

## DUAL EDUCATION IN SLOVAKIA AND ITS IMPACT ON THE EMPLOYMENT OF GRADUATES

**Miroslav Warhol, Anton Lisnik, & Martina Kuperová**

*Department of Management of Chemical and Food Technologies, Institute of Management of the Slovak  
Technical University in Bratislava, Slovak Technical University in Bratislava (Slovakia)*

### Abstract

Dual education in Slovakia brings the first graduates into practice. The paper presents the first original results of dual education in Slovak conditions. This type of education in the conditions of Eastern and Central Europe is experiencing a renaissance, because during the time of the socialist establishment in the conditions of the Czechoslovak Socialist Republic, it was a common method of education in apprentice schools. The article summarizes the economic and other impacts on employers who cooperated in dual education. Paper focuses specifically on the job classification of graduates, the impact of completed education on the labour market, their application in practice and their standard of living. The article also includes proposals for changes in the principles and conditions of this type of education. The covid and post-covid era brought new conditions that have an impact on the rules of education in practice. The contribution maps the intensity of involvement in education in the individual regions of Slovakia and correlates the relationship with the level of living standards in the region. In the conclusion, the possible application of dual education to university conditions is outlined.

**Keywords:** *Dual education, Slovakia, employment, quality of life, quality of work.*

---

### 1. Introduction

Education in general has a very important social role. Society, especially a transforming society, creates its own education systems. These systems respect the tradition of the culture, the needs of the labour market and the market in general, the contexts of global changes. Transforming societies that have passed from the country's central management system at all levels and areas to market management methods are looking for their own personal systems in the confrontation with other countries in the global context. System changes are associated with the need to respond flexibly to market needs and future developments such as Industry 4.0. The transformation of education needs is based not only on a change in the management system of society, but also on an adequate response to current challenges such as the Covid crisis and its impact on society, the economic crisis associated with the conflict in Ukraine and inflation, which is a consequence of the development of the economy, expected impacts associated with changes in the area of remuneration employees and the development of energy prices, which radically affect the existence of companies, the market and business. A systemic change in the field of education and preparation of graduates for the needs of the labour market should respond to all these aspects and external circumstances of the global world. The article deals with one of the ways to respond adequately in a short period of time to the current needs and stimuli of the labour market system, which is dual education.

The publication was created with the support of the project: KEGA no. 011STU-4/2022: "Creation of an education model supporting the increase of competences of students of a non-economically oriented university in the field of innovative, entrepreneurial thinking and business support", solved at the Department of Management of Chemical and Food Technologies, Institute of Management of STU in Bratislava.

### 2. Design

The system of dual education as one of the forms of vocational education and preparation of pupils for the performance of a profession in the context of market needs.

In Slovakia, after the system change in 1989 and after independence in 1993, under the influence of an unsustainable education system that was unable to prepare graduates for changes in the labour market, school reform began to be enforced. One of the main reform ideas for the popularization of secondary apprenticeship education is to rename Secondary Vocational Schools into Vocational Schools. It was only

a "cosmetic change" that lacked real internal methodological changes. In a way, society demanded it, as the whole society perceived the big difference between learning at an "apprenticeship school" and learning at a vocational school. The dual education system is a response to the real needs of the labour market and the needs of educational change.

The goal of dual education is to connect practical training at a specific employer with professional theoretical education at secondary vocational schools. This system has been in effect since 2015. In our opinion, it could also be applied at universities and thus expand its application.

Dual education, as a work of the State Institute of Vocational Education, is financed by the Ministry of Education. The total authorized expenses of the project in the period 01/2016 – 09/2021 amounted to € 31 711 257,73€. (SIOV, 2022) This system is exceptional in that it assumes a partnership relationship between the student and the employer in the form of a signed learning contract. One of the main goals of this national project was to implement education across the board in all teaching and study fields, as far as possible. In addition is to deepen the relationship between the school, the business entity and the student. Also, adapt study fields to the needs of entrepreneurs, certify businesses and thus increase the professional readiness of employees, or save costs for recruiting employees.

Companies that want to join this training system need a certificate of competence, thanks to which the employer can provide practical training in the aforementioned training system. This competence is assessed by professional and professional organizations. However, the business entity must apply for this certificate in writing. Subsequently, the expert committee will evaluate whether the employer meets all the requirements associated with the legal conditions. It is mainly about spatial and personnel criteria, material and technical requirements for the desired study field. (Mazur, 2015) After meeting all the necessary criteria, the state or professional organization will issue a certificate in which the substantive scope is related to the field of study. The employer can then implement practical training. All necessary conditions established by law are determined by the Decree of the Ministry of Education, Science, Research and Sport SR 251/2018 Coll., Annex no. 9. (Slov-Lex, 2022) The Republican Union of Employers is responsible for all detailed information through industry experts who are available to provide information. Also, this organization brings possible improvements and modernization of the set educational system.

The certificate itself is only valid for a certain period and needs to be renewed. Especially if the employers has not started with practical training. The decree itself fulfils, among other things, an advisory activity. This educational system has the advantage that it provides sufficient flexibility and employers can set the rules as they need and demand through internal regulations and directives. Through these guidelines, the employer can correct and set the necessary rules for students. The system of dual education also allows for practical teaching through productive work at a place other than where the student has signed a dual contract with the employer. However, it is necessary to comply with the conditions in accordance with the applicable legislation. These are mainly cases when a student at the so-called in the advanced workplace, he can acquire skills that are directly related to his practical teaching and can acquire new skills as a result. The employer is responsible for the student in practical training. The dual contract can be terminated by both parties, with the proviso that the student must have a pre-agreed operation in which he will carry out practical teaching upon the required termination of the dual contract.

In such a complex area as the system of dual education, one must realize that the effectiveness of its setting has a significant impact on the overall potential of Slovakia's GDP. Statistics show that more than 75% of secondary vocational school graduates did not find employment in the field they graduated from, and more than 41,000 people retire from secondary vocational schools every year. In this context, according to estimates, more than 35,000 people will be missing annually, who should replace those with secondary education who are retiring (Slovak Business Agency, 2018).. According to the available data, the persistence of the inefficient system could have the maximum estimated impact on the GDP creation potential at the level between 1.1-1.6 billion EUR per year, which means cumulatively in the period 2016-2024 more than 12 billion EUR. Therefore, the effective setting of the education system will increase the probability of maintaining the competitiveness of the Slovak economy. In this context, it is therefore necessary to create prerequisites for a quality education system and for fulfilling the requirements of the labour market. In connection with the above, approximately only 25% of secondary school graduates are employed in the field they graduated from or at least a related field, which represents approximately only 4,000 graduates per year and the rest, have to retrain in order to apply in another field, or are included in the group of unemployed (Slovak Business Agency, 2018).

### 3. Objectives

The aim of the article is to find out what economic impact a dually educated graduate has on the company, based on the results obtained from a survey of dual education participants by employers (enterprises). What are the other (social) impacts (placement of graduates in job positions, on the labour

market) and what impact does their method of education have on their social inclusion and standard of living.

On the basis of this knowledge and a functionally set educational system, we want to propose the application of this or a similar system in education at universities. We are of the opinion that the dual education system has untapped potential and could be applied in this segment as well.

University students would thus be able to perform compulsory internships linked to part-time work in certified establishments, which would lead to an attractiveness of the labour market in the country.

The main goal is to check the interest of employers in the extended form of the dual education system at universities, as well as to evaluate the current situation on the market.

This educational system has been active since 2015, and therefore we are interested in the very results of the success of this form of education.

#### **4. Methods**

To obtain data for our research, we used a web questionnaire via a Google form and evaluated some answers using the statistical functions of the Excel program, where we looked for significant correlations at level 5. The questionnaire is composed of simple questions. Questions are closed and open. It consists of 11 questions. 150 employers were approached, we have a 35% success rate in the sample of respondents, that is, 48 respondents answered our questions. All the respondents come from the Prešov region. We chose the region because it has the 2nd highest number of employers involved in dual education in Slovakia (Helbrich, Ulbíková, 2018), this region is the poorest and most at risk of poverty of all regions in Slovakia (Slovak Statistic, 2022). The sample of respondents is thus from one region of Slovakia. The purpose of dual education is to ensure the growth of living standards and also to protect graduates from poverty and dependence on support in the field of unemployment (Slovak Business Agency, 2018).

Other data are part of statistics and evaluations and are publicly accessible on websites.

As of September 15, 2021, there were a total of 423 secondary schools in the Slovak Republic with 6,244 classes, in which 132,133 students studied. The teaching process was provided by 11,252 teachers and 2,558 masters of vocational education. Of the total number of secondary schools, there are 323 state, 81 private and 19 church schools. At the same time, as of September 15, 2021, there were 234 gymnasiums and secondary sports schools in the SR, which were attended by 73,236 students, and 17 conservatories, where 3,197 students studied. So, in the 2021/2022 school year, secondary school students represented more than 63% of all high school students. (Helbrich, Ulbíková, 2018)

One of the goals was to verify in practice the fulfilment of the goals set by the national dual education program.

#### **5. Discussion**

We focused the first group of questions on the effectiveness of education (that is, whether graduates continue to work for the employer where they did their internship during dual education) and we investigated in which area of industry the graduates are most employed.

It turned out that only 37.5% of employers answered yes, that graduates continue to be employed by the same employer where they did their internship. Many as 62.5% of employers stated that graduates do not continue as employees after the internship. They state as the reason: leaving for the competition, continuing to study at university or other education, and the third and statistically evaluated as the most relevant reason is the poor economic situation in the region (purchasing power of the population, low regional wages, poor services for the population such as the availability of services, health care, quality of education and standard of living). We also asked employers whether they employ graduates from another company where they did their internship. The answer was that only 6.2%, that is only 3 out of 48 answers, are employed. In other words, going to the competition is not a relevant reason for not being employed in the region in the performance of one's profession.

Next, we investigated in which field of industry or business the most respondents work. The highest proportion of respondents is from the field of gastronomy and tourism. This industry makes up 20% of the respondents. The second highest representation is in the field of construction, geodesy and cartography. They make up more than 13%. Other, leading industries include public administration, electrical assembly construction work, the automotive engineering industry, and the food industry. These answers show us the need for the labour market and the areas in which dual education is most developed in the region of the Prešov self-governing region. This is due to the low level of industrial production due to poor transport conditions in the region, and it also has a geographical character, as tourism and areas living from tourism are largely developed here.

A very important research area is the ways of working communication and working relationships during the educational process. In this group of questions, we investigated the extended cooperation between students and their employers and the time when professional practice takes place. It turned out that part-time work, i.e. the continuation of work even outside the mandatory internship, is one of the important factors that subsequently affect the employment of graduates. Up to 42.1% of respondents use these forms of cooperation, and then half of part-time students continue to work in the company even after completing their education. Up to 47.7% of interviewed employers allow their students to do their internship in the afternoon or on weekends. We assume that this fact is connected with the possibility on the part of the employers to respond to the needs of the workload of the employees, and just as such flexibility is perceived by the students themselves as a great advantage. In this area of questions, the possibility of exercising a future contractual relationship with students was also investigated, with the fact that the employer used this option in only 21.1% of cases. 5.3% of respondents did not count on this option at all. The lack of interest was mainly on the part of students who wanted to continue their studies at university.

The third investigated issue is financial favouritism. The tax benefit, which is the main advantage and a directly targeted means of supporting dual education, the development of the region and the support of entrepreneurship, is received by the employer if he claims a total of 78.9% in the tax return for dual education per pupil. More than 5% of employer respondents did not know about this possibility.

Graduates job assignment, and their financial evaluation. We asked the respondents how dual education graduates are classified in their companies after the internship. 80% of the respondents stated that they hold leadership roles because they know the company and the job, and employers have already prepared them for the positions they needed to fill during their studies. It follows that, compared to other graduates; they have the advantage of a position in society and on the labour market, and thus also associated benefits such as higher earnings. Our respondents confirmed that such employees earn on average 10% more than other employees with a comparable length of experience.

The last group of questions focused on the potential use of the method of dual education at universities. When asked whether they would accept the possibility of including university students in the dual education system, 89.5% answered yes. Up to 94.7% of respondents would accept the possibility of linking part-time work of university students with the system of dual education and exemption from levies and tax benefits. Also, 94.7% of respondents would use the form of financing for university students as in the current system of dual education at secondary schools.

## 6. Conclusions

From the results of the investigation of the implementation of the principles of dual education in Slovakia in the very specific region of the Prešov region, where there is the greatest poverty and the most people at risk of poverty, there is a great interest in dual education. We also found out that there is an interest on the part of employers to create these partnerships with schools and provide spaces for practice for students and professional help from qualified employees in guiding students.

The question is the effectiveness of the education system in relation to the resources spent. Even the Supreme Audit Office in its study: Implementation of the system of dual education in Slovakia from August 2022 (NKU, Implementation of the system of dual education in Slovakia, 2022) notes inefficiency in the area of using the potential of dual education in Slovakia. The specifics of the region of the Prešov self-governing region, especially the high level of poverty, the threat of poverty and the low quality of life, mainly connected with the complicated form of distribution of services ensuring the quality of life, cause graduates of dual education to leave the region for work or to study at university.

We also see a lack of information about the conditions for the allocation of benefits for employers cooperating in dual education. Up to 5% did not know about benefits in the area of tax benefits, and only over 42% exercised the option of offering a part-time contract, or just over 20% exercised the option of signing a contract on a future contract with a student and future employment in the region.

The benefits were educated young people who were applicable on the labour market in their profession, compared to 2019 and 2020, up to 90% in the cohort (NKU, 2022), which reduces the costs of solving unemployment problems on the labour market. Furthermore, the study shows that the average salary of dual education graduates was 12% higher in 2019 and up to 17% higher in 2020 than that of employees without dual education on average in Slovakia. The share of workers in the department was up to 60%.

The lack of dual education in Slovakia shows the low flexibility of the education system in relation to the needs of the labour market. It turns out that the school system cannot respond flexibly and adequately to the needs of the labour market, so in non-additional professions such as sanitation, metallurgical production and the butchery industry, schools do not provide education, or only to a very small extent, where they cannot cover the needs of the market.

The research clearly demonstrated the unused potentials of the implementation of the potential and principle of dual education in the conditions of universities. This pressures the representatives of institutions preparing curricula and educational systems at universities to the need for a paradigm shift in the field of higher education.

We see that the potential of dual education on a global scale in the conditions of Slovakia is bearing its positive fruit. However, as a stabilizing element that would ensure an increase in the quality of life and mitigate the risks associated with poverty, it must be supported by the central policy of developing regions and reducing differences between them. It concerns decision-making processes in the area of investments in transport and the provision of general services such as healthcare and education.

In conclusion, I can state the high potential of the contribution of dual education for increasing the quality of life of graduates and the use of the potential for the contribution of graduates in all areas of the development of society. It is necessary to make systemic complex changes that would condition the multiplication of the use and potential of education and the areas in which education takes place. There is also a need to change the system, which would increase the flexibility of education for the needs of the labour market. A significant challenge is the implementation of the principles of dual education in the conditions of higher education, thus connecting it with practice, which creates prerequisites for creating innovations and increasing the effectiveness of education and industry. The education quality system at universities is connected with reflecting the needs of practice. (Závadský, Osvaldová, Janíčková, Závadská, 2022) These factors have a direct impact on raising the standard of living, creating GDP and the company's growth potential.

## References

- Helbrich, J., Ulbíková, L. (2018). *Hodnotenie efektívnosti podporených intervencií z PO1 Vzdelávanie OP LZ zameraných na podporu zvyšovania atraktivity a kvality odborného vzdelávania a prípravy*. Záverečná správa. Retrieved 12.22.2022. from: <https://www.minedu.sk/data/att/23401.pdf>
- Mazur, P. (2015). *Zawód nauczyciela w ciągu dziejów*. PAŃSTWOWA WYŻSZA SZKOŁA ZAWODOWA W CHEŁMIE. Chelm.
- SIOV. (2022) (Štátny inštitút odborného vzdelávania). *Národný projekt duálneho vzdelávania*. Retrieved 12.22.2022. from: <https://siov.sk/projekty/aktualne-projekty/narodny-projekt-dualne-vzdelavanie/>
- Slovak Business Agency. (2018). *Analýza systému duálneho vzdelávania v Slovenskej republike*. Bratislava. Retrieved 12.22.2022. from: <https://monitoringmsp.sk/wp-content/uploads/2019/09/Anal%C3%BDza-syst%C3%A9mu-du%C3%A1lného-vzdel%C3%A1vania-v-Slovenskej-republike-final.pdf>
- SLOV- LEX. (2022). *251/2018 Coll.: VYHLÁŠKA Ministerstva školstva, vedy, výskumu a športu Slovenskej republiky z 5. septembra 2018, o sústave odborov vzdelávania pre stredné školy a o vecnej pôsobnosti k odborom vzdelávania*. Retrieved 12.22.2022. from: <https://www.slov-lex.sk/pravne-predpisy/SK/ZZ/2018/251/20180913>
- Statistical Office of the Slovak Republic. (2022). Retrieved 22.12.2022. from: [https://slovak.statistics.sk/wps/portal/ext/aboutus/office.activites/officeNews/vsetkyaktuality/405b6bfa-aa43-4422-829c-e2d26a3db217!/ut/p/z1/tVJNc5swFPwtPXCE94QEyL3JnowhjTu1G9dGl47A2Kg2yAHF1P8-cieHpNOkySE66Gv2vd3VCiSsQbbqpHfKatOqgzvnMv45TzI-HhOBOPsywYxm6XwsFoSREFbPAfzr4gqzW\\_FturhmBFkE8vX6HyBB1q092hpyU\\_Sq9vu9r9utr\\_bWQzfpk7Znt96rg9t4eOoru396wTAq4mKrfKUY9RkLQ5-Ho9Kvkw0YK7opQpJcWI6l3kD-JvTqf7YvrvCFIdDVyz-QyVSkLLIB5DfTCDORLhejOaUo6CPglR6505C8qCElsDrpaoBla7rGJfX9nRZThGuQumiCoWwCDAjnMWcYkyhiCRlhfMk-7GaT2c71Vba-hGJg\\_dfzw\\_pNbK6X\\_nV3J4UL27S2-m1h\\_YFpOzrRFpQ76V21rbqqC-4795tra4\\_9Zw89HIYh2BmzO1RBaRoP\\_1VSm97JfI6EY7NsOD37--3sijKZcxsV50F8egAoiIst/dz/d5/L2dBISEvZ0FBIS9nQSEh/](https://slovak.statistics.sk/wps/portal/ext/aboutus/office.activites/officeNews/vsetkyaktuality/405b6bfa-aa43-4422-829c-e2d26a3db217!/ut/p/z1/tVJNc5swFPwtPXCE94QEyL3JnowhjTu1G9dGl47A2Kg2yAHF1P8-cieHpNOkySE66Gv2vd3VCiSsQbbqpHfKatOqgzvnMv45TzI-HhOBOPsywYxm6XwsFoSREFbPAfzr4gqzW_FturhmBFkE8vX6HyBB1q092hpyU_Sq9vu9r9utr_bWQzfpk7Znt96rg9t4eOoru396wTAq4mKrfKUY9RkLQ5-Ho9Kvkw0YK7opQpJcWI6l3kD-JvTqf7YvrvCFIdDVyz-QyVSkLLIB5DfTCDORLhejOaUo6CPglR6505C8qCElsDrpaoBla7rGJfX9nRZThGuQumiCoWwCDAjnMWcYkyhiCRlhfMk-7GaT2c71Vba-hGJg_dfzw_pNbK6X_nV3J4UL27S2-m1h_YFpOzrRFpQ76V21rbqqC-4795tra4_9Zw89HIYh2BmzO1RBaRoP_1VSm97JfI6EY7NsOD37--3sijKZcxsV50F8egAoiIst/dz/d5/L2dBISEvZ0FBIS9nQSEh/)
- Národný kontrolný úrad Slovenskej Republiky. (NKU) (2022). *Implementácia systému duálneho vzdelávania na Slovensku*. Retrieved 12.22.2022 from: <https://www.nku.gov.sk/documents/10157/1460168/Implement%C3%A1cia%20syst%C3%A9mu%20du%C3%A1lného%20vzdel%C3%A1vania%20na%20Slovensku>
- Závadský J., Osvaldová Z., Janíčková J., Závadská Z. (2022). *Vnútroškový systém zabezpečovania kvality vysokoškolského vzdelávania II*. Vydavateľstvo Univerzity Mateja Bela v Banskej Bystrici Bellanium. Banská Bystrica.