

## EDU-LAB New Danubian Governance in Labour market Relevance of Higher Education

**Involved EDU-LAB partner:**



TECHNICAL UNIVERSITY  
OF KOŠICE

### LESSON LEARNED

#### SUMMARY

The “Lessons Learned” will highlight measures of international project „EDU-LAB - New Danubian Governance in Labour Market Relevance of Higher Education“. The results can be used to learn from the project how to analyse and to establish a proper study plans for our university as well for practise. Positive effects of such study plans are long-terms and bring opportunities for students, university as well as for employers.

#### CONCLUSTIONS FROM ANALYSIS BEFORE

Based on the **ANALYSIS BEFORE**, the conclusions for “Lessons Learned” can be summarized in 3 areas. The **first area** concerns national findings where the following should be considered:

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1) Employers (especially in the automotive industry and in the IT sector in Košice) have been complaining about the lack of skilled labour for several years. Industry 4.0 has brought and continues to bring increased demands for the introduction of new technologies, on the one hand, and the changed requirements for graduates on the other. International comparisons show that despite the improvement in higher education, it is still slow.

2) Unfavourable demographic development is also associated with a decline in the number of 19-year-olds admitted to universities. Since 2010, the number of 19-year-olds has dropped by more than 26%, but the number of first-grade admissions to tertiary education has fallen by more than 39% over the same period. For the years 2007-2017, the number of public higher education students decreased by almost 39%, while in the case of private universities the decrease was 56%.

3) Women predominate in the total number of students (for example, almost 59% in 2017).

4) Most public university students in the first two stages study in social sciences, teaching and services.

5) Natural and technical sciences, accordingly branch which absolvents are highly sought after in the labor market, studying about 25% students, what is almost about 5 percentage points less as the EU average (where natural and technical sciences studying about 30%). It is even less on average in V4 countries (by almost 3 percentage points).

The **second area** of findings from **ANALYSIS BEFORE** focused on the Technical University of Košice, Faculty of Electrical Engineering and Informatics (FEI).



In 2015, the Department of Computers and Informatics launched the project "Live IT Projects" as an effort to introduce dual education. The project is designed for fourth-year students and is the largest event of its kind in Slovakia. The event links several universities and practices with active student participation

throughout the semester. The number of companies and students involved is increasing from year to year. 14 companies and 116 students participated in the 2015/16 academic year, while

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21 companies and 171 students participated in the 2018/19 academic year. 30 mentors from universities and involved IT companies provided expert assistance to students. In this way, students could gain practical experience not only in technology and programming, but also in teamwork, project management and agile software development.

FEI has long-term cooperation based on dual education principles with the company T-Systems.

The last **third area** of conclusions from **ANALYSIS BEFORE** concerned the second faculty involved in the EDU-LAB project, the Faculty of Manufacturing Technologies with a seat in Prešov (FVT). The mentioned faculty has long-term cooperation with the practice, which is constantly deepening and expanding. FVT has been successfully involved in the project “University Students in Practice”, both in the first and the second stage.



Nowadays, students of the 2nd year of engineering degree can participate in the SPICE (Student Program of Integrated Company Education), a joint project of the Automotive Industry Association of the Slovak Republic, the national development project AZU.sk, industrial enterprises,

and especially technical college students. The aim of the program is to enable students to work through their own diploma work through an appropriate practice. In addition, often after graduation, a graduate remains in the company to work. The involvement of students in the program is gradually increasing.

## CONCLUSTIONS FROM ANALYSIS AFTER

As part of the **ANALYSIS AFTER**, stakeholders (companies, students involved in project SPICE and FVT) were asked to provide feedback on the experience gained in participating in the project.

On the part of **employers**, 25 companies (20 involved in the SPICE project and 5 with whom the FVT is interested in working in the future) answered the questionnaire. The most interesting findings were:

- In addition to the above mentioned SPICE involvement, the companies most often cooperate in solving year-long student projects, final theses (bachelor's, diploma's and in one case there is also co-operation in dissertations), fifteen responses related to the concluded contract with FVT on economic co-operation; enterprises allow excursions in their production facilities; but it is also cooperation on various national projects and three companies provide selected requested lectures within a particular subject.
- Enterprises in collaboration with FVT most appreciate getting new insights and bold, innovative ideas in solving problems, as well as the enthusiasm and flexibility of young people.

On the other hand, SPICE **students** most appreciated the following:

- Possibility to work in real conditions on real problems of selected company.
- Finding that they can take responsibility for the tasks entrusted to them and that they have the ability to be creative and flexible in thinking and acting.
- Ability to identify and solve problems.

However, these students also gave the **faculty** significant feedback in answering the question of where they identified the greatest differences between the level of competences required by businesses and the level of competence development they had achieved through the FVT. The most frequently mentioned were:

- Knowledge and ability to communicate in a foreign language (especially at a technical level).
- Ability to work in an intercultural / international environment.
- Ability to take responsibility.
- Ability to identify and solve problems.

Last but not least, the **FVT** has gained valuable information, thanks to which it can improve the quality of study and thus gain more students

In the framework of the EDU-LAB project, **other activities** were organized, which focused on the promotion of dual education or eventual training, exchange of views and knowledge. The most important activities include the following:

1) Assoc. prof. Jaroslav Porubän, PhD. had contribution „Approaching IT Study to Practice - Smart IT Study Programmes“ in cooperation with T-Systems at a Conference on Professionally Oriented Higher Education held in Bratislava in October 9<sup>th</sup> 2018.



2) FVT organized workshop "Study for Practice" which was held in Prešov, Slovakia in November 28<sup>th</sup> 2018.



3) TUKE organized workshop „Connection Education with Practice“ in Košice, Slovakia in November 29<sup>th</sup> 2018.



4) TUKE also organized one meeting with educational advisers from secondary schools in Košice, Slovakia in November 30<sup>th</sup> 2018.



All the above-mentioned actions had the ambition to promote dual education, to show the necessity of linking the study with practice and to make TUKE visible not only to potential students but also to educational advisers who have some tools to influence secondary school students in their future professional focus.

## **„LESSON LEARNT“, RECOMMENDATIONS and CONCLUSIONS**

Dual learning brings with it a number of challenges that need to be responsibly approached and which must be solved. The EDU-LAB project has shown that very similar problems, as TUKE solves through two faculties involved in EDU-LAB, are also solved by other technical faculties in Slovakia as well as other countries. Therefore, it is difficult to briefly describe the most

serious problems that are waiting for a solution in the near future. Among the most serious is the following:

- the need to invest effectively in high quality, modernized and reformed education and training;
- promote lifelong learning opportunities for all and at all levels of education and training, in particular by increasing the attractiveness and relevance of vocational education and training;
- adapt to new requirements and trends in order to ensure better matching between real absolvents' skills and labour market needs;
- the way of administration and implementation in the dual education system should be as simple as possible and use clear administrative procedures so that no concerned sides are burdened with them;
- improve the system of dual education by foreign examples, so as to increase cooperation between schools and small and medium enterprises. Large businesses would have a chance to make more use of the corporate school system;
- linking all levels of education with practice, not only secondary and higher education, but focusing on shaping future careers already in primary school, and also offering study programs in the form of a advanced and extension study,
- on the basis of the certificates, diplomas and confirmations obtained, allow permeability not only between the various levels of study, but also between departments,
- pay increased attention to the creation and strengthening of so-called soft skills - mainly language skills,
- clarify the position of career adviser as a person who represents an intermediary, assistant in transition from one level of study to another, who can also offer appropriate linking of study to practice and subsequent graduate application,
- strengthen the positive awareness of dual education among pupils and parents at primary and secondary schools through one-off or repeated specialized training with focusing on professional training and occupation.

### **Last but not least**

**TUKE** is creating a background for the accreditation of professionally oriented study programs; Faculty of Manufacturing Technologies with a seat in Prešov is preparing accreditation of 3 such programs (Automotive Production Technologies, Computer Aided Manufacturing Technologies and Manufacturing Management).

The reasons why the FVT has decided to create accredited vocational programs is to support the linking of higher education with the needs of practice, through the support of the creation of professionally oriented bachelor study programs in accordance with the Criteria for Accreditation of Professional Oriented Bachelor Study Programs of Higher Education and Support of Solvency Capabilities.

The accreditation will be:

- in the framework of the challenge "University for Practice"
- Call for applications for non-repayable financial contribution to support higher education links with practice needs – College/University of Practice, within the Education and Operational Program Human Resources priority axis
- Call code: OPLZ-PO1/2018/DOP/1.3.1-02
- The schedule of project activities: from 01.09.2019 - till 31.08.2020