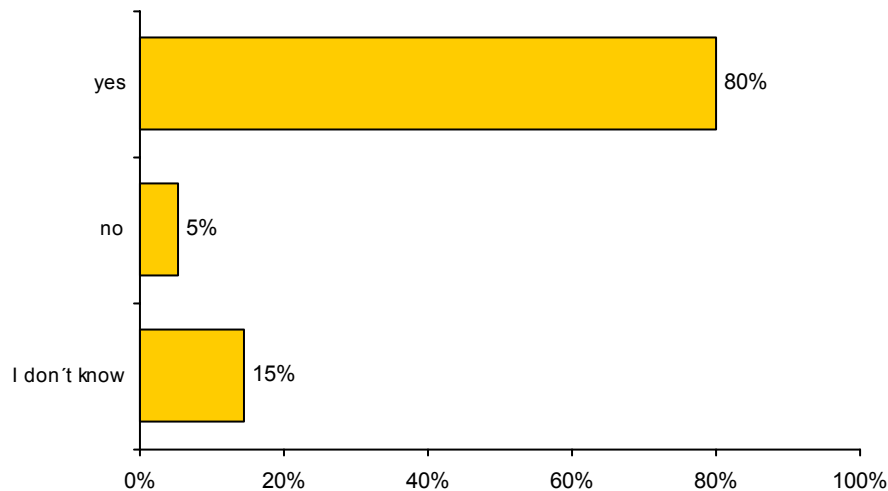


Fig. 4: Would you study the same degree course again?

Graduates expressed their interest in cooperation with the Department of Management and economics in future, especially on different project, diploma works and they also offer the possibility of the lecturing. Through this survey, there has been already established new cooperation with several companies.

All graduates were interested in the regular meetings organized by our department. For this reason an alumni club should be established. The alumni club could enable more intensive connection with graduates and that is why also innovation of study programmes.

3. In depth-interviews

In depth interviews were carried out with 9 employers of graduates of the Enterprise Management and Economics programme at FME CTE in Prague. These were largely mechanical engineering companies (5 large, 2 medium-sized and 2 small).

The in-depth interviews focused on the employers' views of several issues:

- the graduates' competencies,
- the importance of placements and possible ways of their organisation on the part of employers,
- their willingness to participate in the modification of study programmes (membership of the Advisory Board).
- the position of graduates of Bachelor programmes.

Strongness and weakness of our graduates have been emerged from realized interviews:

Strongness of graduates:

- analytical thinking and capability of complex view
- high creativity, capability to learn fast (management, finance)
- strong career drive, managerial capabilities, systematic approach to solving problems, ability to process information

This outcome is also claimed by the fact that graduates are satisfied with development of their analytical and conceptual skills during their studies. (81%)

Weakness of our graduates:

- Capability to express opinions (especially in foreign language)
- To deal effectively
- Presentation activities
- Capability to organise activities
- Team work
- Capability to lead the others

Graduates in accordance with employers gave us these recommendations

- To put more emphasis on foreign language (subject in foreign language, documents in foreign language)
- To ensure more possibilities for presentation (training in dealing, rhetoric, written communication).

According to employers the graduates are lacking better practice preparedness. Nevertheless, the requirements of employers differ – for some employers the practical experience of graduates is not so important, they stress the interview. Some of them consider it as very useful, because of shorter time of adaptation. The companies provide practical placement for students, in most cases it is the possibility of diploma work.

An interest in collaboration with Department of Enterprise Management and Economics has been emerged from realized interviews. Moreover the companies embraced their membership in Advisory Board

Finally, the representatives of industry evaluated the quality of Czech Universities as very high and comparable with foreign countries. Their foreign partners share the same opinion.

4. Conclusion

Both surveys were very much beneficial in terms of our intention to develop a study programme in co-operation with industry, we obtained valuable suggestions and experience. The graduates as well as employers were pleased at the interest expressed by our department. The employers voiced their interest in membership of the Advisory Board. At the next project stage another objective is planned – establishment of a well-functioning Advisory Board facilitating a better synergy between our department and the employers of our graduates.

In words of one of our respondents:

“To establish the partnership between university and industry it is a long-distance run”.

We hope this partnership would be developed in much more intensive way.

5. Literature

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