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# DUAL SYSTEM OF EDUCATION AND TRAINING AS A PATHWAY TO THE LABOUR MARKET



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## PREFACE

The current urgent need for qualified workforce has caused that many firms in Slovakia focus on recruitment abroad (e.g. in EU member states, non-EU countries, but also in the so-called third countries), or they opt for recruiting employees among the migrants coming to the country.

The theme of the scientific monograph is based around the current trend in the above field with an accent placed on the issues of the lack of qualified workforce and the perspectives of maintaining Slovak economy's competitiveness in the context of social sciences. In the globally competitive environment and with the era of the fourth industrial revolution with emerging automation, digitalization or optimization of processes, questions related to the potentially significant problem areas in training and development of human resources arise, i.e. whether and how they are linked with the needs and requirement of the labour market.

In the first chapter of the monograph, basic terminology in the field of vocational training in the system of dual education and training based on the requirements of the labour market is presented, and relevant key words from the field are discussed with the aim to create a terminological basis for the elaborated topic based on up-to-date knowledge presented in most recent resources. The issues of qualified workforce are dealt with in detail in the second chapter of the publication and the third chapter is focused on another key topic - education and training for the labour market. The dual system of education and training from the aspect of the current situation both in Slovakia and abroad is introduced in the fourth chapter of the monograph. In the fifth chapter of the publication, a summary of the findings and results of a scientific research carried out by the authors is provided and is discussed. In the final part of this chapter, the authors's recommendations for practice - based on the theoretical elaboration of the topic presented in the monograph, as well as on a thorough analysis of relevant information gathered in firms - are presented. The recommendations are formulated to contribute to the improvement of the quality of the dual system of education and training in the particular enterprise and to increasing the quality of application of the dual system of education and training in a more global context.

The aim of the monograph is to provide a theoretical basis in the field of (qualified) workforce based on available data as well as



mapping the current situation, and, subsequently, to characterize the dual system of education and training in more details. The aim of the empirical part is to analyse the current situation in a selected organization, to carry out a semi-structured interview with the person responsible for the realization of dual training in this organization and, by means of analysis, draw conclusions and recommendations for practice for both the participating organization and the wider context of the system of dual education and training.

In the presented scientific monograph, for the purpose of theoretical elaboration of the theme, the authors applied traditional desk research methods. The authors reviewed available resources where, for fulfilling the set goals, they applied a qualitative approach and used analysis as another method of scientific work in addressing both key issues – (qualified) workforce and the dual system of education and training. Synthesis was applied for linking knowledge by means of analytic cognitive processes and, inductive-deductive reasoning was used for the purpose of generalization, as well as in the process of data evaluation based on previous findings. The method of comparison was applied to compare the authors' presumptions with the results by other authors. In the empirical part, the authors used the method of questioning, more specifically a semi-structured interview.

## BEVEZETÉS

A képzett munkaerő jelenlegi súlyos hiánya miatt sok vállalat arra összpontosít, hogy külföldön (például az EU-tagállamokban, az EU-n kívüli országokban, vagy akár az úgynevezett harmadik országokból képzett munkaerőt szerezzen), vagy a képzett munkaerő megtalálására koncentráljon. a beérkező migránsok csoportjában is.

A tudományos monográfia témája a jelenlegi tendenciákra összpontosít, hangsúlyt fektetve a képesített munkaerő hiányára és a szlovák gazdaság versenyképességének fenntartására a társadalomtudományban. A negyedik ipari forradalom megjelenésével, egyre fokozódó automatizációval, digitalizációval vagy folyamatoptimalizációval előtérbe kerül a globális versenykörnyezetben a kérdés az emberi erőforrások előkészítésében és fejlesztésében potenciálisan jelentős problémás területek megnevezésének a kérdése, valamint azzal kapcsolatban, hogy ezek kapcsolódnak-e a munkaerő-piaci igényekhez és követelményekhez.

A monográfia első fejezetében a duális oktatás terminológiai alapjaira összpontosítunk a munkaerő-piaci képzés részeként, részletesebben a tárgy kulcsszavainak és kifejezéseinek megértésének egyesítésére, a téma legfontosabb terminológiai háttérének összefoglalására a legfrissebb meghatározások és források alapján. A szak-képzett munkaerő témáját a tudományos monográfia második fejezetében fogjuk kidolgozni, figyelembe véve a legfrissebb kiindulási pontokat. A harmadik fejezetet egy másik kulcsfontosságú témára, nevezetesen a munkaerő-piaci oktatásra és képzésre fogjuk fordítani. A duális oktatás a hazai és külföldi portfólió jelenlegi helyzetét tekintve a negyedik fejezet részét képezi. A benyújtott tudományos monográfia ötödik fejezete a megállapítások és eredmények összefoglalását is magában foglalja a tudományos munka megfelelő módszereinek felhasználásával és a megszerzett felismerések megvitatása alapján. A fejezet utolsó részében gyakorlati ajánlásokat mutatunk be, amelyek a téma elméleti kidolgozásán és más, közvetlenül a terepből nyert információkon alapulnak. Az ajánlások úgy vannak megfogalmazva, hogy hozzájáruljanak a duális oktatás minőségének javításához egy adott vállalat körülményei között, de hozzájáruljanak a duális oktatás gyakorlatának globálisabb összefüggésekben való javításához is.

A vonatkozó fejezetekben a cél az, hogy a rendelkezésre álló adatok alapján leírja a (képesített) munkaerő elméleti alapjait és feltérképezi a kérdés jelenlegi helyzetét, majd ezt követően jellemzi

és részletesebben leírja a kettős oktatást. Az előterjesztett monográfia empirikus részének a célja a kiválasztott vállalat jelenlegi helyzetének elemzése, a duális oktatásért felelős munkavállaló megkérdezése a vállalatban, elemzés útján következtetések és ajánlások levonására az adott társaság körülményeire, de a duális oktatási gyakorlat tágabb összefüggésében is.

A bemutatott tudományos monográfiában az irodalmi módszert fogjuk alkalmazni a szakirodalmi forrásanyagok tanulmányozására, kvalitatív módszert a javasolt célok teljesítésekor, egyidejűleg az elemzést más tudományos munka módszerének is felhasználjuk a két kulcsfontosságú téma – (képzett) munkaerő és duális oktatás – ötle-  
tének felbontására. A megszerzett ismeretek analitikus gondolkodási eljárásokkal való kombinálásával, és ezzel egyidejűleg induktív-de-  
duktív eljárásokat alkalmazva szintézist használunk a tudás általáno-  
sítására, valamint a következtetések korábbi megállapítások alapján történő értékeléséhez. Az összehasonlítási módszert különösen akkor használjuk, ha feltételezéseinket más szerzők eredményeivel hason-  
lítjuk össze. Az empirikus részben a kérdés módszerét, konkrétan egy félig strukturált interjút fogjuk használni.

# 1 TERMINOLOGICAL BASIS OF THE DUAL SYSTEM OF EDUCATION AND TRAINING

In the first chapter of our scientific monograph, we will summarize the necessary terminological bases of the processed topic, based on the most current definitions and from the latest sources.

Lifelong learning is a term that covers lifelong education and lifelong upbringing. Lifelong education is general education, vocational education and training, non-formal and informal learning throughout life, which leads to the improvement of knowledge, skills and competences from a personal, civil, social and professional point of view. This includes the provision of professional guidance and counselling services. Lifelong upbringing can be defined, in accordance with other authors, as a lifelong process, focusing mainly on the affective aspect of personality, which is intended to prepare a person for social life and pass on the experience of the older generation. So, the lifelong upbringing is a process of deliberate action on a person's personality with the aim of deliberately and purposefully shaping and influencing the conditions that will enable each individual to develop optimally in accordance with individual dispositions, stimulating his or her own desire to become an authentic, internally integrated and also become a socialized personality. So, lifelong upbringing is a process associated with the development of each individual (ontogenetic aspect) and with the development of the whole society (phylogenetic aspect). By education, we perceive upbringing and education as a whole, what we are pointing to the real complexity of upbringing and education. (Barnová et al., 2019).

According to Kováč (2015), vocational education and practice are part of the educational process in which knowledge, skills, and competencies necessary for the pursuit of a profession, group of occupations or professional activities are acquired. It is divided into theoretical lessons and practical training.

In our monograph we will perceive the dual system of education and training and preparation system based on:

- a. Contractual relationship between the employer and the student (learning contract);
- b. Contractual relationship between the employer and the secondary vocational school (dual education contract);
- c. effective practical education directly at the employer at the practical training workplace;

- d. the employer 's responsibilities for practical education; and
- e. the financing of practical education by the employer.

As will be stated in the theoretical background, the primary profile of the submitted scientific monograph will be oriented towards secondary vocational schools, but we will also include available and related information on the dual system of education and training of university students in the text of the monograph.

According to Kováč (2015), the system of school education is vocational education in the extent of theoretical and practical education provided by the school in the school workshop, in which the practical education can also take place at the employer and the practical education of the student at the employer is based on:

- a. contractual relationship between school and employer (contract for the provision of practical education);
- b. placement of the student to the employer based on a school decision;
- c. without a contractual relationship between the employer and the student.

The system of education branches, according to Kováč (2015), is a list of study branches sorted into groups of study branches and groups of educational branches. A field of study or a group of fields of education is a group comprising related fields of study or related fields of education; part of the group of study fields or group of educational fields also includes study fields or educational fields experimentally verified according to a special regulation.

The normative of the material-technical and spatial provision is the obligatory scope of spatial, material and instrumentation in the form of determination of basic teaching spaces and basic equipment of teaching spaces for theoretical and practical teaching and form of determination of recommended teaching spaces and recommended equipment of these teaching spaces for theoretical teaching and practical teaching in the relevant field of study. (Kováč, 2015).

Practical teaching is an organized process providing students with the practical skills, abilities and habits necessary to perform a profession, a group of occupations or professional activities, which is carried out in a school workshop or directly in real conditions from the employer. Practical teaching (PT) in the system of school education is practical teaching of students carried out in the school

workshop or with the employer according to the decision of the school, based on a contract for the provision of practical training. The school decides on the placement of a student at PT at the employer and the selection of an employer at PT. The content of education in practical teaching, as well as the remuneration of students, is most often determined by the secondary vocational school. PT from the employer in the school education system is most often carried out in the last year or the last two years of study. Practical teaching in the dual system of education and training is always carried out by the employer who has concluded an apprenticeship contract with the student. The employer decides on the selection of a student for the employer. The employer's competence for the performance of practical teaching is determined by the professional organization by verifying the employer's competence for PT - the process of verifying the employer's competence to provide practical teaching in the dual system of education and training. The content of practical teaching is determined by the employer in cooperation with the school. The financial and material security of the student is determined by the employer and is agreed in the apprenticeship contract. The employer can use the possibility to place a student up to 40% of the total scope of practical teaching for practical teaching in a workshop in a cooperating school or up to 40% of the total scope of practical teaching for practical teaching to another employer who is certified to provide practical teaching in the dual system of education and training. (Kováč, 2015).

The workshop is part of a secondary vocational school where is performed practical teaching of the student; workshop also means another professional classroom intended for the performance of practical teaching in a secondary vocational school, if the content of the relevant field of study requires it.

The workplace of practical teaching is an organizational part of an employer, to who has been issued a certificate of the employer's ability to provide practical teaching in the dual system of education and training.

The employer's workplace is an organizational part of the employer with whom the secondary vocational school has concluded a contract for the provision of practical teaching (Kováč, 2015).

An instructor is a natural person who carries out practical training of a student at the employer's workplace or at the workplace of practical teaching, who is an employee of the employer or a self-employed person.

A VET teacher and a VET trainer are professionals who perform practical teaching of students in a group form in a workshop or at a workplace.

Coordination of vocational education and training for the labour market is the process of fulfilling the tasks of state administration bodies, self-governing regions, employers and employees in the support, planning, innovation, provision and implementation of vocational education and training.

An employer is a natural or legal person who employs at least one natural person in an employment relationship or a similar employment relationship. To adjust the conditions of practical teaching at the employer, a secondary vocational school is not considered to be the employer.

Barnová et al. (2019) state that a secondary vocational school is an internally differentiated secondary school that prepares students in at least a two-year and at the most five-year educational program of the relevant field of education. The educational programs of the secondary vocational school are focused primarily on the performance of professions and professional activities in the national economy, health care, public administration, culture, arts and other areas and can also prepare for further study. Secondary vocational schools providing education for the performance of occupations and professional activities are divided into types. Vocational education and training in a secondary vocational school develop the knowledge, skills and abilities of a student acquired in previous education and provides the knowledge, skills and abilities necessary for the performance of professional activities. The secondary vocational school provides students with theoretical teaching and practical teaching. If the secondary vocational school provides the students with only theoretical teaching, the students complete practical teaching in the centre of practical teaching or workplace of practical teaching (Act No. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts).

A school or school facility is an upbringing-educational established institution following a special regulation (Act No. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts). The definition of a school is based on its basic social mission and we can call it a social institution purposefully created for the implementation of its basic task, i.e. to ensure controlled and systematic education (Kosová – Kasáčová, 2009). Průcha et al. (2013) define a school as a social institution whose traditional function is to provide

education to students of appropriate age groups in organized forms according to certain educational programs. The concept and functions of the school change with changing social needs. The school has become a place of socialization of students, supporting their personal and social development and prepares them for personal, work and social life.

The school educational program is the basic document of the school, according to which education and upbringing are carried out in schools, according to this Act. The school educational program is issued by the school principal after discussion in the pedagogical council of the school and the school council. The school educational program needs to be developed by the principles and aims of upbringing and education by the Education Act and by the relevant state educational program (Act No. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts).

The state educational program - state educational programs define the compulsory content of upbringing and education in schools according to the Education Act to acquire competencies. State educational programs are issued and published by the Ministry of Education, science, research and sport of the Slovak Republic (Act No. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts).

University student - an applicant for study at a university admitted to study becomes a student from the day of enrolment in the relevant school (Student. [on-line]).

The form of practical teaching at the employer expresses the subject through which the employer provides practical teaching by the employer - professional training or professional practice.

Vocational training is a professional subject of practical teaching, which is carried out by practical work or productive work. Vocational training of students is performed by a VET teacher or an instructor. Vocational training is a part of the curriculum of 2- or 3-year curricula or a part of study fields with an extended number of hours of practical teaching, in which the student can obtain, in addition to the graduation certificate, also an apprenticeship certificate (Kováč, 2015).

Kováč (2015) defines a professional practice as the professional subject of practical teaching. According to the approved educational programs, the professional practice can also be carried out during the school holidays. Professional practice is performed by the student under the guidance of an internship teacher or instructor. Professional practice is part of the curriculum of study fields, in which the student can only obtain a graduation certificate.



The curricula are part of the school educational programme and provide a breakdown of the curriculum into thematic units and a schedule of lessons determined by the curriculum for individual thematic units. The curriculum is compiled for the subject and is divided into individual grades. The curriculum is the basis for the elaboration of a thematic educational plan for a given subject (School Act No. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts).

The thematic educational plan of the subject professional training or the subject professional practice is a division of the curriculum prescribed by the curriculum of the given subject into individual teaching units. The teaching unit in practical teaching is usually 1 teaching day of practical teaching or 1 week of practical teaching (in the range of days of practical teaching, which fall on a calendar week). The thematic curriculum clearly defines the curriculum or activity that is given to the teaching unit (Kováč, 2015).

According to Kováč (2015), a reassignment plan is a plan for reassigning students to practice teaching by an employer among individual instructors or VET teachers during the school year. It is compiled if the curriculum of practical teaching is divided into modules or other units with the same number of teaching hours. According to the transfer plan, the student gradually completes individual modules or other units during the school year with various instructors or VET trainers.

The group form of practical teaching is performed by a VET teacher. The maximum number of students per 1 VET teacher for each field of study is determined by the appendix to the Decree on the System of Departments of Education and Material Scope of Professional Organizations.

The individual form of practical training is performed by an instructor or a VET trainer. Under the guidance of an instructor, a maximum of 3 students can take part in practical teaching.

Practical work is work performed by a student in the form of training individual work activities that are part of the manufacture of products, provision of services or the performance of professional activities corresponding to the profession and work activities for which the section of education prepares students. Their work does not achieve the income of the employer.

Productive work is work performed by a student in the form of individual work activities that are part of the production of products, the provision of services or the performance of professional activities

corresponding to the profession and work activities, for which the section of education prepares students and which are by the subject of activity of the natural person or legal entity for which the student performs this work. Productive work achieves income, states Kováč (2015).

The above mentioned author writes about the employer's ability to perform practical teaching as the employer's ability to perform practical teaching of students in the dual system of education and training, which proves that the employer has the staffing of practical training (instructors or VET trainers) and material-technical provision within the scope of basic equipment determined by the normative of material-technical and spatial provision for the field of study. The employer's competence is proved by a certificate for the provision of practical teaching in the dual system of education and training issued by a professional organization. The certificate also includes the highest number of students to whom the employer can provide practical teaching on one teaching day of practical training.

Verification of the employer's ability to perform practical teaching is the process of verifying the employer's ability to perform practical teaching for secondary vocational school students. Verification is performed by a professional organization at the request of the employer.

Student finance is a process in which the employer provides the student with a corporate scholarship and remuneration for productive work by applicable legislation and the rules of finance of the student, if it is issued by the employer. The motivational scholarship is provided monthly to a student who is preparing for a profession, a group of occupations or professional activities in a field of study included in the list of fields of study with an insufficient number of graduates for the labour market. The motivational scholarship from the state budget is paid to the student by the school. The company scholarship is provided monthly to the student during the school period up to a maximum of four times the amount of the subsistence minimum intended for a dependent minor or a dependent child. In determining the amount of the corporate scholarship, the particular account is taken of the student's achievement in practical training and his / her regular participation in practical training. It is paid by the employer by the rules of financial security of the student if it is issued by the employer. Remuneration for productive work is paid monthly to a student who performs productive work as part of practical training. This remuneration is paid from the funds of the employer for whom the student performs this

work. Remuneration for productive work is provided for each hour of productive work performed in the amount of 50% to 100% of the amount of the hourly minimum wage. When determining its amount, the quality of work and the student's behaviour are also taken into account. The conditions for providing remuneration for productive work are determined by the employer.

Material certainty of a student is a process in which the employer provides the student with meals, accommodation allowance, travel allowances, personal protective equipment and assessment of the student's health, sensory and psychological fitness. The conditions for the provision of material certainty for the student are determined by legislation and the employer by internal regulations, as said Kováč (2015).

A scholarship program is a program that can be issued by an employer and determines the conditions for providing a corporate scholarship to secondary vocational school students.

We understand education as a purposefully organized and implemented process of educational activities and learning, focused on the development of a child or student by his assumptions and stimuli, which stimulate his efforts to become a harmonious personality (Act No. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts).

A student is a natural person who participates in the educational process in primary school, secondary school, the school for children and students with special educational needs and in primary art school (Act No. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts).

In defining the terms for the needs of this publication, we relied on available and relevant definitions of renowned experts in Slovakia and the Czech Republic. However, there are as many definitions of these terms as many authors are devoting themselves to their definition and a more detailed description or definition. In the previous text, we do not claim the completeness or unambiguous of the definition of the terms, we did it for greater clarity of the following text for the target group of readers and in terms of updated understanding of concepts in connection with future development of the terminological basis of the issue.

## 2 QUALIFIED WORKFORCE

The second chapter of the scientific monograph is devoted to the current trends in the topic with an emphasis on the issue of lack of skilled workforce, from the perspective of maintaining the competitiveness of the Slovak economy. With the advent of the fourth industrial revolution with an increased degree of automation, digitization or process optimization, the question arises in a globally competitive environment with the naming of potentially significant problem areas in human resources preparation and development, and how and if they are connected with labour market needs and requirements. (in more detail e.g. Barnová - Barna, 2019). In this chapter of the scientific monograph, we focus on the skilled workforce from several perspectives.

In our opinion, the long-term effort in Slovakia is to concentrate on all relevant activities so that they lead to sustainable economic growth, supported by job creation and the improvement of working conditions.

*Work*, according to the Short Dictionary of the Slovak Language (2003), is:

- exerting a physical or mental effort on something, physically it is the product of force and the path along which force overcomes resistance and at the same time it is a physical or mental activity as a social effect;
- such an activity as a source of earnings, employment, it is also a physical or mental activity, aimed at achieving, producing something, as well as effort, strain, work;
- the thing what is worked on;
- the result of the work process; work and at the same time activity, running, functioning.

*Work* is defined by several authors (e.g. Lisý et al., 2008; Szarková et al., 2013). In summary, we can say that human workforce is a human activity in which he uses his physical and mental abilities. The workforce participates in the process of creating new products and services.

The Economic Dictionary (2019) defines workforce as the total employed or potentially employable (job-seeking) population, regardless of the age of individuals and, in economic terms, as a job offer.

We found the basic concept of “work force” in the available literature in three key definitions:

- workforce as a person’s ability to work - this represents the workforce, it is a set of knowledge, skills and habits of a particular person and the use of this in production or services;
- the workforce as a specific worker who can work and create something through work;
- workforce as a sum of people able to work in the national economy.

*A qualified workforce* is defined in the available professional literature as a summary of people with relevant qualifications (which also includes education and practice) who have achieved formally proven outcomes from education and practice in the form of skills, knowledge, abilities, competencies, etc. and at the same time, they deepen, renew or increase, expand and etc. (in more detail e.g. Čaplánová, Martincová, 2014; Szarková et al. 2013 and others). A high level of education or professional qualification or specialization is probably associated with obtaining an accredited professional certificate, attestation, etc.

When we look chronologically over the last 10 years at the situation of sufficient or shortage of skilled workforce in Slovakia, we also take into account the fact of the ongoing economic crisis. According to TASR source from 2007, there is a significant shortage of professional workforce and management workforce in Slovakia. According to a survey conducted by the Austrian consulting company Kienbaum, 62% of companies said they were struggling with an insufficient number of skilled workers, and only 5% of companies surveyed said satisfaction with workforce supply at the time, which included their employment. In 2007, the cited source stated the assumption that the situation on the Slovak labour market should develop even worse, as 76% of respondents expected an increase in the demand for skilled workforce in the coming years. Data from the cited survey confirmed that women earned on average 27% less than men in 2006 and that the share of women in management positions was 25% in that year, while the share of women in professional positions was 45%.

According to reports published by TASR in 2008, the problem of a shortage of skilled workforce persisted in Slovakia, mainly affecting university-educated skilled workers and a skilled workforce with a scientific and technical focus and in the field of information technology.

In connection with the increasing productivity of employees, foreign investors, who were established on the Slovak labour market at that time, still had trouble finding a qualified workforce. The forthcoming expansion, which required an increase in the number of employees, had to be reconsidered frequently, and investors considered increasing the employment of foreigners because of the lack of qualified workers. In the long run, it finally turned out that the shortage of workforce in the Slovak labour market remained (we can talk about 2019) the main problem of investors, which already indicated the development of the labour market (more details e.g. Hrvolová, 2017) by the outflow of qualified workforce abroad, especially in a group of young people and an influx of disciplined workforce from Romania, Bulgaria, etc. (e.g. Treľová, 2018) in this context, however, draws attention to the problem of the so-called blackwork and Matlák and Treľová, 2018 write about the social and legal aspects of employing foreigners.

According to TASR (2008), the solution to the situation could be in the long run to attract a qualified workforce of Slovaks back from abroad with valuable know-how, work habits and knowledge of foreign languages that would meet the requirements of potential foreign investors. In the following period, Karásek (2016) also notes that the big issue is wages, although in the IT sector wages have already reached the international level in our country, in 2016, but 160,000 Slovaks were reported working abroad and in the fourth quarter of 2018 was 137,700 (SO SR, 2018).

Karásek (2016) further states that a third of large companies expected an increase in the number of employees. In 2016, total unemployment fell below 10%, which meant more jobs were created. According to the cited author, there were much lower expectations of employers (a year ago the applicant did not meet, they currently accept it) and a higher willingness of employers to invest in staff training to have a quality workforce (accept applicants with lower competencies and invest in retraining). The cited author writes about the current year that new investors are coming or established investors are growing, but the connection of secondary vocational schools and universities with the labour market is proving problematic, demonstrably the highest number of unemployed graduates is from social sciences (even up to 45% according to data from the Statistical Office of the Slovak Republic, 2017), in more detail e.g. Treľová (2014).

As the automotive industry is very important for the Slovak economy, it is necessary to strengthen the labour market with a qualified

workforce, especially by graduates of technical and information technology departments. According to Manpower Group (cited in Karásek, 2016), about 30% of large companies, large multinational companies, whole sale, retail and manufacturing, finance, insurance and other business services expected an increase in the number of employees in 2016. It is gratifying that the manufacturing industry, finance, insurance and business services became involved in the dual system of education and training in the school year 2018/2019. As Karásek (2016) states, the excess supply of jobs seems to “distort” the behaviour of candidates and suitable candidates. According to the Manpower Group (cited in Karásek, 2016), company representatives are hard on the behaviour and loyalty of young people in particular, who are aware that they can choose from job offers and the systems they use, especially for their parents’ generation, are not acceptable to them. The labour market is therefore forced to adapt to the requirements of most jobseekers to acquire a truly high-quality skilled workforce that knows “its price” in the labour market. It is therefore recommended, according to the cited author, to create a career perspective.

A different view on the acquisition and retention of a qualified workforce is given by the source SITA (2017), when representatives of the Government of the Slovak Republic in the regions discussed with employers about the lack of workforce. They negotiated e.g. on the construction of rental housing and dormitories for employees, which would contribute to improving workforce mobility, e.g. employers would be able to build flats or hostels even with state support. The second important area, according to the cited source, was the effective and functional structure of secondary vocational school education (within the competence of higher territorial units), which should result in the structure of secondary schools in the region, which meets the needs of employers. *Another possible solution is the more active involvement of employers and schools in the dual system of education and training, of course with the participation of the state and employers. We write about the current situation in the dual system of education and training with the participation of the state and employers in the chapter about the dual system of education and training.*

Herc (2018) stated that the Central Office of Labour of the Slovak Republic published a list of jobs in which there is a shortage of workforce, while these were districts with an average unemployment rate in 2017 of less than 5% (29 districts in 7 regions). Because of the shortage of workforce, there were identified up to 70 rare professions

in Bratislava self-governing region: construction specialists for construction, nurses - specialists, food retailers, car mechanics and assembly workers. According to the cited data, the Trnava Self-Governing Region records 55 short-term jobs, followed by the Nitra self-governing region with 42 missing professions, then the Trenčín Self-governing Region, the Žilina Self-Governing Region, the Banská Bystrica Self-Governing Region and the Košice Self-Governing Region. In several regions, are missing specialists in the field of engineering, construction, welders, but also doctors, programmers, drivers, storekeepers and butchers.

As stated by Špániková (2018), the still persistent shortage of professionally qualified workforce and management workforce is the result of a dysfunctional connection of educational results with the labour market, as well as the disproportionate quality of vocational education in particular. The lack of a qualified workforce is caused by many factors, one of them is a less flexible system of vocational schools, which in the current legislative environment cannot respond promptly by preparing students for current or expected labour market requirements, as is evidenced by the relatively high unemployment of young people who study “unusable” fields in the current labour market.

Increased demands from employers are recorded mainly in the area of technical orientation for the automotive industry, engineering industry and electrical engineering industry, but also the area of many types of services.

In our opinion, the insufficient number of people interested in technical schools is obvious. We also assume that the service sector, from the applicants' point of view, offers lower earnings, which significantly reduces the attractiveness of the given field of study. We also think that the situation persists in the long run when a skilled workforce goes abroad not only because of better wage conditions, we think important for a skilled workforce are also the incentives of employers abroad, in more detail e.g. Trel'ová (2017a), Trel'ová (2017b) and others.

A KPMG survey entitled Pulse of Economy 2017 (SITA, 2018) showed that in the next three years, companies in Slovakia plan to direct their investments mainly to innovate their products or ways of doing business. The main priorities are retaining quality employees, digitizing or creating digital infrastructure. Investing in the training of current employees is related to the retention of quality employees and digital infrastructure. According to available data from the above-cited



source, most companies focus on acquiring a quality workforce, which appeared in 2017, and according to available data, it still appears today to be the biggest problem. 62% of companies in Slovakia perceive the lack of a qualified workforce as a major obstacle. In this context, respondents identified a lack of talent (32% of managers surveyed) as a significant risk.

According to SITA (2019a), the number of foreigners working in Slovakia continued to grow in the first months of 2019, but slower than in the previous year. In May, 72,1 thousand foreigners worked in Slovakia, which was 245 more than in April. In May of the previous year, the number of people working abroad worked in our country increased by 2.4 thousand. In the first five months of 2019, almost 3,000 working foreigners came to Slovakia, while from January to May 2018 there were 6.6 thousand foreigners. This follows from data published by the Central Office of Labour, Social Affairs and Family in the Slovak republic.

According to the cited source SITA (2019a), the number of Serbs working in Slovakia also decreased in May 2019, by 358 persons to 12.7 thousand. But more and more Ukrainians work in Slovakia. In that month, their number increased by 1.1 thousand to 17.2 thousand. So, every fourth foreigner working in Slovakia comes from our eastern neighbour. The most numerous group of citizens from EU countries were Romanians and 9.9 thousand of them worked in our country, followed by Czechs with 5.9 thousand workers, and in third place were 5.5 thousand Hungarians, who came to work to Slovakia. One-third of foreigners in Slovakia worked in Bratislava at the end of last month. 23.1 thousand foreigners were employed in five districts of the capital of Slovakia. This is followed by the district of Trnava, which in the same period registered 7.4 thousand employed foreigners. In Malacky, the Central Office of Labour, reported almost 3,000 working citizens from other countries. But only seven foreigners worked in May of this year in the district of Medzilaborce, SITA (2019a).

According to Ábel Ravasz the representative of the Government of the Slovak Republic for the Roma community, the missing workforce can also be searched among the Roma. He informed about it at a press conference after a meeting with representatives of local governments and organizations, states SITA (2019b). Together with Marián Valentovič, General Director of the Central Office of Labour, Social Affairs and Family they also talked about the possibilities of financing activities in the areas of improving the employment of the long-term unemployed.

According to the cited source SITA (2019b), one of the tools to reduce the statistics of the long-term unemployed is activation work, which has proven as a flexible tool that can increase the chances of employing people from marginalized groups and often represents a stepping stone to long-term employment. In recent years, several new tools have been created to increase the employment of Roma, which has also helped to improve their living conditions and the current high employment rate of marginalized groups, but there is still a large margin in this area there is a need to capture the untapped potential and better prepare Roma for the labour market, then companies will not have to look for so much work abroad. *Activation work is important not only from a social point of view but ultimately also from employment, as the success rate of placement after activation work is approximately 22%, as stated by the cited source SITA (2019b).*

By deepening the cooperation of the Office of the Plenipotentiary with the Central Office of Labour, it was also possible to influence the legislative background and with this way improve the conditions of activation work. According to Valentovič, up to 80 per cent of all funds from national projects go to these groups also based on employment support instruments, e.g. by the amendment to the Act on Material Need. According to the representative of Ravasz, the inspiration for local governments should be the new collection called Good Practice of Activation Work, which they presented at a press conference. One of the successful examples of activation work is their use within the local community, social services, local law enforcement services or the renovation of the Dionýz tunnel in the village called Drnava near Rožňava, where they built a new recreational area, also thanks to the form of activation activities. Another example is the restoration of cultural monuments, says SITA (2019b).

As the Report on the State of the Business Environment in the Slovak Republic (2018) points out, the problem are main areas related mainly to the preparation of human resources and the development of human resources, and with the connection of these components with the needs of the labour market and the labour market requirements. Based on the analysis of experts and our point of view, the ineffective system of lifelong learning, insufficient knowledge and estimation of the needs of the labour market from the education system, are shown as very weak, the lack of a qualified workforce in the most important areas of the Slovak republic economy is also crucial. The Ministry of Economy of the Slovak Republic, which actively participates in

solving the topic, evaluates the current state of the labour market as a state of acute shortage of qualified workforce, based on the relevant competencies associated with activities to improve the business environment and innovation. The acute shortage of qualified workforces is one of the most serious problems in Slovakia's economic development. As a consequence of the expected negative demographic development, Slovakia will have to work on improving the conditions of maintaining the growth of our country's economy, while the number of available resources of the (qualified) workforce will probably decrease. According to SITA (2019c), the amendment to the Employment Services Act has the main aim of shortening and simplifying the process of admitting foreigners to employment in Slovakia. However, according to the cited source, the submitters did not think about it in detail, because there is a lack of methodological guidelines for various specific cases as well as control tools. Since the beginning of 2019, measures have been introduced to simplify and speed up the arrival of third-country workers to Slovakia, writes SITA (2019c). These measures are intended to streamline, speed up and make more flexible the system governing the entry and residence of the third-country nationals for employment in Slovakia, especially in professions with identified workforce shortages. The amendment of the Employment Services Act introduced changes in the area of employment services, as well as in the area of residence of foreigners in Slovakia. The law introduced an obligation for employers to report vacancies to employment offices, with that the law sets the maximum amount of the fine for non-compliance with this obligation, SITA (2019c).

According to Kollárová (2019), salaries in Slovakia grew at a record pace in 2018, as shows data from European statisticians. The hourly wage in Slovakia jumped by almost 7.2 per cent year on year in the last quarter of 2018, in the European Union it was an average of 2.3 per cent. However, wages are still not competitive and this is an attraction for multinational companies to relocate not only production but also administrative centres to our country. Growth in Western Europe, where the Slovak Republic exports most of its products, is already beginning to slow down economically, and according to experts, this slowdown can be expected over time in our country, although it should still be above the average of EU. In Slovakia the price of labour per hour in the last quarter of 2018 grew by 7.3 per cent year-on-year, in the European Union it increased by less than three per cent, so the price of labour per hour in our country grew faster than

the average of EU. In addition to the increasing the wages, it was also because of the increasing of bonuses for work at night, on holidays or at the weekends, and also the minimum wage has started increasing. According to EUROSTAT, we have reached the eighth place in the Union. The cost of workers rose the most in Romania, where the hourly price of labour rose by more than 13 per cent. It also went up in tenths in Latvia, Portugal and Lithuania. They also improved more significantly than the Slovaks in the neighbouring Czech Republic and Hungary. Of the V4 countries, only Poland lags behind us. According to the data of our Statistical Office, the average nominal wage in Slovakia last year reached 1,013 euros. Despite the slowdown, the Slovak economy grew and GDP achieved a decent growth of 3.6 per cent at the end of 2018. Besides, workforce shortage could soon be a limiting factor for faster economic growth, says Kollárová (2019).

As a part of the implementation of the Europe 2020 strategy (The strategic plan of the Human Resources Operational Program for the years 2018 –2020, 2018) Member States were invited to set their own aims and set out detailed measures to achieve the national aims in their National Reform Programs. Slovakia has set itself the aim of achieving an employment rate (20-64 years) of 72% by 2020. The share of the employed population aged from 20 to 64 in the total number of inhabitants in the same age group was below the EU 28 average before the adoption of the Human Resources Operational Program. In 2013, this share in the Slovak Republic was 65% and the EU 28 average was 68.4%. After the adoption of The strategic plan of the Human Resources Operational Programme there is a significant increase in this indicator. By 2016, this share in the Slovak Republic increased to 69.8%, i.e. compared to the year 2013, it was an increase of 4.8 p.b. (in the EU-28 increased to 71.1%, but the growth rate was slower - on average by only 2.7 p.b.). Within the Europe 2020 aim indicators, Slovakia has set an aim to reduce the long-term unemployment rate (lasting more than 12 months) below 3% by 2020. The long-term unemployment rate (more than 9%) was among the highest before the adoption of the Human Resources Operational Programme in the EU. In the area of employment, the biggest problem was the share of the increase in the long-term unemployed (DN) in the statistics of the unemployed (on average 51.47%) and the unemployment rate of persons aged from 15 to 24, which was above the long-term above average (33.60% in 2013). More than half of the unemployed young people in this age group have been unemployed for more than 1 year. The

biggest problem was faced by the low-skilled, older people and people with disabilities. The employment rate of women aged 20-64 was 14.4% lower compared to the male employment rate. After taking into account the number of young people in education, the inactivity rate of young people under 25 (NEET) in 2013 represented 13.7% in the Slovak Republic, which still, although with a less significant difference, was above the EU27 average. Inactivity rate of young people under 29 reached 19% in 2013 (15.8% EU27 average). In terms of education, unemployment was mainly caused by young people with a complete secondary vocational education, with a vocational education without graduation and with basic education. From 2015 to 2017, the labour market recorded a positive development, while employment increased and the decline in unemployment continued in all regions of the Slovak Republic. The number of long-term unemployed fell by 18.30% faster in 2016 than the decline in the total number of unemployed, but still represented a significant share of total unemployment (Strategic Plan of the Human Resources Operational Program for 2018–2020, 2018).

The reason for elaborating the strategic plan of the Human Resources Operational Programme for the years 2018–2020 (Strategic plan of the Operational Program Human Resources for the years 2018–2020, 2018) is to adapt the implementation of the program for the years 2018–2020 to real social needs in education, employment and social needs concerning development human capital and participation of the widest possible range of potential participants in activities supported under the Human Resources Operational Programme. The strategic plan of the Human Resources Operational Programme for the years 2018–2020 in its introductory part provides information about economic and social changes that occurred in Slovak society after 2014 when the plan was approved. These changes were the result of measures taken at the European or national level, but they were also the result of measures so far supported under the Human Resources Operational Programme. The challenges for the Human Resources Operational Programme in the second half of its implementation was to support measures for the long-term unemployed, members of marginalized Roma communities, young people, pupils/students and pedagogical and professional employees, as well as measures to address regional disparities, in particular by supporting the social economy. The aim of the Human Resources Operational Programme is to contribute to increasing the quality of education, its connection to the

needs of the labour market and promoting inclusion, to increase the participation of Slovak citizens in lifelong learning and second-chance education, focusing also on supporting measures in the field of adaptability of people in the labour market to changed conditions and the adaptation to changes. The Human Resources Operational Programme will continue to support measures aimed at increasing the employment of women taking care of children under the age of three, as well as strengthening transparency and simplifying their implementation. The strategic plan then describes the current state of implementation according to priority axes 1 to 6, while it also lists the planned measures and designs for the amendment of the Human Resources Operational Programme through its revision in the first half of 2018. In the end, the document describes the identified synergies and complementarities between the priority axes of the Human Resources Operational Programme and among other operational programmes, including a description of the tools for their identification and monitoring. The strategic plan represents an up-to-date view to the direction of the implementation of the Human Resources Operational Programme and gives space for possible further changes in the context of the development of the implementation of measures suggested in this strategic plan (e.g. social and economic development, legislative changes). The aim of the strategic plan is following the strengthening of the partnership principle following Article 5 of the General Regulation, to involve as many partners and stakeholders as possible in the discussion of priorities, measures and plans for the Human Resources Operational Program (Strategic Plan of the Human Resources Operational Program 2018–2020, 2018).

From the point of view of education since the approval of the Human Resources Operational Programme (Strategic Plan of the Human Resources Operational Programme for 2018–2020, 2018), it is important to state that it still emphasizes the need for changes in education at all levels of schools so that the education system increasingly reflects current also the promising needs of the labour market to increase the quality of education, including the attractiveness of the teaching profession, to increase the rate of inclusion and the share of the population involved in lifelong learning. In terms of the Europe 2020 aims, the share of the university-educated population aged 30–34 is still lower than the EU average, but this gap is gradually narrowing. Students' results in the other PISA measurement in 2015 point to the continuing trend of decreasing results in science, mathematics and

reading literacy and the significantly observable influence of the socio-economic background on students' results. On the other hand, the availability of education is high, with up to 91% of the population in a grade completes at least secondary school. In 2015, was accepted the Act on Vocational Education and Training 61/2015 Coll. into which elements enabling the preparation of students in the dual system of education and training were incorporated (students could be educated in this system from the school year 2015/2016). Subsequently, in the field of vocational education and training, a Report on the introduction of quality in vocational education and training was adopted by following the EQAVET recommendation by formulating measures for 2016–2020 to achieve positive changes in the quality of vocational education and training.

The amendment to the Vocational Education and Training Act, which entered into force on 1 September 2019, responds to the experience of implementing the dual system of education and training in practice as well as to obstacles identified by schools and employers. The area of universities for the years 2016–2021 approved by the Government of the Slovak Republic in 2016 is one of the priorities to ensure accessible and diverse higher education and to increase the quality and relevance of higher education. In 2017, the Ministry of Education, science, research and sport of the Slovak Republic developed a model for objectifying the number of professional employees in a school containing measures, the fulfilment of which will make the education of students with special educational needs more effective without discrimination and based on equal opportunities in the integrating education system. In 2017, expenditures on regional and higher education were revised to effectively allocate additional resources to education. The final report of this revision states that, in addition to increasing expenditure on education, further reforms are needed to improve the quality of education (Strategic Plan of the Human Resources Operational Program 2018–2020, 2018). Expenditure review continues in 2018 by evaluating expenditure with an impact on the social inclusion of groups at risk of poverty and social exclusion, as the negative impact of children 's socio-economic disadvantage, the involvement of the most vulnerable in preschool education and the development of quality and inclusive education needs to be more significantly corrected.

The situation on the labour market was influenced by measures taken in the social field at the European and national level, as well

as measures resulting from the implementation of the Human Resources Operational Program: Addressing the specific issue of youth employment has been intensified through the use of a specific European Youth Employment Initiative. Many fundamental changes have been made in the field of youth employment, constructed based on new project solutions and changes in approaches that help to support the employment of young people. The starting framework, which is fundamentally linked to the strategy of youth employment, is the National Plan for the Implementation of the Youth Guarantee in the Slovak Republic, adopted by the Government of the Slovak Republic (2014), which contains a schedule of reforms (legislative changes) and initiatives (programs and projects) to support the employment of young people. Strategically, the guarantee is addressed exclusively to young people who are not employed, do not continue the education process or do not participate in vocational training (NEET) up to 29 years, while in the age group 25–29 years it applies mainly to the long-term unemployed (over 12 months) or young people unemployed for more than 6 months. Support for young people is targeted at a quality job offer, further education, apprenticeship or traineeship within four months of losing their job or completing their formal education. The guarantee is set so that it will provide a second chance for education (completion of primary school, acquisition of professional qualifications), it will also provide preparation for starting a self-employed activity, assistance for the employment of young people with disabilities, etc.

The National Employment Strategy of the Slovak Republic until 2020 creates a strategic framework for the coordination of employment policy in cooperation with the relevant ministries by antisocial partners and sets strategic aims in the field of employment until 2020, including measures to achieve them. Some legislative changes in 2014 significantly affected the labour market. The amendment to the Act on Assistance in Material Need increased the motivation of long-term unemployed and inactive people of productive age to enter the labour market and enabled the emergence of the so-called activation centres at Central Offices of Labour, Social Affairs and Family, where 840 new posts were created for field workers working with benefit recipients. The amendment to the Employment Services Act as a part of the reform of active labour market measures (ALMM) created space for the individualisation of professional and counselling services for disadvantaged jobseekers (DJ). The amendment to the Employment



Services Act, in cooperation from the 1st January 2015, introduced a new AOTP, which is a contribution to job creation in the first regularly paid job for young people under 29 (Szarková and Krásna, 2016; Bar-nová and Krásna, 2018a, b).

The Action Plan for Strengthening the Integration of the Long-Term Unemployed into the Labour Market in the Slovak Republic, adopted in November 2016, introduced new forms of support for the integration of the long-term unemployed into the labour market, in particular individualized counselling, including profiling jobseekers. The establishment of the first points of contact at the Central Office of Labour, Social Affairs and Family contributed to increasing the quality of employment services. The adopted Act on the Social Economy of Social Enterprises and on Amendments to Certain Acts, approved by the National Council of the Slovak Republic on the 13th March 2018, is expected that it will bring to social entrepreneurship in terms and regulations, remove obstacles to the development of the social economy, create a favourable business environment for social entrepreneurship, defines the social economy sector, defines social economy entities, social enterprises and other terms, establishes the conditions for granting the status of a registered social enterprise, individual types of registered social enterprises and the possibility of supporting enterprises in the wider social economy, adjusts the report on social economy by the state under the auspices of the Ministry of Labour and Social Affairs of the Slovak Republic and will define the organizations of the social economy sector (Strategic Plan of the Human Resources Operational Program for the years 2018–2020. (2018)).

As stated in the Recommendations of the Council for the National Reform Program of Slovakia for 2017 from the 22 May 2017, the long-term unemployment rate is still one of the highest in the EU. This applies in particular to members of marginalized Roma communities, the low-skilled and young people. Difficulties also remain in introducing individual support for long-term unemployed and vulnerable groups. Long-term unemployment is also closely linked to the qualifications of the unemployed. More than half of low-skilled job seekers will find a job after more than one year, more than a third of them cannot find a job in two years. Because of the costs associated with the duration of unemployment and lagging far behind the EU average, the long-term unemployed and low-skilled jobseekers are a priority group in the labour market. Measures targeting this group could, in addition

to positive social impacts, also bring significant savings in public finances. Therefore, the Human Resources Operational Program will continue to support the implementation of action plans which aim is to:

- apply an integrated comprehensive approach to the active inclusion of people excluded from the labour market;
- to support innovative programs based on the implementation of the Specific Recommendations of the Council for Slovakia 2017–2018, 2019–2020;
- to create partnerships and support cooperation with non-governmental organizations and private partners, by using the results of a survey aimed at identifying barriers to the third sector to participate in the implementation of the Action Plan to strengthen the integration of the long-term unemployed into the Slovak labour market;
- to support the creation of local partnerships in regions with the highest concentration of long-term unemployed; ensure individual evaluation of the long-term unemployed;
- to direct the long-term unemployed to support services aimed at removing barriers to employment (counselling on dealing with addictions, debts, assistance with reintegration, social support services, care services, integration of migrants, housing and transport support, etc.);
- to support the creation of social enterprises, which can be a key source of jobs for the long-term unemployed;
- to provide preventive and activation measures in cases where the long-term unemployed reaches 18 months;
- to support field social work in municipalities remote from the labour market;
- to plan further changes in the medium term, to improve the quality of employment services by strengthening targeted personalized services for jobseekers.

Because of the recommendations of the Council for the National Reform Program of Slovakia for 2017 in the field of education, the need to improve the quality of education and increase the participation of Roma people in inclusive mainstream education resonated, that is why the programs reflected - following their focus and setting - support was, is and will be increasing the quality of education to improve the possibilities of employment in the labour market or further study.

These measures have been set and are set for the needs of participants in education following the principle of the partnership (round tables, questionnaire survey), mostly through demand-oriented projects.

Not only in terms of the Strategic Plan of the Human Resources Operational Program for 2018–2020 (2018), it needs to be stated that regional differences persist - unemployment in eastern Slovakia is twice as high as in Bratislava. The challenge for the Human Resources Operational Programme was to contribute to the mitigation of the persisting significant regional differences in the economic potential of individual self-governing regions, which result in a differentiated unemployment rate and a lack of job opportunities.

The European Commission's and the World Bank's initiative to promote regional equalization has been and is intended to support EU countries to better invest and manage allocated European finances. The initiative is focused on regions that show low growth or low incomes despite huge investments in previous programming periods. The initiative was launched in the Prešov Self-Governing region. As part of the initiative, representatives of the region, together with the European Commission and the World Bank, will address the challenges that currently hinder the economic development of Prešov: brain drain, high unemployment, especially for young people, social exclusion, the mismatch between education provision and local labour market needs, and a lack of innovation cooperation between business, research centres and regional public university. At the same time, the prepared action plan will be based on the competitive assets of the region following the national smart specialization strategy; unique position on the border with Poland and Ukraine, significant natural, cultural resources and heritage and potential for tourism, as well as the presence of the faculty of production technologies. Also, experts at regional and EU level will seek funding from the 10 different cohesion policy programs that the region can access to support this action plan. Measures implemented in the area of supporting the social economy of social enterprises were also relevant. The social economy is the sector of the economy that carries out a certain business activity, but its main mission is to fulfil a certain sociable aim. Such social aims from an economic point of view include, for example, the employment of the long-term unemployed and other disadvantaged groups of job seekers. Social economy subjects are neither part of the public sector nor the ordinary private sector. As stated in the Strategic Plan of the Human Resources Operational Program for 2018–2020 (2018). From

promoting employment, the development of the social economy has potentially the great importance – it is one of the sectors with the best prospects for regional and local development and employment by creating jobs for disadvantaged jobseekers through its actors, social enterprises, strengthening social, economic and territorial cohesion, creates social capital, promotes active citizenship, solidarity and an economy with democratic values that put people first, while also promoting sustainable development and social, environmental and technological innovation. As the Strategic Plan of the Human Resources Operational Program for 2018–2020 (2018) writes, from employment, the support of the so-called Work Integration Social Enterprise (WISE), whose main aim is professional integration – either within the company itself or in ordinary companies of people who have serious difficulties in the labour market. This integration is achieved through productive activity and personal support, or through training aimed at improving the qualifications of workers. Participation in lifelong learning and second-chance education stays low. Related to this is a new challenge in the labour market, which is a shortage of skilled workforce. With unemployment rates approaching historic lows, companies in some skilled regions and sectors can be expected to have difficulty in finding a skilled workforce and pressure for faster wage growth. The numbers of vacancies at the Central Office of Labour, Social Affairs and Family is reaching historic highs with falling unemployment. Therefore, the cited the Human Resources Operational Program sets suitable conditions for effective integration of a potential group of unemployed, especially within PA1 and 3. Following the action plans for the transformation of regions, the Human Resources Operational Program will provide suitable conditions for targeting projects to anticipate changes, improvement and adaptability to changed conditions. change, and will support the maintenance and creation of jobs, especially in areas offering new sources of growth.

Another issue is the participation of Roma people in the labour market is still low and the progress in increasing their employment rate is small. Measures resulting from the implementation of the cited action plan, as well as measures in the field of support for the social economy and social enterprises, will contribute to increasing the participation of members of marginalized Roma communities in the labour market. However, the registration of unemployed people from the environment of marginalized Roma communities is not available in any officially available database, that is why it is not possible to

determine exactly the share of registered unemployed people from the environment of marginalized Roma communities. By measures of the Human Resources Operational Programme will not be realised implementation activities that primarily create jobs with long-term sustainability, but through the activities of the Human Resources Operational Programme, especially the performance of field social work and community work will help marginalized Roma communities increase their employment and employability (Strategic Plan of the Human Resources Operational Program for 2018–2020). According to the Strategic Plan of the Human Resources Operational Program for 2018–2020 (2018), the low employment of women caring for children under the age of 3 is influenced by the fact that men rarely take maternity / parental leave, there is a lack of childcare places, especially for those under the age of 3, and the rate of use of flexible working conditions is still low. Therefore, the Human Resources Operational Programme continues to support relevant measures as well in the current year 2020.

Discriminatory treatment of certain sections of the population is one of the causes of social exclusion. The elimination, prevention of discrimination and removal of barriers that lead to the isolation and exclusion of people from the public, sociable and professional life, based on social categories such as gender, age, disability, race, ethnicity or religion, are one of the main pillars of non-discrimination and equal opportunities. The Human Resources Operational Programme continues to provide specific support for groups of the population at risk of all forms of discrimination, especially for reasons and in areas not covered by other specific aims. Priority will also be given to ensuring the possibility of submitting applications for non-repayable financial support electronically. Emphasis will also be placed on improving the quality of the planned plans for non-return of support and increasing the quality of the evaluation process, while the requirements for professional evaluators will be tightened.

Effective involvement of civil society in the implementation and monitoring of the EŠIF by implementing participatory procedures. Therefore, even in the second half of the implementation of the Human Resources Operational Programme, the preparation of measures was ensured participatory, in cooperation with representatives of the non-governmental sector and with the participation of a wider range of organizations, institutions and persons from practice or research. This procedure is expected to help ensure a well-oriented applicant who can properly reflect on the challenges that will respond to the needs

and requirements of practice, as set out in the Strategic Plan of the Human Resources Operational Program 2018–2020 (2018).

In the second chapter of this scientific monograph, we focused on the issues of work, labour and skilled workforce from several perspectives. Based on the analysis of experts and in our opinion, it turns out that an inefficient system of lifelong learning in the conditions of the Slovak Republic and insufficient knowledge and estimation of labour market needs from the education system are among the weaknesses of our country. One of the most important points is the lack of a qualified workforce in the most important areas of the Slovak economy.



### 3 EDUCATION AND TRAINING FOR THE LABOUR MARKET

In the third chapter of the scientific monograph, we will describe education and training for the current and promising labour market.

According to the cited source Eurydice (2019a) in terms of Strategy 2018–2020 under Priority Axis (PA) 1 – Education is currently implemented by the third national program Dual Education and Training and Increasing the Attractiveness and Quality of Vocational Education and Training; Schools Open for Everyone; IT Academy – Education for the 21st Century. The amount of contracted funds is € 70,867,180, which represents 15.5% of the total allocation of PA 1. Within 2 announced calls (More successful in primary school, DO NOT DISQUALIFY!), 266 projects were contracted until the 16th February 2018 in the total amount of contracted funds of € 23,337,962, which represents 5.09% of the total allocation. The disbursement of funds started in 2018. The current implementation, including the rate of contracting and disbursement, was influenced by the focus on the preparation of national projects, which in terms of time negatively affected the progress in implementation and the preparation of demand-oriented calls. Out of the total number of 8 approved intentions of national projects, the Ministry of Education, Science, Research and Sport (MESRS) of the Slovak Republic decided not to further implement 4 national projects, resp. project themes put into demand-oriented calls (e.g. support for the training of future pedagogical and professional employee). Based on experience and to maximize the benefits for participants in education within individual priority areas, the Ministry of Education, Science, Research and Sport of the Slovak Republic has focused on increased support for the announcement of demand-oriented calls since 2018. The preparation and setting of calls are closely related to the process of preparation and use of simplified reporting of expenditure (hereinafter “SCO”) to simplify implementation both on the side of the beneficiary and on the side of the Ministry of Education, Science, Research and Sport of the Slovak Republic. The Ministry of Education, science, research and sport of the Slovak Republic uses the SCO in the form of a delegated act, i.e. approval of the standard scales of unit costs of the EP, while this process lasts around 12 months and the conditions of using the SCO need to be defined directly in the call/



calls. At the end of January and the beginning of February 2018, the Action Plan for Strengthening the Transparency of the Implementation of PA1 was approved, which we wrote about in the text above, the aim of which is to strengthen not only transparency but also the effectiveness of PA1 implementation (Eurydice, 2019a).

In 2017, an author's document was published for the area of education and training for the next 10 years called Learning Slovakia, which formulates the changes and aims that need to be met to meet the challenges of Slovak education. Following it, the Ministry of Education, Science, Research and Sport of the Slovak Republic prepared the National Program for the Development of Education and Training, which takes the form of multi-annual action plans. It also includes legislative measures in the field of regional education, higher education and further education. (Eurydice, 2019a). For the next years of implementation of PA 1 - the Ministry of Education, science, research and sport of the Slovak Republic, based on the setting of PA 1, i.e. setting specific aims, taking into account the current and future needs of participants in education at all levels of the education system;

1. education for the needs of the labour market (employability), e.g.:
  - support for career and educational counselling,
  - support of the integration of vocational education and training with practice,
  - improving the quality of vocational education and training,
  - support for entrepreneurial skills,
2. Improving learning outcomes and inclusion, e.g.:
  - support for PISA literacy,
  - support of global education and the 2030 Agenda,
  - improving the quality of education,
  - support of inclusive activities,
3. results-oriented higher education, e.g.:
  - support of the creation and implementation of professionally oriented bachelor's programs,
  - support of IT skills,
  - removing barriers to access to higher education,
4. increasing the professional competencies of pedagogical and professional employees and increasing the attractiveness of the teaching profession, e.g.:
  - improving the training of future pedagogical and professional employees;

- increasing the professional competencies of pedagogical and professional employees;
- 5. lifelong learning, including non-formal education, e.g.:
  - setting up a system for recognizing non-formal learning outcomes (validation of results),
  - improving the quality of further education,
  - support for increasing adult participation in further education etc. (Eurydice, 2019).

According to the above-cited source, within the planned measures, European Commission initiatives for lagging regions and transforming coal regions will also be supported in individual areas. The strategy of the approach to the implementation of these priorities is in creating a direct relationship between the declared National Project and calls for the Operational Programme (if relevant). They will be announced in synergy concerning the topic, respectively defined priority areas. The aim of the National Project needs to be synergistic and complementary to several Operational Programme calls, with an emphasis on announcing Operational Programmes calls. The aim of supporting the above priorities in the field of education is to contribute to the quality and accessible education and to strengthen the efficiency and effectiveness of PA1. The vocational education and training (VET) plan concerns not only the dual system of education and training but also study and teaching fields, in which it is not possible in terms of their nature to introduce the dual system of education and training) and the addition of the possibility of using financial instruments. As part of its activities, the Ministry of Education, Science, Research and Sport of the Slovak Republic plans to supplement specific activities supporting European Commission initiatives aimed at lagging regions and transforming coal regions.

Currently, seven National Projects is being implemented: Employment practice; Graduate internship starts employment; Successfully in the labour market; Chance for young people; Education of young job seekers; Restart for young job seekers; Selected active labour market measures for young jobseekers. The amount of contracted funds is € 163,909,804, which represents 79.29% of the total allocation of PA 2. Within the announced calls for the Operational Programme (Support for the entry of selected groups of young people into the labour market; New or innovative programs for improving young people's self-employment; Activation and support of young NEET) only 6

projects are currently contracted in the total amount of contracted funds € 627,693, which represents 0.30% of the total allocation of PA 2. Calls for the Operational Programme, aimed at supporting the entry of selected young people into the labour market and improvements in young people's self-employment have not been successful, mainly because of the incorrect settings which have limited participation in planned measures to jobseekers, subject to a minimum length of registration at employment offices. Compared to the first two calls, many more applications were received, but the evaluation process indicates that many applicants did not reach the minimum required numbers of points (Eurydice, 2019a).

Concerning youth unemployment (Eurydice, 2019a), the public employment services have limited capacity to intervene on time and tailor services to jobseekers' profiles, as well as to catch unregistered young people. Therefore, it is necessary to act in these areas, in line with the objectives of the Youth Guarantee. The priority will be given to specialized support for young people which helps them to find the right opportunities, to prepare, to find and keep a job through holistic programs for young people who are out of school, unemployed and they face barriers during finding employment, with a view to grouping more effectively the services that will be offered to them, while developing a mechanism to help keep them interested in continuing lifelong learning. To capture the widest possible range of inactive young people as well as unemployed low-skilled young people, regular workshops will be held to work with representatives of civil society and local and regional authorities. The aim will be to identify examples of good practice applicable in the wider context of the challenges oriented at this group. At the same time, inspiration and experience of some EU member states from the application of the so-called "Template calls", i.e. calls with predefined measures, preparation of which is clear and simple for potential applicants, which is also confirmed by the experience from the calls announced so far under PA 2. Potential applicants are small nongovernmental organizations (MVO) and small municipalities, often those with the presence of marginalized Roma communities. It stays from the PA 2 allocation at the current level of concluded contracts 42 million € (as of 2018). It is assumed that the Central Office of Labour, Social Affairs and Family will not exhaust the amount of approx. 58 mill. €. The reason is the fact that the original setting of some national projects was based on much higher numbers of registered young unemployed people. After the change in the

situation on the labour market, the set values of indicators in projects became unrealistic. Thus, €100 million is available for the planned measures from EU resources. Because of the above-mentioned evaluation of the implementation of PA 2, no fundamental changes in its setting are necessary (Eurydice, 2019a).

Madzin et al. (2018) state that the dual system of education and training, which we have already mentioned in the text, is a system of vocational education and training, which is based on a close connection between general and vocational theoretical education in secondary vocational school with practical training in a specific company. Following the above authors, we state that the dual system of education and training is one of the possibilities of effective education and training for the current and future labour market not only in the conditions of our society.



## 4 THE DUAL SYSTEM OF EDUCATION AND TRAINING

In the fourth chapter of our scientific monograph, we will deal with the topic of the dual system of education and training in the domestic and foreign portfolios, together with their specifics, historical, but also the most current starting points.

According to Petanovitsch et al. (2014), an unconditional basic dimension for a long-term functional system of apprenticeship education is to ensure the involvement of companies and a sufficient number and quality of apprenticeships. However, this will only happen if the effects of benefits can be expected from the point of view of companies. Empirical studies sufficiently prove that apprenticeships provide companies with their professional development, thus supporting operational continuity as well as innovation. The costs of apprenticeships (time, resources, apprenticeships, apprenticeship workshops, instructors etc.) are in contrast to the productive performance of apprentices throughout the teaching period. The expected calculation of costs and benefits in the context of education is an essential determining factor for educational offers from the side of entrepreneurs, while the benefits cannot be quantified solely by productive work, but are also associated with a medium-term investment motive for example.

The formal finishing of education, and also the end of an apprenticeship, act as signals of the labour market. Therefore, it needs to be ensured that the person has the necessary knowledge, skills and competencies associated with it after completing apprenticeship (Veteška and Tureckiová, 2008a, 2008b). This is also relevant from graduates because of their chances on the labour market “outside” the original company in which they were educated. It needs to be ensured that the level of quality of education is achieved – and no matter which company the apprenticeship took place. Only by this way, there will be a demand for the profession in the labour market and only then is it possible to ensure quality at all levels: from the apprenticeship (quality requirements imposed on the company where the training takes place, as well as ensuring, supporting and developing the quality of apprenticeships in enterprises) through the quality of apprenticeship training in the apprenticeship school, to passing the final apprenticeship exam, state Petanovitsch et al. (2014).

The dual system of education and training is a system of vocational education and training for the exercise of a profession, which is based on a close connection between general and vocational theoretical education in secondary vocational school with practical training in a specific company, state Madzinová et al. (2018).

Nogueira (2014) in the European Parliament report “Focused on Dual education: A bridge over turbulent waters?” defines dual VET as a widely used term, pointing to the fact that teaching and learning in vocational education and training are characterized by the duality in two directions:

1. the duality of the places where the learning takes place (schools / vocational training providers and training companies), participating together in the responsibility for providing theoretical and practical training, and
2. duality of stakeholders (public and private), sharing responsibility for policy and practice in the field of vocational training ([http://www.europarl.europa.eu/RegData/etudes/BRIE/2014/529082/IPOL\\_BRI\(2014\)529082\\_SK.pdf](http://www.europarl.europa.eu/RegData/etudes/BRIE/2014/529082/IPOL_BRI(2014)529082_SK.pdf)).

It is a system of technical and vocational education and training, the plan of which is developed and implemented in cooperation with an accredited organization in the field of agriculture, medicine, industry and trade field (TESDA, 2010), and the status of accredited education or training provider needs to be granted by the relevant authorities (CEDEFOP, 2008).

In the dual system of education and training, education and training in an educational institution and at the workplace are equivalent, although the job training accounts for 50% or more of the total duration of the training program (UNESCO, 2011). During the job training, apprentices acquire knowledge, practical skills, and develop the attitudes needed to work in various sectors of economic and social life (UNESCO, 1984), which should make it easier for them to enter the labour market after completing vocational training. In this way, CEDEFOP (2008) complements this definition and states that education and training aim is to equip individuals with the necessary knowledge, know-how, skills and competencies that are necessary for a given profession or employment.

CEDEFOP (2008) defines the dual system of education and training as an organizational form of the of the educational process, in which vocational training is carried out by a combination of education

in an educational institution or training centre and the workplace at defined time intervals. It can be an alternation of periods on a weekly, monthly or yearly basis. Depending on the country and the situation, participants may be bound by a contractual relationship with their employer or may be remunerated for their work. The contract commits the potential employer to the training of an apprentice who accepts the conditions of the training leading to the acquisition of a professional qualification for a certain job/occupation while emphasizing the rights, duties and responsibilities of all involved parties (TESDA, 2010).

In the context of the dual system of education and training, there is a need to adapt apprenticeships and their content to economic developments and the resulting changes in skills needs. Only in this way it can be ensured that the relevant vocational skills needed by the economy and demanded in the labour market are provided in apprenticeships. For this reason, individual professional items are not determined statically but are formulated in such a way that education can be adapted to new developments and can be implemented easily and quickly. The initiative for a new regulation can be generally based on the relevant sectors as well as on the social partners and the relevant ministries but is usually based on the companies directly affected by these changes. Anyway, the requirements for current professions and needs in practice in the given sector are at the forefront, while they are supported by studies and evaluations, state Petanovitsch et al. (2014).

The dual system of education and training is also attractive for young people because it provides a wide choice and different options. Apprenticeship provides all the relevant skills and competencies which are needed to practice a particular profession. However, it also mediates general, transferable competencies beyond the enterprise, which are not only usable in the apprenticeship plant, but also in the whole sector and in the labour market in general. The dual system of education and training thus covers a very wide range of different assumptions. From the point of view of young people, “learning in the workplace” is an important feature of attractiveness. Other important aspects of attractiveness are, among others, a stable perspective of profession and employment, good chances on the labour market, regulated working conditions and ways of further education, as well as opportunities of improving income. A significant advantage of dual system of education and training is, compared to the exclusive school system, the possibility to start employment immediately after



graduation. Another positive thing young people see is that they have the opportunity to earn their own money during their education (Pentanovitsch et al., 2014).

Also according to Slovak Agriculture and Food Chamber (2019), the dual system of education and training is a system of vocational education and training for the performance of a profession, which is characterized mainly by a close connection of general and vocational theoretical education with practical training of students at a particular employer. Teaching at school alternates with practical teaching at the employer's premises. The dual system of education and training, based on an apprenticeship contract between an employer and a student and a contract between an employer and a secondary vocational school, is a combination of practical teaching at the employer with theoretical education in a vocational school. It is an important tool for reducing youth unemployment, the main cause of which is the mismatch between the skills of school leavers and the needs of employers. At present, this discrepancy is one of the characteristic disadvantages of young people entering the labour market. The dual system of education and training can directly play an irreplaceable role in improving this situation at the employer. It is also a tool for reconciling the number of vocational education graduates in individual fields of study and fields of study with the needs of the labour market. The dual system of education and training - as a combination of theoretical training at school and practical vocational training at the employer - is considered as the best solution for youth unemployment across Europe, is one of the most important factor in successful economic policies in developed countries and the main tool for reducing youth unemployment. Gabrhelová (2018a, b), Porubčanová - Pasternáková - Gabrhelová (2016), Pasternáková - Gabrhelová (2016), Gabrhelová - Porubčanová - Pasternáková (2016).

According to Madzinová et al. (2018), the principle of the current setting of the dual system of education and training is based on the assumption that more effective cooperation between employers and vocational secondary schools will lead to a greater degree of connection between school theoretical and practical teaching with the specific needs of employers in the area of training their future employees. The dual system of education and training is an important tool that can reduce youth unemployment or increase the employability of secondary vocational school graduates, where one of the main causes is the mismatch between skills from secondary vocational schools and

the needs of the labour market, respectively employers. Setting up the dual system of education and training enables vocational training directly with the employer, which plays an important role in improving this situation and also ensures that the student's preparation for the profession meets the needs of employers.

The dual system of education and training in the conditions of the Slovak Republic was set up after the model of the German, Austrian and Swiss models, where the system achieves excellent results. Application practice since the adoption of the law on vocational education shows that the law is a suitable alternative to the traditional school system and brings several positive facts.

The system of dual education and training was implemented in the conditions of the Slovak Republic since the adoption of Act no. 61/2015 Coll. on vocational education and training and on the amendment of certain laws in response to the changing needs of the labour market and the need to reduce youth unemployment (see also Barnová et al., 2018, 2019). This law introduced comprehensive legislation in the field of vocational education and training, the aim of which was to increase the flexibility of the school system in relation to labour market needs and enable employers to actively participate in student training in accordance with their needs (see also Čepelová and Krásna (2014)). Krásna (2015a, b) and other authors). Students of secondary vocational schools in Slovakia have the opportunity to study in the system of dual education from the school year 2015/2016.

The Act on Vocational Education and Training established the legislative framework and the necessary preconditions for its implementation, but there is no system of its implementation, continuity in building and coordination in several areas. Although several fundamental comments were not made in the amendment to the law, it introduces several measures aimed at improving the conditions for other students and employers (especially small and medium-sized entrepreneurs) to enter the system, reduce the overall administrative burden and improve the training of secondary vocational school students. The amendment to the Vocational Education Act is expected to contribute to the expected objective of the national project in the field of dual education (Dual) by 2020, when 12,000 students, 1,450 employers and 280 secondary vocational schools should be involved in the system, state Madzinová et al. (2018).

In our opinion, the dual system of education and training represents an effective, active and efficient cooperation of students of secondary

vocational schools and secondary vocational apprentice schools with employers. The dual system of education and training is preparing students for employment and the labour market, which is implemented through the harmonization of teaching in schools with the specific needs of employers in the current labour market.

#### **4.1 The dual system of education and training in an international context**

In almost all the Member States of the European Union, there is at least one way within the vocational education system that combines theoretical (general and vocational) education at school with practical training (work) in the workplace, i.e. at the employer, but considerable differences can be observed between countries in what other vocational training options are offered and in what proportion the individual ways are represented. While the EU Member States are reforming their vocational education and training systems and integrating work-based learning, the European Parliament emphasizes (Nogueira, 2014) that the diversity of starting positions, together with the social and economic dimension, makes it impossible for all countries to move in short-term to the same model. Besides this, because of the diversity of systems, the changes need time-consuming and need to be done gradually.

According to Madzinová et al. (2018), vocational education systems according to the place of implementation is possible to divide as follows:

- *Vocational training realized in schools* (France, Romania, Spain, Finland);
- *Vocational training realized in a special vocational school* (Belgium, Luxembourg, the Netherlands, Sweden);
- *Job training realized at work* (Italy, Ireland, United Kingdom, USA, Israel - the main training places are small businesses and factories that run study workshops together in the regional centre). Apprentices work in the company and 1-3 days a week and they study in the study workshop);
- *Combined vocational training*, where vocational training is the responsibility of companies but it is also the responsibility of vocational schools, such as the dual system of education and training (Germany, Denmark, Austria, Croatia, Hungary,

Switzerland, Turkey, Finland, Australia and Canada). In the 50s and 60s, a similar dual system of education and training was introduced in Israel, in the form of the so-called craft classes, where students became more familiar with craftwork. The reason was mainly because of immigrants from Germany and Switzerland. The Australian apprenticeship system includes apprenticeships, which are taken as preparation for a specific profession, mostly of a craft nature, also traineeships that prepare for wider occupations, mainly of a service nature. In Canada, apprenticeships were primarily aimed at adults, but in some jurisdictions young people, in particular, are interested. The industry is responsible for on-the-job training and educational institutions provide theoretical knowledge.

We divide vocational education systems according to the focus of the education itself as follows:

- *Systems with a high degree of theoretical education.* In France, theoretically oriented vocational education is provided by schools predominates.
- *Systems focused on practical training,* corresponding to the needs of a specific workplace. In Italy, the United Kingdom and the United States, the acquisition of practical skills in the workplace is preferred. In Germany and Austria, predominates the practical vocational training in companies and is supplemented by theoretical education in apprenticeship schools. In Sweden, the focus is on vocational training in schools, which is complemented by vocational training in companies.

Secondary vocational education in Slovakia has gone through several stages of development. While until 1989, apprenticeship education with a connection to business practice was expanded, since 1990, vocational schools focused more on education associated with school teaching without a significant link to practice. Since 2015, the dual system of education and training has been introduced in Slovakia, following the example of the German and Swiss models of the functioning of the dual system of education and training. In the study “Dual education: A bridge over turbulent waters” (Nogueira, 2014), the European Parliament identified four main types of categories in vocational education and training with the following characteristics:

*1. Fully functioning apprenticeship:*

- apprenticeship training is a part of formal education and is completed at the national level by a recognized certificate - the obtained certificates/qualifications are often linked to the status of a qualified workforce;
- the content of training in enterprises is determined together with the government, representatives of employers' organizations and study field;
- apprentices have a clear status, they are remunerated and the rights and responsibilities of all parties involved are clearly defined (apprentice, society, training centre, etc.);
- training costs are borne together by the government and employers (the government covers school training; employers fund in-company training);
- while there are other forms of vocational training in these countries, apprenticeships play an important role in terms of participation and social perception of this form of training.

This type of vocational education and training is used mainly in Austria, Germany and Denmark.

*The strengths of full functioning apprenticeship:*

- offers the benefits of learning to work to a large number of students as well as to whole society;
- apprenticeships ensure an easier transition from school to work and its result is in a relatively high level of employment;
- is well known and attractive among young people, parents and society;
- within the business sector, there is a strong co-responsibility for vocational education and training, which ensures that the qualifications and training are up-to-date and well-aligned with the needs of the labour market;
- the systems have a long tradition, thanks to which strong security mechanisms have been created.

*The weaknesses of fully functioning apprenticeship:*

- apprenticeships are strongly dependent on the provision of apprenticeships to the business sector, on the willingness and motivation of employers to participate in the dual system of education and training;

- a high level of “apprenticeship” is required - apprentices need to have developed basic work habits and have a positive approach to work;
  - disadvantaged young people find it more difficult to find an apprenticeship than other groups of peers;
  - employers, i.e. organizations entering the dual system of education and training need to have the necessary technical and human resources, which often requires the cooperation of several companies in preparing students for the profession.
2. *Apprenticeship training as a parallel category to other forms of vocational education and training:*

These are countries where apprenticeships exist but they are not the main category of vocational education and training. These countries often combine apprenticeship training with a theoretical part, as follows:

- a. the apprenticeship leads to the same qualifications as the theoretical part of the VET. It is an alternative but equivalent way to other forms of VET (e.g. in France, Netherlands), or
- b. the apprenticeship ends with a special certificate which is not the same as that given in schools (in Italy, Poland, the United Kingdom).

In these countries, apprenticeships have some important characteristics in common with full-fledged apprenticeship systems (students’ status, contract, remuneration), but apprenticeships are less popular among businesses and students.

*The strengths of this type of system are:*

- given the existence of categories of theoretical education, it is easier to match the supply of apprenticeships with the demand of students for these places,
- there are transitional categories between theoretical VET and apprenticeships that allow students to change the field during their studies.
- apprenticeships can be oriented to the specific sectors that have the greatest potential in terms of creating apprentice places.

*The weaknesses in these countries are:*

- sometimes apprenticeships focus on traditional sectors (crafts, manufacturing), and differences in skills may exist in other growth sectors in the country.

3. *Strong elements of learning by work:*

In some countries (e.g. France, Finland or the Netherlands), where apprenticeships are introduced as a parallel path, theoretical training remains the main form of vocational education and training but learning by work, i.e. company practical training is systematically integrated into the programs. Such strong elements of learning are complemented by the prevailing programs focused on theoretical education.

*The strengths of these categories of vocational education and training are:*

- it is easier to get new employers as they do not have to create a paid job for a long time (as in apprenticeships);
- it is an ideal solution for young people who are lack of apprenticeship - they get to know the work environment gradually;
- learning by is offered to a wide range of students and is less selective than full-fledged apprenticeships,
- students work in different companies during their studies, which allows them to gain experience for a wide range of job positions and work environments.
- Weaknesses of the work learning system:
- schools need to create a strong network of local organizations;
- the quality of work-based learning and the way it is combined with theoretical vocational training can be a problem;
- a period of on-the-job training can last only a few weeks (albeit several times a year) and does not always guarantee a sufficiently motivating and supportive learning environment;
- the transitions from school to work is a bit longer than in the case of apprenticeships, as organizations are less likely to systematically recruit new trainees.

4. *Full theoretical vocational education and training:*

Following the cited report from 2014, fully theoretical systems of vocational education and training are considered e.g. The Czech

Republic and Slovakia. At this point, it should be noted again that since 2015, the dual system of education and training in Slovakia has been functioning as an alternative way of vocational education.

A large part of vocational education in such countries consists of complete theoretical education and training, which is associated with several problems:

- lack of cooperation between schools and organizations;
- lack of understanding of apprenticeships and similar training schemes by employers; employers are unaware of the benefits that these forms of education provided to young people;
- employers are not prepared to provide young people with full qualifications (but only certain, company-oriented skills);
- at the same time, these systems face problems related to outdated school plans, school equipment and teacher competence. (in more detail e.g. Pasternáková and Sláviková (2012); Gabrhelová (2017, 2018a,b); Pasternáková and Lajčín (2012); Pasternáková (2016b), Pasternáková and Gabrhelová (2018), Krásna (2014), Barnová and Krásna (2018a,b) and other authors).

As SAAIC (2019) points out in terms of the dual system of education and training in Germany, it should be noted that each federal state (Länder) in Germany organizes, administers and finances its school system. The Ministries of Education and Culture are responsible for education. In most countries, the Ministry of Science is responsible for higher education. At the federal government level, the BMBW is responsible for drafting regulations regarding the basic principles of the higher education system, out-of-school training, and training regulations. BMBW is also responsible for science. It is the most widespread form of basic training. It combines vocational training in a company with education and training in a vocational school (Berufsschule). Training at school is carried out either by distance school attendance (one or two days a week) or as an educational block (attendance at school within a few weeks). Several regulations and guidelines for individual professions have been adopted based on the BBiG - Berufsbildungsgesetz (Training Act). Recruitment is carried out through employment offices (Arbeitsämter) or directly by application in the company. There are no general national admission requirements - each company sets its requirements. The duration of the training depends



on the profession and lasts from two to three and a half years, but may be shortened if the participant has received adequate preparatory training. After successful completion of the training, the participant receives the relevant diploma or certificate.

A special feature of the **Austrian** education system, according to the ABA (2019), is the close link between the economy and education. Not only apprentices but also graduates of vocational colleges, vocational schools and universities benefit from this practical education. The dual system of education and training - a combination of theory and practice - is applied both in teaching disciplines and in vocational schools. Curricula or training centres adapt to the requirements of the economy; apprentices are trained in companies or undergo an internship. In joint projects between schools and the economy, e.g. in the form of diploma projects within the framework of exercise company works, the results of research and development that are related to the practice are promoted. This combination is considered as a model throughout Europe and it is a key factor for the success of the Austrian economic location. Foreign investors especially appreciate the professionally specific skills and well-founded basic knowledge of Austrian employees. Austria has an extensive network of tertiary education institutions. These include 21 Fachhochschule universities, 22 public and 13 private universities. Fachhochschule colleges, which together offer 660 fields of study, are oriented to the requirements of the corporate sector and maintain intensive contact with the industrial sector. About half of the study programs offered by applied science colleges provide on-the-job training. The education system in Austria is oriented to vocational training. Together with the orientation to practice, it places the focus on specialization. Whether it is higher education schools in the technical or business field, the possibility of specialization is always given. For example, the Higher Technical Institute for Mechanical Engineering offers more than ten different educational branches.

Similar to the Slovak Republic and the Czech Republic, the discussed topic is vocational education in the so-called dual (apprenticeship) system. Here, too, it is true that one of the basic preconditions for quality vocational education is mutually beneficial and well-functioning cooperation between schools and businesses. As predicted by the Analysis of Vocational Education Systems in Europe and the World (NUV, 2017), the labour market and the dual system of education and training are very closely linked. In countries where cooperation

between schools, businesses and social partners is applied and encouraged, schools can teach theoretical subjects according to the needs of individual businesses. Graduates then have the opportunity to use the acquired competencies in practice, their transition between school and work is easier and they are better looking for a suitable job. For their future employer, thanks to the acquired experience and skills they have acquired in the company, they are suitable candidates for a certain job position in the given profession. Cooperation between schools and companies is important for appropriate feedback and a smooth educational process because the pedagogical employees (VET teachers) can pass on important information with the company employees (VET trainers, instructors ...) mainly about the benefit of students and the acquired skills of the student.

Based on the Analysis of Vocational Education Systems in Europe and in the World in terms of the interconnection of initial and further vocational education, it can be stated that initial vocational education is not able to provide qualifications that would be sufficient for a person's entire professional life. Therefore, the importance of continuing education is growing in all industrialized countries and the function of initial vocational education is changing in connection with this. There are discussions if a person's initial vocational education should be prepared with regard to his entire professional life, or whether he should create the preconditions for being able to apply quickly in a specific profession. To some extent, it is a question of whether vocational training should focus primarily on enhancing worker mobility or ensuring productivity. This dilemma can be mitigated by making more use of the broader competencies of vocational education graduates or by combining the most important competencies with special competences in vocational training curricula.

Training in the **German** dual system of education and training should provide apprentices with qualifications, so they can be employed in the relevant profession. However, it is anticipated that they can only become professionals if they gain professional experience and further training.

In **France**, further education is mainly used for the socialization of workers and it is used to train those who have new businesses. It is up to the companies to decide how to supplement the theoretical knowledge acquired by the employees in the schools with practical skills.

**The British** vocational education system has no formal boundaries between initial vocational education and further education. Broadly

understood training for professional life is intended to provide, above all, a general national professional qualification. However, it is too general and people are forced to continue their education.

In **Israel**, there is a complete lack of permeability within the school system, especially from vocational training to university. Because of the different functions of further education, companies in some countries allocate different amounts of funding for further education of their employees.

In **France** and the **United Kingdom**, the volume of these funds is much higher than in Germany, where funds prevail on initial education predominate, according to the Analysis of Vocational Education Systems in Europe and the World.

In the light of the EU Strategic Framework for European Cooperation in Vocational Training (“ ET 2020 “), “the Education and Training 2010” work program was approved by the Barcelona European Council in March 2002, which for the first time created a solid framework for education in the Lisbon Strategy for European cooperation in education and training, based on common objectives, with the primary aim of supporting the improvement of national education and training systems through the development of complementary tools at EU level, mutual learning and the exchange of good practice through the open method of coordination. Education and training play the most important role in addressing the many socio-economic, demographic, environmental and technological challenges that Europe and its citizens face today and in the years to come. Effective investment in human capital through education and training systems is an essential component of Europe’s strategy to ensure a high level of sustainable growth based on knowledge as well as jobs, at the centre of the Lisbon Strategy, while promoting self-realization and social inclusion and active citizenship.

According to the above-mentioned framework for the period up to 2020, the overriding objective of European cooperation should be to support the further development of education and training systems in the Member States, which should ensure:

- a. personal, social and professional fulfilment of all citizens;
- b. sustainable economic prosperity and employability in the promotion of democratic values, social cohesion, active citizenship and intercultural dialogue.

According to the EU Strategic Framework for European Cooperation in Vocational Training (“ET 2020”), such objectives need to be seen in a global context. Member States recognize the importance of opening up to the world as a condition for global development and prosperity, which will help the European Union to achieve the aim of becoming a world-leading knowledge economy by offering excellent and attractive opportunities for education, training and research.

European cooperation in education and training until 2020 should be established in the context of a strategic framework bridging education and training systems as a whole in a lifelong learning perspective. Indeed, lifelong learning should be understood as a fundamental principle underpinning the whole framework, which should cover learning in all contexts – whether formal, non-formal or informal – and at all levels: from early childhood education and higher education to higher education, vocational education and training and adult education.

The EU Strategic Framework for European Cooperation in Vocational Training (“ET 2020”) should specifically address the following four strategic objectives:

1. effort to make lifelong learning and mobility a reality;
2. improving the quality and efficiency of education and training;
3. promoting justice, social cohesion and active citizenship;
4. fostering creativity and innovation, including entrepreneurship at all levels of education and training.

Also, periodic monitoring of progress towards the set aim is a fundamental contribution to evidence-based policy-making. Indicators and benchmarks for the average of European results (“European benchmarks”) should, therefore, be added to the outlined strategic objectives for the period 2010-2020. These values are based on existing benchmarks and they will help to measure overall progress at European level and to evaluate the achieved results.

As will be explained in more detail below, according to the EU Strategic Framework for European Cooperation in Vocational Education and Training (“ET 2020”), the wording of **Strategic Objective 1: Strive to make lifelong learning and mobility a reality.**

The challenges posed by demographic change and the recurring need to update and develop skills in line with changing economic and social conditions call for a lifelong approach to education in an authentic environment, as well as education and training systems that are more responsive to change and they are more open to the wider

world. Although new lifelong learning initiatives may be developed to reflect future challenges, further progress is still needed on ongoing initiatives, in particular in implementing coherent and comprehensive lifelong learning strategies. In particular, work is needed to ensure the development of national qualifications frameworks based on relevant learning outcomes, as well as to link them to the European Qualifications Framework, to create more flexible learning pathways - including better transitions between different education and training sectors, more openness against non-traditional forms of education and increased transparency and recognition of learning outcomes. Further efforts are also needed to support adult learning, to improve the quality of guidance systems and to make learning more attractive, including through the development of new forms of education and the use of new teaching and learning technologies. As an essential element of lifelong learning and an important means of increasing people's employability and adaptability, the mobility of learners and teachers and their trainers should be gradually extended to make study visits abroad - both in Europe and around the world - the rule and not the exception. To this purpose, the principles should be set out in the European Quality Charter for Mobility. Achieving this aim will require new efforts from all stakeholders, for example in terms of ensuring adequate funding (in more detail e.g. Pasternáková and Sláviková (2012); Gabrhelová (2017, 2018a, b); Pasternáková and Lajčín (2012); Pasternáková (2016b), Pasternáková and Gabrhelová (2018) and other authors).

In the light of the EU Strategic Framework for European Cooperation in Vocational Education and Training (“ET 2020”), **Strategic Objective 2 is: Improving the quality and effectiveness of education and training.**

High-quality education and training systems that are both efficient and equitable are essential for Europe's success and increase employability. The main challenge is to ensure that each individual acquires the most important competencies while developing excellence and attractiveness at all levels of education and training, enabling Europe to maintain a strong position in the world. To achieve this sustainably, more attention needs to be paid to the level of basic skills, such as the ability to write and count, to make mathematics, science and technology more attractive and to strengthen language skills. At the same time, it is necessary to ensure high-quality teaching, to provide adequate initial teacher education, to ensure the continuous professional

development of teachers and trainers, and to make teaching more attractive as a profession. It is also important to improve the governance and management capacity of education and training institutions and to establish effective quality assurance systems. High quality can only be achieved through the efficient and sustainable use of resources, both public and private as appropriate, and by promoting evidence, based on policies and practices in education and training.

According to the EU Strategic Framework for European Cooperation in Vocational Training (“ET 2020”), **Strategic Objective 3 is formulated: Promoting justice, social cohesion and active citizenship.**

Education and training policy should enable all citizens, regardless of their personal or socioeconomic status, to acquire, update and develop skills specific to their work throughout their lives, as well as the most important competencies needed to be employed, as well as: enable the promotion of further education, active citizenship and intercultural dialogue. Disadvantages related to education should be addressed by providing quality early childhood education and targeted support, as well as support for inclusive education. Education and training systems should aim to ensure that all learners - including those from disadvantaged backgrounds, people with special needs and migrants - complete their education, possibly through a second chance at education and by providing education tailored to individual needs. Education should promote intercultural skills, democratic values, respect for fundamental rights and the environment, combat all forms of discrimination, and thus equip all young people with the ability to interact positively with peers from diverse backgrounds.

According to the “EU Strategic Framework for European Cooperation in Vocational Education and Training” (“ET 2020”), **Strategic Objective 4 reads: Strengthening creativity and innovation, including entrepreneurship, at all levels of education and training.**

Creativity brings personal fulfilment, and at the same time represents a primary source of innovation, which is considered to be one of the main driving forces of sustainable economic development. Creativity and innovation are the most important to the development of entrepreneurship and Europe’s international competitiveness. The first challenge is to push for all citizens to acquire “cross-cutting” the most important competences, such as digital competences, the ability to learn, initiative and entrepreneurship, and cultural awareness. The second challenge is to ensure a fully functional knowledge

triangle of education, research and innovation. Partnerships between the business world and the various levels and sectors of education, training and research can help to achieve a better focus on the skills and competences needed in the labour market, as well as fostering innovation and entrepreneurship in all forms of education. The wider learning communities, which include civil society and other stakeholders, it is necessary to support and to create a climate that leads to creativity and better matching of professional and social needs, as well as to the quality of life of individuals, in more detail the EU Strategic Framework for European cooperation in vocational training (“ET 2020”).

According to Petanovitsch et al. (2014) currently have various characteristics of apprenticeship education at upper secondary level in the countries of the European Union, and it should be noted that in all Member States it is possible to find one or another form of apprenticeship training in which practical on-the-job training plays a significant role. The structure and implementation of the dual system of education and training in Austria, Germany and Switzerland are similar in many respects, which is also conditioned by similar socio-political and economic-political traditions and developments. Although the details show significant differences in the design of the systems, in all three countries the dual system of education and training is realized at two places of education - business and apprenticeship - as a fundamental understanding of apprenticeship, with a significantly predominant, while a part of the education is provided in the business. Other important common features of these “classical” apprenticeship systems are clearly defined control structures with the involvement of the economic sector, which plays an important (albeit diverse) role, the contractual relationship between business and apprentices and the basic professional concept. This means that apprentices are trained in a specific profession according to a clearly defined content of education. However, this also means that, according to a fundamental understanding of the professional concept, a certain “package” of abilities and skills need to be conveyed, which must be about realized at a certain time set aside for education (teaching time), as written by Petanovitsch et al. (2014).

## 4.2 Basic characteristics of the dual system of education and training in selected countries of the European Union and their comparison<sup>1</sup>

### Germany (2016)

In Germany, the dual system of education and training has a long tradition, its modern form has been developing since the 1920s. It is regulated by the Vocational Training Act from 1969, which provides a general framework for later more detailed legislative elaboration. This law focuses on a part of the training provided at the workplace. Education in secondary vocational schools is not regulated at the federal level, it is addressed at the level of school laws of 16 federal states. In 2015, up to 70% of all secondary vocational school students were trained in the dual system of education and training in Germany, which is almost 40% of all secondary school students, even though vocational education can be obtained outside the dual system of education and training.

Apprenticeship education within the dual system of education and training is implemented at the upper level of secondary education lasting 2–3 years, partly in the workplace and partly in a secondary vocational school, while their alternation is not precisely defined, it depends on the particular school. It can take place on certain days of the week, or at intervals, taking into account the needs of stakeholders and the region. Compulsory teaching in a secondary vocational school is 12 teaching hours (on average), of which 8 hours should be devoted to a vocational subject.

Education within the dual system of education and training is intended for students after the end of compulsory schooling, while the age limits are not strictly defined. Employers and apprentices are bound by a contractual relationship in accordance with the Labour Code (this is an employment relationship, i.e. the apprentice is officially in the position of an employee and there is no contractual relationship between the employer and the secondary vocational school) and preparation for work activities is in accordance with the professional profile, which is based on the official workplace training curriculum. The share of school education and on-the-job training is not legally defined, but depending on the curriculum, the time spent at the workplace amounts to approximately 70% of the total

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<sup>1</sup> Compiled based on up-to-date data published in Cedefop's European database on apprenticeship systems (2019).

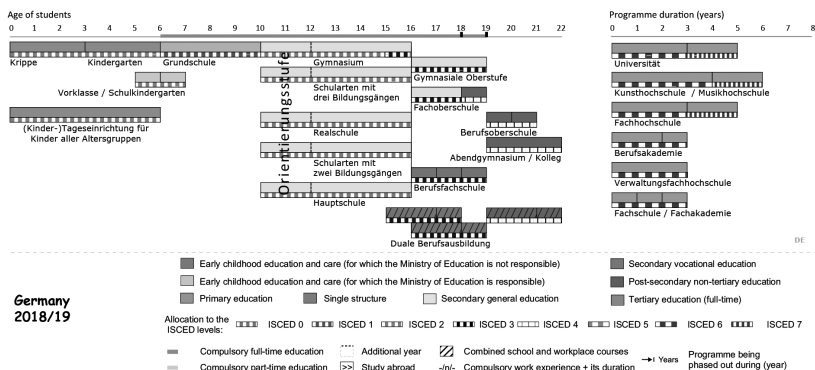


study time. The costs associated with on-the-job training are covered by the employer, while training in secondary vocational schools is financed by the state. Apprentices receive a salary that is subject to taxation for their work.

The standard length of education and training in the dual system of education and training in Germany is 36–42 months, depending on the profession. If the student successfully passed the school-leaving examination in the past, the duration of the program can be shortened by 1 year. 2-year programs have been created for students for whom standard education in this system could be too demanding (approximately 8% of all students involved in the dual system of education and training).

After successful completion of the final exam, graduates acquire professional qualifications and become qualified workers.

In Germany, the dual system of education and training is also used in post-secondary education.



**Figure 1 The system of education in Germany**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/germany\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/germany_en))

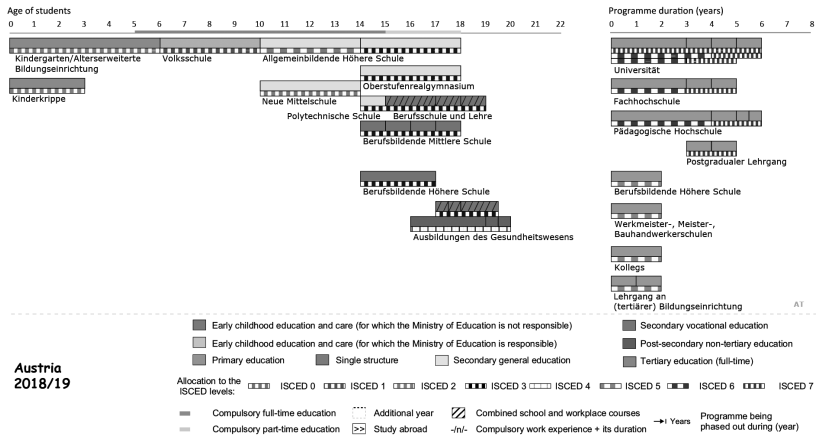
**Austria (2019)**

Same as in Germany, apprenticeship training has a tradition of several years in Austria. The dual system of education and training is regulated by the 1969 Law - Federal Apprenticeship Training Act. It defines an apprentice as a person who is professionally educated and at the same time is employed on the basis of an apprenticeship contract. He is preparing for a profession at an authorized workplace. If

the student is unable to find a workplace, he can participate in the so-called intercompany training (Überbetriebliche Ausbildung) in the workshops of the training centres. The dual system of education and training in Austria takes place at the upper secondary level from 2 to 4 years, depending on the specific profession. It is intended for students from the age of 14. Approximately 60% of students enter the dual system of education and training when they are 15–16. In Austria, up to 80% of students are educated in secondary vocational schools, of which about half are in apprenticeships. The alternation of vocational training at school and in the workplace can take place in 3 ways:

- all year round - at least one full or 2 half days a week spent at the workplace;
- block - at least 8 consecutive weeks; or
- seasonal - block in a specific part of the year.

Up to 75% - 85% of the time is spent by apprentices in preparation for a profession at the workplace, in connection with which all costs are stood by the employer. At the same time, the apprentice receives a wage from the employer for the work performed, which is the subject to taxation. According to the Labour Code, the employer and the apprentice enter into a contract between themselves, which is signed by his legal representative if the apprentice is a minor. The apprenticeship contract includes requirements related to both the employment relationship and the practical training for the profession. The theoretical part of vocational training and general education subjects in secondary vocational schools is financed by the state. Accredited providers are supported by the state in the form of subsidies, tax and levy relief, etc. Graduates receive an apprenticeship certificate. It is interesting that in Austria it is not possible to obtain an apprenticeship certificate by any other (“non-dual”) form of education.



**Figure 2 The system of education in Austria**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national\\_policies/eurydice/content/austria\\_en](https://eacea.ec.europa.eu/national_policies/eurydice/content/austria_en))

### Denmark (2016)

Apprenticeship in Denmark (as in other countries) appeared in the Middle Ages. Currently, less than 20% of students who have completed compulsory schooling are involved in this form of education. By comparison, approximately 75% of this population chooses general secondary education.

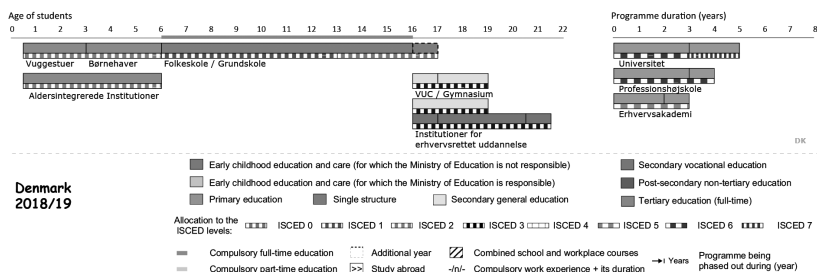
The Danish Vocational Training Act defines vocational training as based only on alternating vocational training at school and in the workplace. It is implemented through apprenticeships (lærlinguddannelser) within upper secondary education. After completing 40 weeks of education at a secondary vocational school (grundforløbet), apprentices choose a suitable program for them and sign a contract with the workplace where the apprentice becomes an employee with a special status, because the employer is responsible for his vocational training. The apprenticeship contract is approved by the school, which is not a contracting party. Students who are unable to conclude an apprenticeship contract can take part in practical training in school centres of professional practice (skolepraktikcentre).

After completing the initial 40 weeks, education at school and in the workplace is usually carried out in blocks, in a ratio of 1: 4, although there is no legal regulation for this ratio. Blocks alternate at the workplace (max. 1 year) and school (max. 3 months).

The standard length of secondary vocational education is 4 years. In some cases, there are also 3-year and 5-year programmes. For students who are unable to cope with the demands of traditional vocational education, they have created 2-year programs in, which are also based on alternating vocational training at school and in the workplace.

Apprenticeship education is intended for graduates of the 9th and 10th grade of education (lower secondary education), which corresponds to the age of 16–17 years. However, most applicants enter the program later. Their average age at entry into the vocational education system is 21 years. In the case of adult applicants, their previous education is taken into account and the length of study may be shortened.

The costs associated with employing apprentices are covered by the employer, but in Denmark, all organizations that employ at least 5 employees need to contribute to the fund, regardless of whether they employ apprentices. These funds are used to compensate employers for costs related to the training of apprentices - e.g. their wages. Apprentices who want to complete part of the training abroad are also supported by this fund.



**Figure 3 The system of education in Denmark**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/denmark\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/denmark_en))

## United Kingdom (2016)

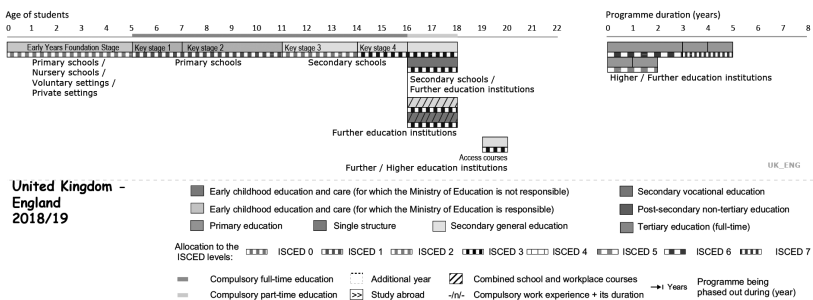
The history of apprenticeships in the United Kingdom dates back to the Middle Ages, although the intensity and form of its support for the state changed over time. While in the 90s of the 20th century it was not supported at all, the current stakeholders are paying increased attention to it and efforts are being directed towards its rapid development. In the United Kingdom, apprentices are considered full-time employees (i.e. not students) with combined on-the-job and off-the-job training. An apprentice who successfully completes education and

training will gain a nationally recognized qualification. Apprentices have the same rights as other employees in the organization and are paid.

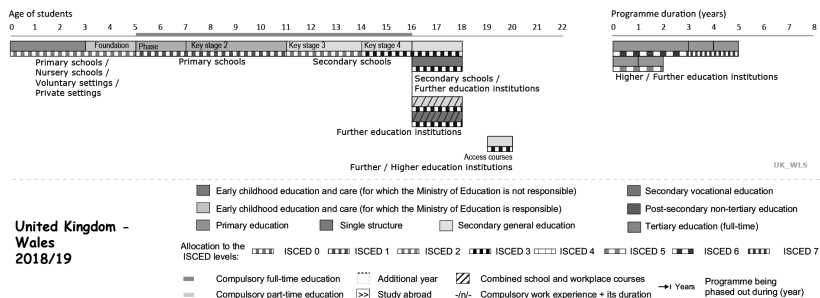
In England, Wales and Northern Ireland, apprenticeships take place at secondary (Apprenticeship) and post-secondary (Higher Apprenticeship) levels. In Scotland, the so-called Modern Apprenticeship, which combines secondary and post-secondary education. Although apprenticeship is funded by the government, there are several differences between England, Wales, Scotland and Northern Ireland.

### England, Wales and Northern Ireland

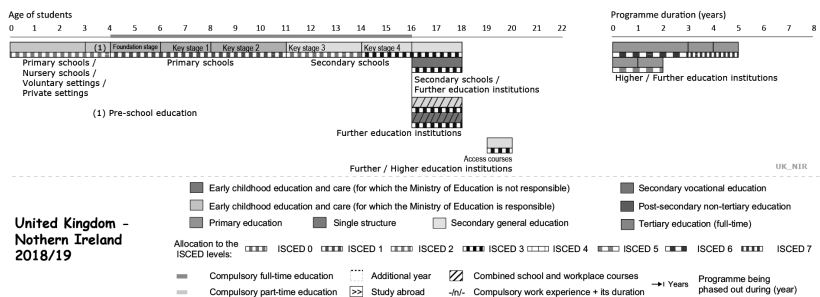
Apprenticeship education in England is primarily aimed at young people aged from 16 to 24 but is also open to older people and the unemployed. It is generally considered to be the main way of vocational education and training and it is also financially supported by the government. Over time, interest has shifted from crafts to the current fastest growing sectors of the economy, such as selling, trading or working with IT. In 2011, the greatest interest was in the customer service department. The standard length of education is 12 months in the range of min. 30 hours per week, but for apprentices over the age of 19, it may only take 6 months depending on specific circumstances and experience. At least 280 hours in the workplace needs to be devoted to training, where apprentices’ technical skills, theoretical knowledge and practical skills are developed. Outside the workplace, the apprentice needs to complete 100 hours or 30% of the entire training program. An apprenticeship contract is concluded between the employee (apprentice) and the employer. The apprentice’s salary is paid by the employer.



**Figure 4 The system of education in England**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national\\_policies/eurydice/content/united-kingdom-england\\_en](https://eacea.ec.europa.eu/national_policies/eurydice/content/united-kingdom-england_en))



**Figure 5 The system of education in Wales**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/united-kingdom-wales\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/united-kingdom-wales_en))



**Figure 6 The system of education in Northern Ireland**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/united-kingdom-northern-ireland\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/united-kingdom-northern-ireland_en))

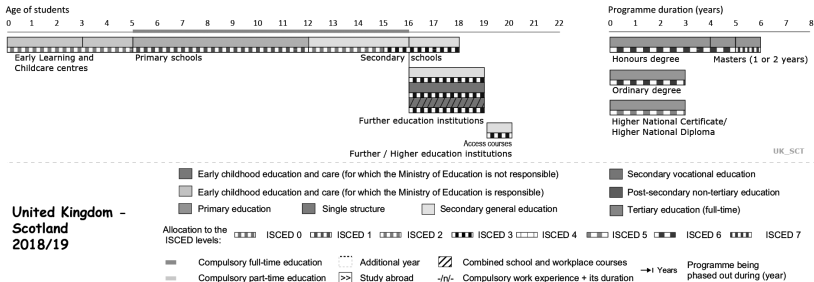
**Scotland**

In Scotland, a system of ‘modern apprenticeship’ was introduced in 1990. Initially, it focused on manual professions such as mason or repairer, but in the 2012/2013 school year, it was already training for 70 different professions. This system, which is the main (but not the only) way leading to the acquisition of professional qualification of various degrees, is entered by students after the end of compulsory schooling, i.e. at the age of 16. It was originally intended for young people aged 16–24, but the upper age limit has been removed.

All apprentices need to have an employment relationship. The peculiarity is that in this system the parties are not bound by the apprenticeship contract. On-the-job training is funded by the employer but he

receives a contribution from the state. Apprentices receive an hourly wage, which is subject to taxation.

The duration of education is not given, depending on the profession and other conditions, it can take from a few months to 4 years.



**Figure 7 The system of education in Scotland**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/united-kingdom-scotland\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/united-kingdom-scotland_en))

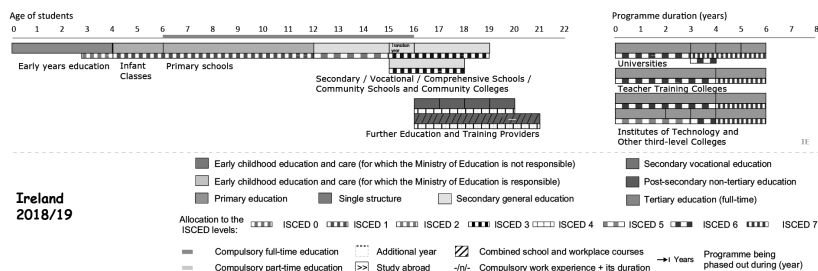
### Ireland (2016)

The history of apprenticeships in Ireland dates back to the Middle Ages, and in the past, it was carried out exclusively in the workplace. This type of education was legally regulated in 1898. In 1930 and 1931, laws on vocational education and training of apprentices were passed. Its current adaptation is from 1967 and 1997. In the Irish education system, apprenticeships are defined as a structured vocational education and training program that formally combines and alternates learning in the workplace and an educational institution. It is a dual system of education and training, after which the student is prepared to perform a certain profession and obtains a nationally recognized qualification. For the duration of the education (at least 2 years), the student gets an apprenticeship contract. On-the-job training accounts for more than 50% of total training time. This form of a professional qualification is one of the options offered in Ireland, its duration is 2–4 years. The educational program consists of 7 phases, which alternate – 3 at school and 4 at work. Approximately 65% of the total duration of training takes place for the employer. On-the-job training takes place based on an apprenticeship contract, with the apprentice being both a student and an employee. He receives a financial reward for his work, which is not subject to taxation.

The basic requirement for this type of study is reaching the age of 16 and obtaining a Junior Certificate. Under certain circumstances,

apprentices who do not meet these requirements may also be registered with the employer. Although such education is aimed primarily for young people, there is no upper age limit.

On-the-job training is partly paid by the employer and partly by the state. The employer receives tax relief and subsidies from the state.



**Figure 8 The system of education in Ireland**  
(Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/ireland\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/ireland_en))

## Portugal (2016)

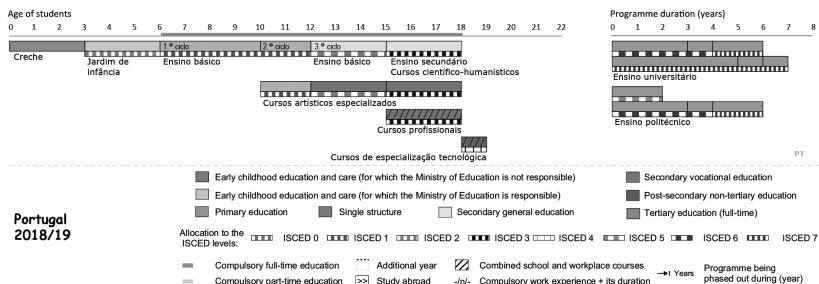
After 1974, there were strict restrictions on vocational training in Portugal, and it did not begin to develop again until the late 1980s. Since 2000, several of its reforms have taken place to increase the interest of applicants for this type of study, based on the fact that it is linked to the real requirements and needs of the labour market, and also the needs of the student. In Portugal, employer training takes place at the upper secondary and post-secondary level for an average of 2.5 years and is one of the alternative ways of obtaining a professional qualification. It has been running in its current form since the school year 2005/2006. We talk about a group consists of young people aged 15–24 who have not completed upper secondary education.

On-the-job training accounts for approximately 40% of the entire training program and is carried out based on an apprenticeship contract. The form of alternating education at school and training in the workplace is not strictly given. Apprentices do not receive a salary for their work but may be awarded a scholarship from the ESF. They can also receive allowances for accommodation, traveling, meals, etc.

While in the school year 2005/2006 35% of all secondary vocational school students were educated in this way, in the school year 2012/2013 it was only 22%, which is approximately 9% of all



secondary school students. The costs of education are covered by the social security fund and EU funds.



**Figure 9 The system of education in Portugal**  
 (Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/portugal\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/portugal_en))

## Belgium (2016, 2019)

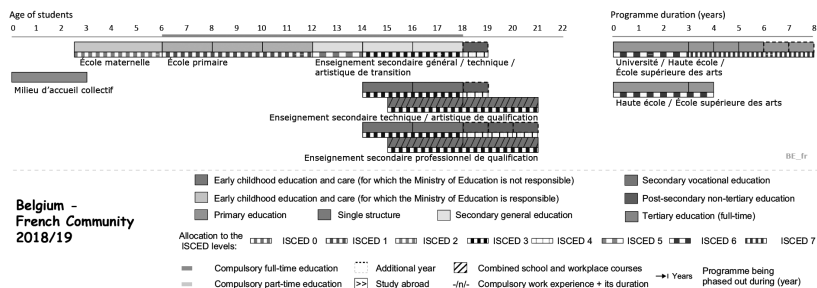
### Walloon Region (2019)

In 1907, the first apprenticeship office was established in the Walloon Region of Belgium. The current system of dual system of education and training has been in force since 1985 when compulsory schooling was extended to the age of 18. It was to serve as a prevention of early school leaving.

Apprenticeship training in the Walloon Region of Belgium needs to meet 6 characteristics:

1. education takes place at school and at the workplace, fulfilling one plan in a coordinated way,
2. the educational program leads to the acquisition of a professional qualification,
3. on-the-job training is on average 20 hours per week (calculated for the whole year without holidays),
4. the theoretical part of education is realized in the range of 240 hours for compulsory school youth and 150 hours for students after the end of compulsory school attendance,
5. students, school and employer are contractually bound,
6. the student receives a reward from the employer for his / her work.

Apprenticeship education implemented at the upper secondary level is intended for students aged 15–25. Most students are over the age of 18, which may be justified by the fact that most students in the dual system of education and training have already failed some form of study. Education is carried out in the range of 38 hours per week, of which 20 hours are completed by the student at the workplace - the standard is 1–2 days a week at school and 3–4 days at the workplace. The study plan needs to be attached to the apprenticeship contract. The dual system of education and training is funded by the state, and employers also receive relief from tax and contribution obligations. Besides, employers can receive subsidies for apprentices. Apprentices receive a taxable wage from their employer for their work. In the French-speaking part of Belgium, approximately 48% of all students in upper secondary education study in secondary vocational schools, compared to 6.4% in the dual system of education and training. 13% of all secondary vocational school students are involved in the dual system of education and training.



**Figure 10** The system of education in Belgium - Walloon Region (Eurydice, 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/belgium-french-community\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/belgium-french-community_en))

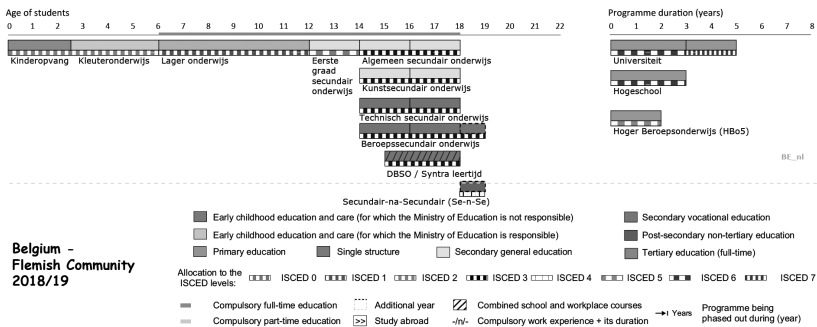
### *Flemish Region*

In the Flemish part of Belgium, the dual system of education and training is part of secondary vocational education as one of the options, it is implemented in two forms. In the first case, it is an alternation of 2 days a week spent at school and 3 days at the employer, where the student is employed part-time. The second option combines 1 day a week of theoretical teaching at school and 4 days of on-the-job training.

In its current form, dual system of education and training has been implemented since 2008, but the transformation of the existing linear

model into a modular model is currently underway to prevent early school leaving and so that the student can complete another module with a certain time lag. Apprenticeship training in Belgium is mainly aimed at disadvantaged students.

The first form of dual system of education and training, the standard duration of which is 3 years, is entered by students aged 15–25 after the end of lower secondary education, but they are often those who repeated a year or more in the past or they left school earlier, therefore it is a relatively small part of the population of secondary vocational school students. On-the-job training, which accounts for less than 50% of total training time, is carried out based on a part-time employment contract between a student and an employer and is funded by an employer who is provided with tax and levy relief and receives subsidies. The apprentice receives a salary for the done work. The second option of completing a dual education program is apprenticeship training for small and medium-sized enterprises, which is based on the traditional master-apprentice relationship. It is implemented based on an apprenticeship contract. The majority of education takes place in the workplace. Apprentices receive remuneration from the employer, which is lower than the average wage in the given field.



**Figure 11 The system of education in Belgium - Flemish Region** (Eurydice, 2019 [https://eacea.ec.europa.eu/national-policies/eurydice/content/belgium-flemish-community\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/belgium-flemish-community_en))

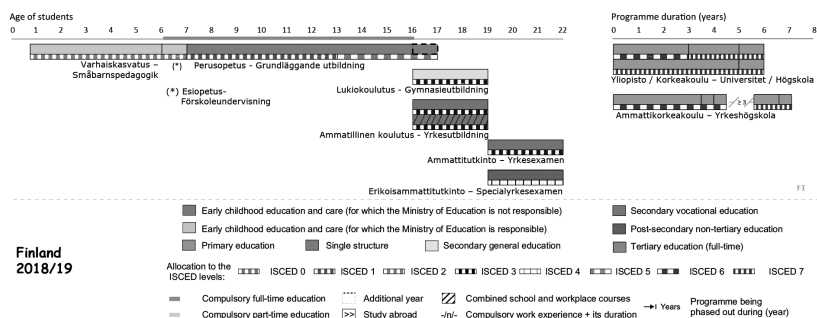
### Finland (2016)

Apprenticeship education in Finland has a tradition of almost a century – it was first enshrined in legislation in 1923. It is defined as practical on-the-job learning supplemented by theoretical studies.

It is implemented based on an apprenticeship contract on temporary employment. The student, employer and school enter into a contractual relationship. The apprentice has the status of a student and at the same time an employee. Organizations involved in the dual system of education and training can apply for a contribution/compensation for the costs of providing training.

After completing primary school, about half of the students start studying in secondary vocational schools, but not in apprenticeship programs. Also in other forms of secondary vocational education, a large part of the program is devoted to practical training, but it is not based on an apprenticeship contract and salaries are not paid to students (in the case of apprentices it needs to reach at least the minimum wage). Most apprentices are over 18 years old, although the lower age limit is 15 years. Less than 20% of all secondary vocational school students are involved in the dual system of education and training, which is about 4%–5% of the entire population of secondary school students.

The dual system of education and training is implemented at the upper secondary level within a 3-year program, in the form of further education or within education through practical training, which, however, does not lead to the acquisition of a qualification. On-the-job training makes up 70%–80% of the training program and usually alternates between one or more weeks of blocks at school and in the workplace.



**Figure 12 System of education in Finland**  
(Eurydice, 2019 – [https://eacea.ec.europa.eu/national\\_policies/eurydice/content/finland\\_en](https://eacea.ec.europa.eu/national_policies/eurydice/content/finland_en))

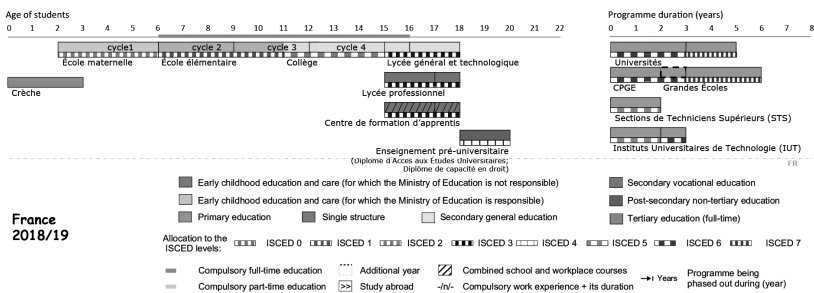
## France (2016)

In France, the dual system of education and training is one of the offered alternatives. It is based on two types of contracts - an apprenticeship contract or a professionalization contract, which are signed by the apprentice or his legal representative and employer. Apprenticeship contracts have been in use since 1919. Professionalization contracts have a much shorter history, they were introduced in 2004 and were set up to reduce unemployment of the population. The French government aims to increase the number of students in the dual system of education and training, so in 2015 the apprenticeship was reformed.

Education-based on an apprenticeship contract is intended primarily for young people aged from 16 to 25, but there is no upper age limit, adults can also take part in it. It takes the form of an alternation of theoretical education in training centres and vocational training in the workplace. It normally lasts 3 years, but the apprenticeship contract can, depend on the study, and can be concluded for a period of 1–3 years, in exceptional cases also for 6 months.

An apprentice may have one or more employers. On-the-job training takes about 20%–25% of total training time. The cost of the training is paid by the employer, who pays the apprentices a salary. The employer receives a contribution from the region and has a tax relief from the state.

The dual system of education and training is implemented at the secondary level, but also within higher education.



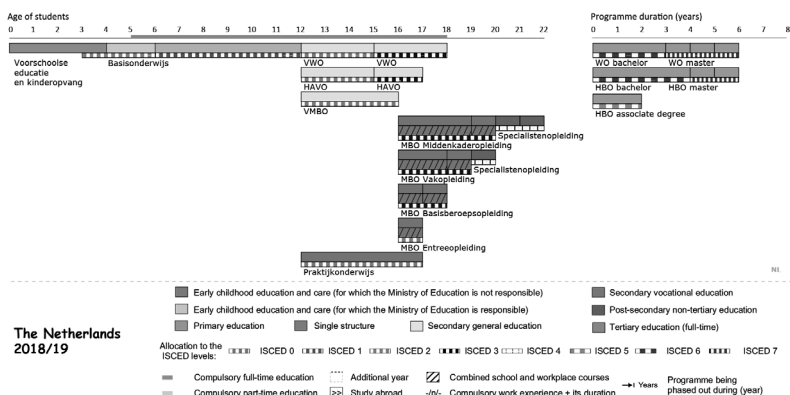
**Figure 13 The system of education in France**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/france\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/france_en))

## Netherlands (2016)

The dual system of education and training in the Netherlands takes place at the upper secondary level for 1 to 4 years. It represents an alternative to the school form of vocational education, where the short-term practice is also a part of it. It was introduced in its current form in 1995. The apprenticeship contract is concluded between the student, the employer and the school.

In the Netherlands, the completion of dual system of education and training leads to the acquisition of professional qualification. Students start this form of study after completing lower secondary education, it is chosen by approximately 25% of all students in secondary vocational education, which is less than 10% of the entire population. During one school year, the student needs to complete 850 hours of education, of which at least 200 must be theoretical teaching at school and at least 610 hours need to be completed at the workplace. By default, students are educated at school one day a week and spend four days a week at work.

The employer pays the apprentice a salary, as well as all costs associated with on-the-job training. The state provides subsidies to employers.



**Figure 13 The system of education in the Netherlands**  
(Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/netherlands\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/netherlands_en))

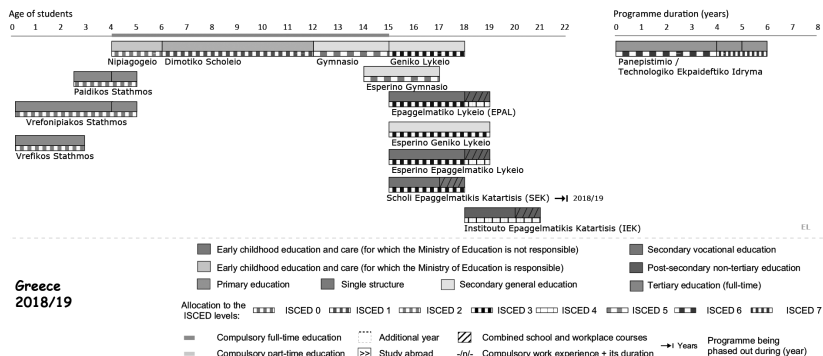
### **Greece (2016)**

Apprenticeship education in its modern form was established in Greece in 1952, and since 1959, the dual system of education and training has also been enshrined in legislation. In its current form, it has been operating since 2006. According to the valid legislation, apprenticeship education is considered as a part of the system of vocational and technical education within secondary education and has the characteristics of the dual system of education and training. The theoretical part of teaching and work in the laboratory is carried out in secondary vocational schools (EPAS), while practical training takes place in the workplace at the employer, which might be from the public or private sector. EPAS needs to be continuously replaced in the framework of vocational seminary (EPAL) by the year of practical training of students for technical vocational education and the SEC (apprenticeship schools / vocational training schools) for vocational education.

The issue of vocational education in Greece is not systematically addressed, there is inconsistency in it, as regards e.g. duration of the training, remuneration criteria, etc. Student can choose from several options for obtaining a professional qualification, EPAS is the option that is closest to Cedefop's definition of dual system of education and training. This form of education is financed mainly from EU resources and resources from the Ministry of Labour. Employers receive subsidies for apprentices. Apprentices receive an allowance that is not taxable and is paid from the resources of the employer and the state.

EPAS is part of the upper secondary education system. These schools can be attended by students aged 16-23, with the condition of admission being the completion of at least the 1st year of high seminary (upper secondary education). Approximately 30% of the total length of education takes place at school and in the workshop and 70% at the workplace, while within one week, students are preparing at school and at the employer with whom they have an apprenticeship contract. The contract is concluded between the school, the student and the employer. In the school year 2014/2015, only 8.2% of all secondary vocational school students were educated in this model.

Vocational training is not popular in Greece and students are interested in general education despite the government's efforts to increase the prestige of vocational training.



**Figure 14 System of education in Greece**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/greece\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/greece_en))

### Sweden (2016)

Several apprenticeship systems were tested in Sweden. The current one was piloted in 2008–2011 and led to the reform of 2011. Apprenticeship education became an alternative, parallel way to more theoretical education implemented in schools, where there are only 15 weeks of on-the-job training throughout the study period. Since 2015, further reform is being worked on, the aim of which is to make dual education system more attractive among secondary vocational school students and to facilitate the transition of young people from school to work.

There are 4 types of apprenticeships in Sweden - for upper secondary youth aged 16-18/19, for upper secondary students with special educational needs, for adults and adults with special educational needs. Graduates of these programs receive an apprenticeship certificate.

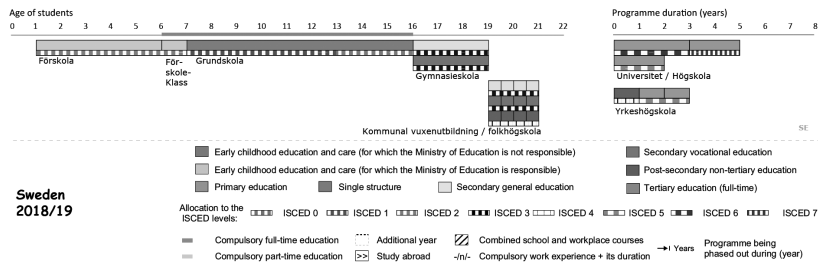
Approximately 29% of all secondary school students study in vocational secondary schools, of which approximately 9% study apprenticeships. This is 3% of all high school students. The number of students involved in dual education system is rising.

Within upper secondary education (gymnasial lärlingsutbildning), the practical part of teaching is to take place in one or more workplaces, and needs to represent more than 50% of the total time of the educational program. On-the-job training can begin in the 1st, 2nd or 3rd grade of study at a secondary vocational school, with the standard length of the training program is 3 years. In the case of students with special educational needs, it is 4 years. The student, employer and



school enter into a contractual relationship. The school is responsible for ensuring the conditions (e.g. also for obtaining employers) and the organization of education (including the provision of alternatives).

Dual on-the-job training is funded by the state. The employer receives subsidies and can also apply for a grant. However, it is not his duty to pay the apprentice a salary for the done work, as he has the status of a student. If they nevertheless decide to do, they need to conclude an apprenticeship contract. The state provides a study grant to all high school students. Students can also apply for a travel/housing allowance and lunch.



**Figure 15 The system of education in Greece**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/sweden\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/sweden_en))

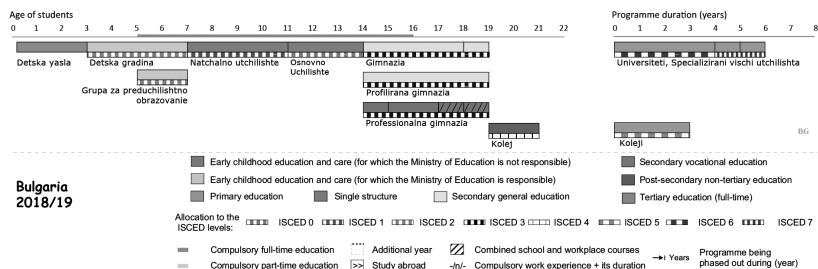
### Bulgaria (2019)

The dual system of education and training in Bulgaria is based on the Swiss model. Legislative adjustments to its introduction were made in 2014 on the basis of the need to prepare the workforce for the real needs of the labour market.

The dual system of education and training is carried out as part of upper secondary education for students who have reached the age of 16 and is defined as a specific form of education in which professional qualifications are obtained through practical on-the-job training and school education. Practical training in the organization is carried out based on an apprenticeship contract between the student and the employer. Practical training can also take place at several employers contracted by the school. There is no upper age limit, but by default, it is for students aged from 16 to 19. The length of curricula within secondary vocational education is 5 years, but on-the-job training is carried out only during the last 2 years of study. During this period, the

time spent at the workplace exceeds 50% of the total training time – in the penultimate year, it is at least 2 days a week, in the last grade at least 3 days a week. On-the-job training can also take place as part of post-secondary education.

All costs related to the practical training of the student at the workplace (including salary) are born by the employer. Apprentices' health insurance is paid by the state.



**Figure 16 The system of education in Bulgaria**  
(Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/bulgaria\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/bulgaria_en))

## Spain (2016)

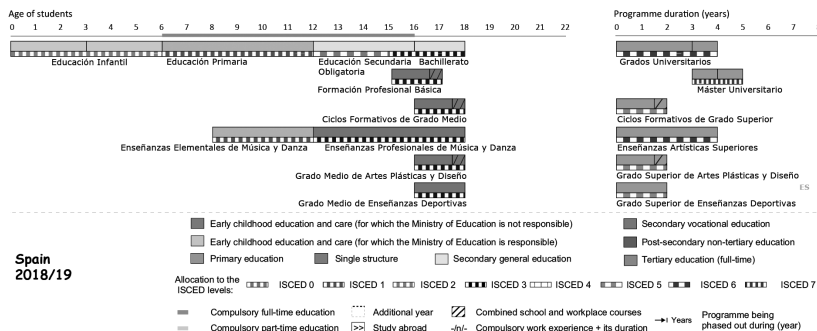
In Spain, the term dual system of education and training is used and is defined as those educational activities or initiatives that combine employment and training to obtain a professional qualification by alternating work activities within an organization (with an employer) and vocational training within the education system or employment office. One of the possibilities is when the dual system of education and training is implemented based on an apprenticeship contract between the student and the employer, where the student has the status of an employee. A cooperation agreement is concluded between the school and the employer.

The dual system of education and training in its current form was enshrined in legislation in 2012 and since then it has been developing intensively in Spain. It represents an alternative to a more theoretical (school) model of vocational education. It is implemented at the secondary and post-secondary level of education. The minimum age of students in the dual system of education and training is 16 years. It is primarily intended for young people aged from 16 to 25, but until the unemployment rate falls below 15%, it can be realized up to the age of 30. On-the-job training needs to represent at least 33% of the total

duration of the program. The duration of the educational program is 1 to 2 years, but it can be extended to 3 years. In the dual system of education and training, approximately 1.3% of all students in secondary vocational education are educated.

At the beginning of vocational education, students complete at least 1 semester at school, without going to the workplace, to acquire basic knowledge in the field of health and safety at least. The form of alternation of periods spent at school and in the workplace is determined by individual autonomous regions.

In Spain, the dual system of education and training is financed partly by the employer, who pays the employee (apprentice) for the hours worked, and partly by the state budget and EU funds. The employer receives relief from the state in fulfilling the contribution obligation.



**Figure 17 The system of education in Spain**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/spain\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/spain_en))

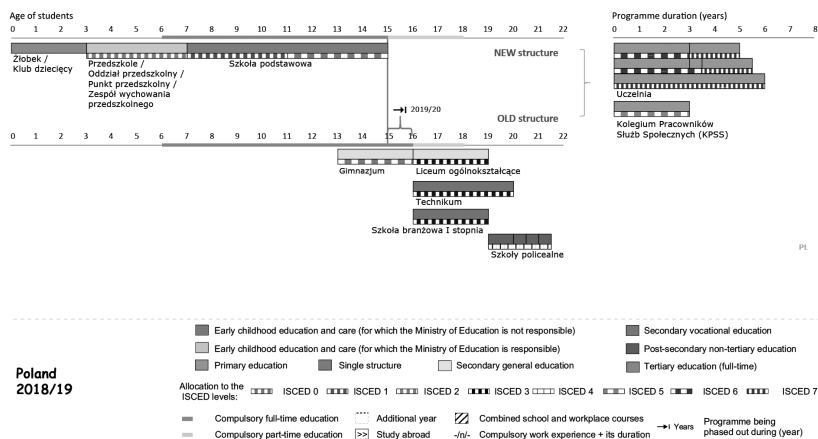
**Poland (2016)**

Apprenticeship education in Poland has a long history, it was established in 1918. The current scheme has been in operation since the 1940s, but only in recent years, it has gained in popularity. Apprenticeships are attractive to students because, unlike the predominantly theoretical model of education, they gain more practical experience and they get paid for the work done. From 1989 to 2012, vocational education was reformed several times, with efforts being directed towards a greater emphasis on the practical component of education and training in the labour market.

As in most European countries, the dual system of education and training at the upper secondary level in Poland is one of the possible forms

of the vocational training organization. As in Slovakia, it is implemented based on an apprenticeship contract between the student/apprentice and the employer and a contract between the school and the employer.

The dual system of education and training is primarily intended for students aged from 16 to 18. The length of the educational program is in the range of 2–3 years. It is chosen by about 10% of all students after lower secondary education, which is about 60% of all students in secondary vocational schools. They are educated 2 days a week at school and spend the other 3 days at the employer's workplace – they are students as well as employees. On-the-job training should represent at least 60% (which is 970 hours) of the total training time. The salary of the apprentice is paid by the employer, who is, however, entitled to be funded for the implementation of the dual system of education and training by the state. Compared to other countries, this wage is low, according to the year of study it represents 4%–6% of the average monthly wage in the national economy for the previous quarter. The employer may (but does not have to) contribute to the apprentice e.g. for travel costs, accommodation, etc.



**Figure 18 The system of education in Poland**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/poland\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/poland_en))

## Italy (2016)

Apprenticeship legislation was first introduced in Italy in 1955. Significant reforms took place in 2011 and 2015 to integrate young people into the work environment and increase their chances of finding a job.

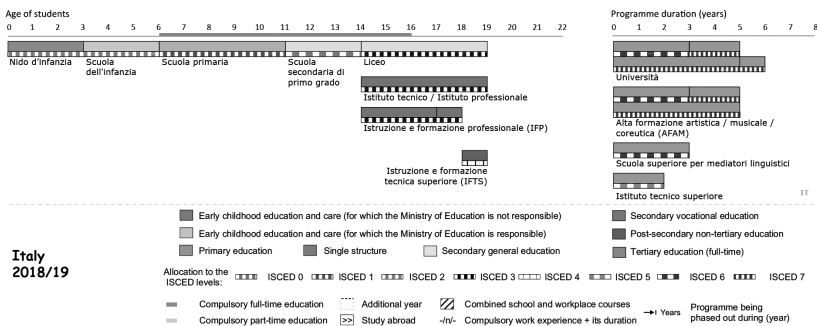
Unlike other European countries, an apprenticeship contract is concluded as an employment contract between a student and an employer for an indefinite period to obtain a qualification through a combination of school education and work experience. After completing their training, they can terminate the apprenticeship contract, but if they do not do it, it automatically becomes an employment contract.

The dual system of education and training is used both at the upper secondary level of education, as well as within higher education, with a duration of 3–4 years. At the upper secondary level, it is intended for students aged from 15 to 25. In 2013, only 2.5% of all secondary vocational school students were educated in the dual system of education and training, which is approximately 1.5% of students at the upper secondary level.

Although the form of implementation of alternating school teaching and training in the workplace is not enshrined in legislation, the following schemes apply by default:

- a. 2 days a week at school and 3 days at work;
- b. 1 week at school and 3 weeks at work.

The salary for the done work of the apprentice is paid by the employer, who receives tax relief from the state.



**Figure 19 The system of education in Italy**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/italy\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/italy_en))

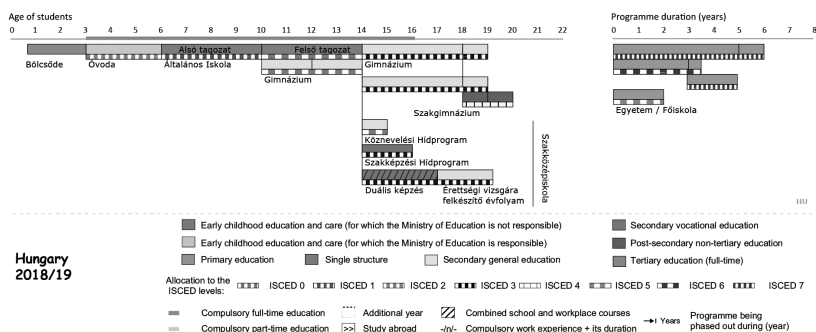
### Hungary (2016)

The dual system of education and training in Hungary is regulated by the Vocational Education and Training Act of 2011, which entered into force in 2012, but most schools did not start dual system

of education and training until the 2013/2014 school year. As in Slovakia, in Hungary, it is also possible to obtain secondary vocational education outside the dual system of education and training. As in our conditions, the problem in Hungary is that employers are not interested in participating in the dual system of education and training. E.g. in 2014, it was possible to implement vocational training in a dual system of education and training only in 10 professions.

The dual system of education and training is implemented at the upper level of secondary education and is primarily intended for students aged from 14 to 17. The length of the curriculum is 24–36 months. Apprenticeship education ends with a final exam and the graduate receives an apprenticeship certificate.

In Hungary, within the dual system of education and training, duties, responsibilities and costs are shared between the state and the participating organizations. Approximately 40% of all Hungarian secondary vocational school students take part in this type of education. Schools and employers jointly participate in the training of apprentices for the profession – schools provide theoretical and employers the practical training of apprentices. The apprentice has the status of a student of the school and at the same time, he is an employee of the company. Vocational training at the workplace makes up 40%–80% of the educational program, the standard is approx. 70% of the total duration. The apprenticeship contract is concluded between the student and the employer. During the duration of the contract, the apprentice is paid a wage by the employer. The employer is provided with tax relief by the state and receives a normative allowance for each apprentice.



**Figure 20 The system of education in Hungary**  
(Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/hungary\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/hungary_en))

### **Croatia (2016)**

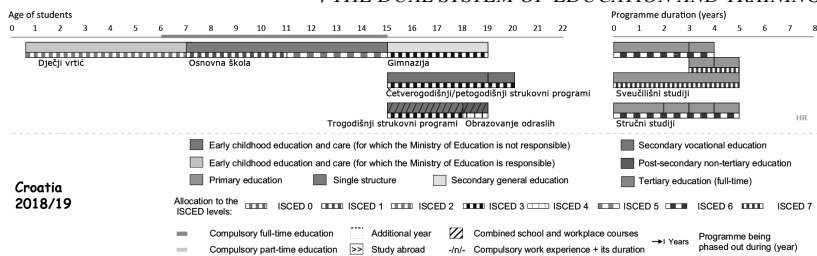
Croatia does not have many years of experience with the dual system of education and training yet. Apprenticeship education was introduced as part of the upper level of secondary education within the so-called Unified model of education in the Croatian school system in the school year 2004/2005 and the length of the curriculum is 3 years. The first attempts at dual education system appeared in 1994, when the law on crafts was adopted, which created a legislative framework leading to changes in the school law as well. Based on it, curricula were developed and conditions were created for this form of study. Since the 1995/1996 school year, dual education system programs have also been introduced, but these have been replaced by others within the Unified Model of Education. Comprehensive curricular reform has been implemented since 2015.

Students enter the dual system of education and training after completing compulsory schooling at the age of 15–16. Applicants need to find an employer who is involved in the dual system of education and training before being admitted to this form of study, with which they then sign an apprenticeship contract. On-the-job training accounts for 40%–50% of the total teaching time, with a week at school alternating with a week at the workplace. Unemployed people can also take part in the dual system of education and training as part of retraining, which means that there is no upper age limit.

Employers who want to participate in the dual system of education and training needs to first demonstrate that they meet the conditions and obtain accreditation. Apprentices are paid a monthly wage for the work done, which is calculated from the average wage in the previous year. The first year is 10%, the second is 20% and the third is 25% of the average wage. Employers are provided with tax relief by employers, special assistance is provided in the case of occupations in which there is a shortage of workers.

In 2016, 36.5% of the population of secondary vocational school students in Croatia were educated in the dual system of education and training, which is 25.9% of all secondary school students.

#### 4 THE DUAL SYSTEM OF EDUCATION AND TRAINING

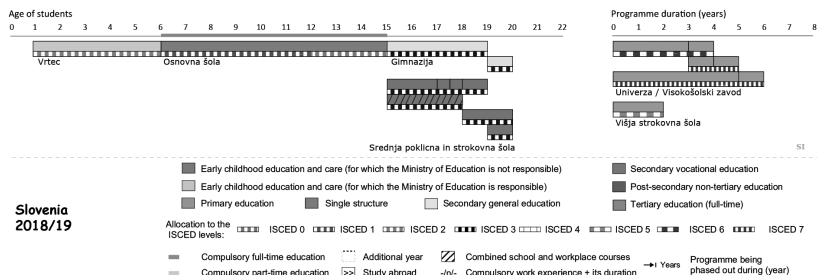


**Figure 21 The system of education in Croatia**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/croatia\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/croatia_en))

#### Slovenia (2019)

In Slovenia, pilot testing of apprenticeships at the upper secondary level is currently underway (since 2017). The pilot program will be evaluated in 2021.

Apprenticeship education is an alternative form of obtaining secondary education and its basic precondition is the conclusion of an apprenticeship contract between the student and the employer. Currently, less than 3% of all secondary vocational school students are educated in this form.



**Figure 22 The system of education in Slovenia**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/slovenia\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/slovenia_en))

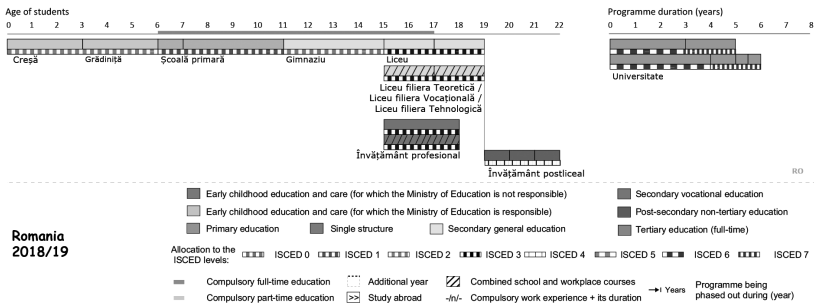
#### Romania (2016)

Apprenticeship education in Romania has been running for almost 90 years, but elements of dual system of education and training were not introduced into secondary vocational education until 2013. The dual system of education and training has not been fully implemented yet.



In Romania, apprenticeship training is characterized as such, which is based on an apprenticeship contract between the student, the school and the employer and of which on-the-job training is an integral part.

The dual system of education and training is implemented at the lower and middle level of education and is advanced by 9th-grade students who are interested in education in the workplace, leading to the acquisition of professional qualifications. Education in the workplace in another form is also possible in adult education.



**Figure 23 The system of education in Romania**  
 (Eurydice 2019 – [https://eacea.ec.europa.eu/national-policies/eurydice/content/romania\\_en](https://eacea.ec.europa.eu/national-policies/eurydice/content/romania_en))

As is clear from the text of this subchapter above, the dual system of education and training has its stable place in the described countries. The dual system as a system of vocational education and training, based on the close connection of general and vocational theoretical education in secondary vocational school with practical training directly on the labour market is, in our opinion, relevant in the whole process of education and training for the labour market.

### 4.3 The dual system of education in Slovakia

According to Kováč (2015), practical teaching of students at an employer in the system of the dual system of education and training is a part of vocational education and preparation of a student of a secondary vocational school for a profession. The employer’s entry into this process is mainly associated with decision-making:

- the choice of the field of study in which it will provide practical training;

- determining the number of students who will prepare for the employer;
- determination of the educational capacity of the workplace of practical teaching in one teaching day;
- selection of a cooperating secondary vocational school;
- selection of students for practical training with the employer based on an apprenticeship contract between the employer and the student;
- adjustment of school educational programs in cooperation with the school;
- modifying the graduate profile and curriculum following the model curricula for the dual system of education and training, etc,
- the content and organization of practical training at the employer;
- use of the possibility to place a student up to 40% of the total scope of practical training for practical training in a workshop in a cooperating school or at another employer with a certificate for the provision of practical training;
- preparation of premises and jobs for the performance of practical training at the employer;
- conditions of financial and material security of students with an apprenticeship contract;
- preparing the employees to perform the activities of a practical instructor or a VET trainer;
- use of the possibility to use the school's VET teachers for workplace training at the employer;
- participation of the employer in the completion of studies,
- cost-effectiveness of practical teaching of students;
- tax and contribution obligations of the employer associated with practical training with the employer;
- the possibility of concluding a contract on a future employment contract or an employment contract with a student who participates in practical training with the employer and has a learning agreement with the employer.

The entry of the school into this system of the dual system of education and training is connected mainly with decision-making on the following issues:

- selection of fields of study for dual system of education and training;

- selection of cooperating employers;
- adjustment of school educational programs;
- modifying the graduate profile, curriculum following the model curricula for the dual system of education and training, etc.;
- the content and organization of practical training at the employer;
- recruitment of primary school students for the dual system of education and training;
- up-to-date vocational training of vocational subject teachers and VET teachers in cooperation with employers;
- selection of pedagogical employee for the coordination of dual system of education and training;
- the conditions of the contractual relationship with employers in the form of a dual education contract;
- the effects of school involvement in the dual system of education and training on the school's budget and management;
- adjustment of the conditions of the admission procedure;
- employer's participation in graduation (Kováč, 2015).

### **4.3.1 Historical context of the dual system of education and training in Slovakia**

From a historical point of view for apprenticeship education in Czechoslovakia after World War II, according to Petanovitsch et al. (2014), was a decisive change in vocational apprenticeship education in the Czechoslovak Socialist Republic and it was based on the nationalization of most enterprises in the period from 1945 to 1951, as well as on the establishment of unified farmers' cooperatives. These measures led to the central management of apprenticeship training for all sectors of the national economy. In 1960, the first steps were taken to establish the first places for the training of apprentices in individual enterprises, in which general and vocational-theoretical education, practical training as well as an education outside teaching were coordinated. Since 1974, in addition to the two- to three-year apprenticeship, a four-year apprenticeship was introduced, finishing with graduation. A certain group of professions was intended exclusively for the education of graduates. Teaching in secondary apprenticeship schools (vocational schools) and secondary vocational schools was carried out thanks to the relevant timetables and curricula issued by the Ministry of Education for each profession. All

types of secondary schools provided general as well as vocational education.

The Ministries of Labour and Social Affairs of both Republics were responsible for wages and material / financial provision for apprentices. The departmental working groups took care of the way of activity and the development of vocational education: they issued standards for material and technical equipment for vocational training and education outside teaching and they were responsible for the qualification of VET teachers. Enterprises that educated students for vocational schools had to guarantee financial and material security for these adolescents during the teaching period (Petanovitsch et al., 2014).

Education in secondary vocational apprentice school (depending on the relevant field) lasted two to four years, studies in secondary vocational schools and grammar schools for four years – as well as in secondary vocational schools, where the four-year educational program ended with graduation. This completion with a school-leaving examination entitled graduates of all types of secondary schools to apply for university studies. At the end of the 1980s, after leaving primary school, about 60% of young people entered secondary vocational schools, of which about 8% went to two-year secondary apprentice, 81% to three years and 11% to four years with high school graduation. About 23% of primary school graduates went to secondary vocational schools and 16% to grammar schools, as writes Petanovitsch et al. (2014).

After the adoption of the law in 1984, education in secondary schools was the only way to obtain a qualification for the performance of manual occupations, as well as to qualification for the performance of technical, economic, medical, pedagogical, administrative and other similar middle-level positions. In secondary vocational apprentice schools as well as in secondary vocational schools, students were provided with both vocational education and general education, which was partly equivalent to general education in grammar schools.

Vocational education in secondary vocational apprentice school and secondary vocational schools was carried out in those apprenticeship departments which were designated by the Ministries of Education of both republics. These apprenticeships were included in a system that was closely linked to the uniform classification of occupations and the tables of qualifications and tariffs. At the end of the 1980s, more than 90% of manual occupations were educated in secondary vocational schools – including occupations in trade field, services, transport and agriculture.

Because of the duration of the study, there were two-, three- and four-year apprenticeships, while for some parts of the three-year apprenticeships the training period was extended to 40 months. The last 4 months were devoted to teaching in companies directly at the workplace, where apprentices could practice their profession under normal operating conditions (Petanovitsch et al., 2014; Lajčín, 2014; Marks and Lajčín, 2017).

Further, according to Petanovitsch et al. (2014) concerning the creation of the content of apprenticeship education, there were apprenticeship departments in the Czechoslovak Socialist Republic in which students were always prepared to perform one or a whole group of related professions, and apprenticeship departments in which students were differentiated into individual “study fields”. Such a so-called “branched” apprenticeship was e.g. three-year apprenticeship of a metalworker, etc. In this apprenticeship, after completing a joint two-year basic education, students specialized in universal metalworking, chip machining, milling and grinding and were trained to perform these specific activities.

Certain types of apprenticeship training were also integrated into apprenticeships in secondary vocational schools (workers’ professions), intended for special groups of students who did not complete primary school, and on the other hand, apprenticeships in which graduates of three-year courses could deepen their knowledge and pass graduation exam. Two types of departments were integrated into the studied fields in secondary vocational schools: the first group included a total of 93 four-year fields and it was intended for primary school graduates; the second group was intended exclusively for high school graduates (mostly grammar schools) who had already graduated. There were seven departments in the fields of health, economics and social law, the implementation of which required a higher “social competence” of students, and whose study lasted two years.

Teaching in secondary vocational apprentice schools and secondary vocational schools was carried out following the timetable and curricula, which were issued for each department by both ministries of education. The curriculum for general education subjects, as well as special subjects, was developed by the Research Institute for Apprenticeship and Vocational Education. All types of secondary schools mediated general as well as vocational education, while up to 41% of the total teaching time was allocated to general education in the secondary vocational apprentice schools and secondary vocational

schools, it was 40 to 50%. Professional subjects were divided into a theoretical and professional part. The main form of practical training in secondary vocational schools was vocational and practical education, which had 33 to 39% of the total teaching time allocated in the class schedule, state Petanovitsch et al. (2014).

Besides, there were certain three-year apprenticeships, which had a four-month generally valid period for practising directly at the company's workplace. Vocational training was carried out at the beginning of education in school workshops and similar facilities, at the end of education in factory workshops, shops and the like. This mostly took the form of group training, with a group of seven to twelve students being led both professionally and pedagogically by one VET teacher (Petanovitsch et al., 2014; Lajčin, 2014; Marks, Lajčin, 2017).

In secondary vocational schools, vocational and teaching practice formed the main form of practical training. Professional practice to test the knowledge acquired in carrying out specific work activities was normally carried out in continuous cycles of one to four weeks directly in the enterprises. Teaching practise was focused on acquiring skills related to the field and was implemented in school workshops. The timetables of secondary vocational schools, as well as secondary vocational apprentice schools, included practical exercises for various vocational subjects, which took place in special classrooms and school laboratories.

Young people were admitted to secondary vocational apprentice schools and secondary vocational schools based on their abilities and following "social needs". The school principal decided on admission to the school, and the admission body was the admissions committee. The classification of students 'performance in primary school, the assessment of students' personality (personal assessment by their primary school teachers) and the medical report on medical fitness for education were decisive for admission to the school. The four-year apprenticeships were ended with high school graduation, but students had to do entrance examinations additionally. Two-year and three-year apprenticeships in secondary vocational schools ended with a final apprenticeship exam. The graduation, as well as the final apprenticeship exam, were comprehensive exams, where the knowledge and skills of students set out in the curriculum were verified. Teachers were responsible for the theoretical part of training in secondary vocational schools and teaching in secondary vocational schools, and VET teachers were responsible for the practical part of training in secondary

vocational schools. Teachers who taught general education subjects were graduates of pedagogical studies at universities. Theoretical subjects were taught by teachers who completed university studies in the relevant field and obtained the pedagogical authorization to teach at a secondary school with additional pedagogical studies. The VET teachers had the appropriate qualification in the given field, as well as secondary education with high school graduation. They obtained the necessary pedagogical minimum through additional pedagogical studies at the university. Further education of pedagogical employees was carried out in special facilities: within the republic, they were the institutes for further education of teachers and in individual districts district pedagogical institutes. Further education of VET teachers was subject to the methodological centres of individual ministries of economy (Petanovitsch et al., 2014).

A number of corporate, sectoral, regional and central bodies and institutions conducted and implemented apprenticeship training in the Czechoslovak Socialist Republic. The implementation of vocational training was simplified by the fact that the economic and corporate structure consisted mainly of large state-owned enterprises and co-operatives. The Ministries of Education of both republics were the central bodies of the state school administration. In line with other ministries, they issued generally binding legislation on education in schools, such as guidelines for admission of students, the organization of the school year, school-leaving examinations and final apprenticeships. Also, the Ministries of Education determined the nomenclature of apprenticeships and study fields, as well as the regional offer of secondary vocational schools, set principles for conducting and implementing vocational education, issued binding timetables and curricula, set textbooks and teaching aids, issued work schedules and qualification requirements for teachers and other school employees, issued essential requirements for further education and were generally responsible for the central school inspection and state control of vocational education (Petanovitsch et al., 2014; Lajčín, 2014; Marks and Lajčín, 2017).

“Central advisory colleges for the coordination of vocational education” were set up in both ministries, consisting of representatives of interest groups (enterprises, the national economy, political and social organizations, public administration, secondary vocational schools, the research sector, etc.). These colleges expressed their views on all important issues in the development of apprenticeships,

draft legislation, principles and guidelines, and made recommendations. Besides, they submitted stimulating proposals for the further development of the functions of vocational education, the nomenclature of apprenticeships and study fields, for management and funding, etc. The Ministries of Labour and Social Affairs of both republics, together with the State Planning Commission, determined for every five years the method of dividing primary school graduates into individual types and departments into secondary vocational schools and secondary vocational apprentices. These two ministries were responsible for issuing the principles of qualification and tariff tables in individual sectors, labour wages and material / financial provision of apprentices. In the central bodies, which held a leading position within the management of individual economic sectors, departmental working groups were set up, which dealt with issues of how it works and the development of vocational education, determined changes in the division of labour, nature and content of work, and derived requirements and proposals for changes in the organization, content and conditions of vocational training in its field of competence. This measure was intended to keep the interests and needs of businesses in line with the interests and needs of each sector (Petanovitsch et al., 2014).

The regional executive bodies of the state school administration were the district national committees, which administered secondary schools, including secondary vocational apprentice schools. District national committees were obliged to ensure the effectiveness of secondary vocational schools and secondary vocational apprentice schools, to cover personnel costs for teachers, to provide teaching aids, to carry out inspections, school inspections and state supervision over vocational education, to take care of further education of pedagogical employees. The founders of secondary vocational apprentice schools were responsible for the implementation of vocational education, and they were also responsible for ensuring the material, organizational and financial conditions of education and training of students in these schools. They issued standards for the material and technical equipment of vocational and practical education and out-of-school education, appointed the principals of these schools and took care of the qualification of VET teachers.

Companies that educated students for secondary vocational apprentice school had to guarantee these students financial and material security during the teaching period. Parents contributed financial amounts to the students' meals and housing in various amounts. The



financial security also included monetary rewards for students, which were graded according to the relevant sector, school year, learning and working abilities of adolescents. In addition, certain companies could provide scholarships to students.

Within the short characteristics of the system of vocational education in the Czechoslovak Socialist Republic, it is necessary to emphasize two aspects on which they draw attention, e.g. Petanovitsch et al. (2014), similarly to Lajčín (2014) or Marks and Lajčín (2017).

1. its organization in connection with the planned economy (allocation of students to school / forms of education, determination of the number of students for places in schools / education according to the standards of five-year plans, etc.);
2. its markedly dual focus, as the professional-practical content was mediated in state-owned enterprises (mostly in its apprenticeship workshops). This is especially true for secondary apprenticeships. In secondary vocational schools, the professional qualification took place primarily in the context of the school.

### **4.3.2 The dual system of education and training - analysis of the current situation in the Slovak republic**

From the school year 2015/2016, students of secondary vocational schools in Slovakia have the opportunity to study in the system of the dual system of education and training, which should lead to an increase in their competitiveness and employability in the labour market, as well as to prepare employees for specific organizations. At the same time, from providing companies with the opportunity to participate in the dual system of education and training, such a connection between education and the needs of the labour market as well as specific organizations will increase students' interest in dual system of education and training and vocational training in secondary vocational schools. On this basis, it can be stated that the dual system of education and training should be beneficial for all participating parties – students, schools, employers and the state.

The dual system of education and training is regulated by Act no. 61/2015 Coll. on Vocational Education and Training and on Amendments to Certain Acts, which entered into force on the 1 September, 2015. As provided by Section 10 of the Act, within the dual system of education and training, a student prepares for a profession, a group of

occupations or professional activities according to specific needs and requirements of the employer directly at his workplace. By completing practical training with the employer, the student performs practical activities in the real environment of the profession, acquires and innovates work habits that are necessary for successful integration of the student into the labour market immediately after graduation and there is no need for employers for further training or retraining (Kováč, 2018).

For this Act, an employer is considered to be a natural person or legal entity, other than a secondary vocational school, whose subject of activity corresponds to the content of education in the field of study or the content of education in the field of study in which it provides practical training.

The law defines the workplace of practical training as an organizational part of the employer or other place to which the employer has the right of ownership or right of use, if to the employer was issued a certificate of competence of the employer to provide practical training in the dual system of education and training and the workplace to which practical training is also considered as an organization in which several employers are associated and they have an ownership or use rights.

By completing practical training with the employer, the student immediately learns about the real environment of the profession and develops work habits necessary for successful entry into the labour market immediately after graduation without the need for further training or retraining. A student may also carry out practical training in a workshop if the number of teaching hours of practical training performed in the workshop does not exceed 50% of the total number of hours of practical training of the student during the entire length of study.

Vocational education and training in the dual system of education and training are carried out because of the dual system of education and training contract between the employer and the secondary vocational school and an apprenticeship contract concluded between the employer and the student's legal representative or the employer and an adult student.

The dual education and training contract mainly regulates the scope, conditions and coordination of the student's vocational education with the apprenticeship contract, i.e. the coordination of the student's theoretical teaching and the student's practical teaching. After concluding a dual education and training contract between the

secondary vocational school and the employer, a notice is published (on the website) that it is possible to complete vocational education and training in the relevant field of study in the dual system of education and training by the employer and the relevant secondary vocational school (Kováč, 2018).

Kováč (2018) states that the subject of the apprenticeship contract is the employer's obligation to prepare the student for the profession, group of occupations or professional activities in the workplace of practical training and the student needs to participate in practical training directly with the employer according to his specific needs and requirements. The apprenticeship contract needs to - in addition to the identification requirements and the definition of the form and place of practical teaching - also contain a precise definition of the organization of the study. It needs to also contain a detailed schedule of practical training and the organization of practical training at the employer need to, according to the law, be following the organization of education in secondary (vocational) schools. In the dual system of education and training, the employer is solely responsible for the organization, content and quality of the student's practical training and this purpose pays all costs associated with the financing of the practical training.

It follows from the above that the dual system of education and training is part of the vocational education system, which is characterized by:

- contractual relationship, the performance of practical training of the student directly with the employer at the workplace of practical training; and
- financing practical training by employers.

In the dual system of education and training, the organization of practical teaching is the sole responsibility of the employer, who is responsible for the content and quality of practical teaching of the student, at the same time reimbursing all costs associated with financing the practical teaching of student/students. The employer, who provides practical teaching in the dual system of education and training, in accordance with the said Act also participates in the creation of a school educational program for vocational education and training and comments on the final form of the school educational program for vocational education and training of the school According to § 34 par. 3 of Act 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts, Interruption of the Study of

a Student Preparing in the Dual Education System, or Changing the Study Department or Teaching Department of a Student Preparing in the Dual Education System, the principal of a secondary vocational school authorizes the consent of the employer with whom this student is preparing (Kováč, 2018). Also, the connectivity of training for the labour market is legally ensured by the employer providing practical training in the dual system of education and training. He delegates the employer's representative to the examination committee that carries out the final examination, to the subject graduation commission in the professional component of the graduation examination or the examination committee for the graduate examination.

According to Kováč (2018), the above mentioned is also related to the rights and obligations of a secondary vocational school in the process of practical teaching, which is determined by § 23 of Act no. 61/2015 Coll. on Vocational Education and Training and Amendments to Certain Acts. The secondary vocational school discusses the school educational program for vocational education and training with the relevant professional organization, which have material competence to the field of study in which the secondary vocational school is responsible for providing vocational education and training, that secondary vocational school students do not complete practical training at the employer's workplace and if they do not prepare for practice in the dual system of education and training. If a secondary vocational school has a concluded contract on dual education and training, it shall draw up a school educational program for vocational education and training in cooperation with the employer with which it has concluded a contract on dual education and training.

During practical training, the employer is obliged to ensure safety and health for students at work. An employer who provides practical training in the dual system of education and training is provided with a contribution to the provision of practical training from the budget chapter of the Ministry of Education, Science, Research and Sports of the Slovak Republic. Entitlement to the allowance arises for the employer for each student with whom he has concluded an apprenticeship contract in the school year in which he first began to provide practical instruction to this student.

Based on a written request, the employer's competence is verified by the Commission for the Verification of the Employer's Ability to Provide Practical Teaching in the Dual Education System established by the relevant study field (e.g. Slovak Chamber of Commerce and

Industry, Slovak Chamber of Agriculture and Food, Slovak Forest Chamber) and a professional organization (Kováč, 2018).

Practical teaching of students according to the decree of the Ministry of Education, Science, Research and Sports no. 65/2015 Coll. on secondary schools (§ 4 and § 6) is carried out in the form of professional training, professional practice (in the workshop, at the employer's workplace, at the workplace of practical training, if the student is preparing in the dual system of education and training) or practical training (usually in a secondary vocational school). The teaching of professional training or professional practice of a student who is preparing in the dual system of education and training starts at 6.00 at the earliest and ends at 22.00 at the latest. The teaching of professional training or professional practice of a first-year student on one teaching day lasts a maximum of six teaching hours; a first-year student in a follow-up form of vocational education and training for a maximum of seven teaching hours. The teaching of vocational training or professional practice of secondary vocational school students lasts from a second year on a maximum of seven teaching hours in one teaching day; students in the second and third years of the follow-up form of vocational education and training, which is prepared in the dual system of education and training, a maximum of eight teaching hours.

At the workplace of practical teaching, the student implements professional training or professional practice under the guidance of the chief instructor or instructor. The law further stipulates that professional training or internship at a practical training workplace may be performed by a maximum of 3 students under the guidance of one instructor. The lead instructor or instructor provides information on the student's activities and behaviour during the practical training to the VET trainer or to the VET teacher. The maximum number of students – for such information – per VET trainer or VET teacher is 40 students, the same applies to the number of students per a head instructor.

In accordance with Kováč (2018), we think that the Act on Vocational Education and Training brought positive legislative changes, e.g. eliminating the administrative burden of entering the dual system of education and training, eliminating the administrative burden of concluding contracts, simplifying the setting of the beginning of the practical training day and the end of the practical training day, introducing a new financial bonus as a contribution providing practical training to partially cover employers' costs, etc. Another benefit is the

new position of the main instructor, who can carry out group teaching and who will be dedicated to the whole group of students.

According to Madzinová et al. (2018), the main aim of the current law on vocational education and training (VET) was increasing the motivation of employers to enter the process of vocational education and training. In connection with the motivation of employers' entry into the dual system of education and training, the law created a space for employers to be part of the preparation of the content of education to ensure a connection with the needs of the labour market. The main motivation, which was set by the VET Act already in 2015, motivation can be considered in the form of tax incentives for entities that participate in the system. After more than three years of the law on vocational education, it can be stated that despite the legally established mechanisms creating preconditions for the entry of employers into the system, employers are still not sufficiently motivated to be part of the dual system of education and training. The issue of employer entry, defining the positive as well as negative aspects of the dual system of education and training from the point of view of employers are written in a separate chapter. In general, the level of vocational education and training is most criticized by employers, who think that the current setting does not respond sufficiently to the current needs of the labour market and that secondary vocational schools are unable to prepare a qualified workforce that would be able to have a smooth transition to the work process. This statement is confirmed by the results of the Slovak Business Agency survey, which was focused on evaluating the state of the dual system of education and training as of 31st June, 2018. Building a quality dual system of education and training dual system of education and training dual system of education and training could specifically bring in 15,000 young prepared people according to needs each year and also contribute to reducing the additional costs of education by up to 34 million euros by 2024. (Employers of associations in the Government Council for Vocational Education and Training, 2015, cited in Madzinová et al., 2018).

In Act no. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts states that the practical part of the vocational component of the school-leaving examination of a student who was preparing in the dual system of education and training takes place at a practical training workplace if the secondary vocational school and the employer which this student was preparing, they will not agree otherwise, which we consider to be a step

forward, especially from a qualified workforce. We think that this is another significant positive in the connection of student training with the labour market.

The relevant legal provisions also stipulate that for example in the case of recruiting students for the conclusion of an apprenticeship contract, the secondary vocational school needs to actively cooperate with the employer. The employer's ability to provide and implement practical training for students in the relevant field of study in the dual system of education and training has a material and technical character requires professional training readiness of the employer. The provision of practical training by employers needs to be following the above-cited Education Act and the Act on Vocational Education and Training and the Amendment of these Acts.

Ministry of Education, science, research and sport of the Slovak Republic (2018) also states the position of the parent in the dual system of education and training and prepared for parents Manual on how to prepare their child for the dual system of education and training from 1 September, 2019 (the Manual is given in Annex 1).

- The dual system of education and training is regulated by § 45 of Act no. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts, according to this valid law, the dual system of education and training dual system of education and training can also be used in subsequent forms of education, which are entered by graduates of previous studies aged 18 and older and is also suitable for those employers, who provide practical training in vocational education and training for occupations with an increased risk of damage to health, as these are not suitable for students who have not reached the age of majority yet (in more detail SIVE, 2016). According to the cited source, in the dual system of education and training, the following can be included:
  - 1-year abbreviated study programme;
  - 2-years of post-secondary qualification study with professional training;
  - 2-years of post-secondary qualification study with professional experience;
  - 2-years of abbreviated study;
  - higher professional study.

The state is trying to respond to the current situation and problems that are constantly emerging after the introduction of the dual system of education and training through legislative changes. For example, the amendment to Act no. 61/2015 Coll. on Vocational Education and Training and Amendments to Certain Acts of 2018 extends the period defined for the signing of the apprenticeship contract until 15th September of the relevant school year in which the student started the first year and allows its signing until the 31st of January of the relevant school year if the relevant number of students required by the contracting employer as a provider of practical training was not been obtained. Another significant change is the possibility to set up a workplace for practical training by several employers. This plan is aimed primarily at small and medium-sized enterprises. At the same time, the amendment abolished the upper limit of the remuneration paid to a student for each hour of productive work and removed the reduction of the wage norm for secondary vocational schools. Another amendment to the cited law is to reduce the administrative burden in the process of verifying the competence of employers, concerning the provision of practical training in the dual system of education and training, and the amendment also introduces an increased share of practical training at another employer or workshop. The legal regulation also resulted in changes to the system implemented in the process of determining the number of classes in the first year of secondary (vocational) schools in the admission procedure, which is no longer within the competence of the council of the relevant self-governing region. Likewise, the company school, through the activity of which the employer prepares the future workforce for other employers, is no longer part of the process by which the numbers of students in the first year of secondary (vocational) schools will be determined by the relevant self-governing region.

In terms of forthcoming legislative changes to Act no. 61/2015 Coll. on Vocational Education and Training and Amendments to Certain Acts, participants were already informed in 2018 about changes in the scope of practical training for small and medium-sized enterprises, as well as for simplifying the verification of employer's competence to provide practical training in the dual system of education and training to clarify the performance of the chief instructor and the duties of instructors, corporate school, which are also related to increased financial bonuses, as well as changes related to determining



the number of students in individual fields of study and teaching and the continuity of subsequent financial incentives to streamline and dynamic dual system of education and training. Within the dual system of education and training, the scope of work teaching carried out in the workshop is increased to 50%, which allows greater flexibility in the process of distribution of training within the organization of the educational process. To reduce the administrative burden for employers in the dual system of education and training in the certification process, the change in the cited law should help by removing the deadlines for submitting an application for verification of competence and replacing the submission of specific documents with affidavits. Also, the category of increased financial incentives should help the dynamics of the development of the dual system of education and training, the changes concern the number of flat-rate expenses per student, which are deductible from the tax base depending on the number of hours of practical training provided.

Ministry of Education, science, research and sport of the Slovak Republic (2018) also writes about the rights and obligations of students as well as regarding their remuneration and material responsibility. First of all, concerning students in the context of the dual system of education and training, it is stated that they should only perform such practical or productive work that corresponds to the profession for which they are preparing. It further states that the employer or vocational secondary school may claim damages from students if they have demonstrably intentionally caused the damage and are unable to remedy the damage by restoring it to its original condition, but the damages may not, by law, be higher than an amount equal to an individual student four times the minimum wage. During the practical training, the student has the rights and obligations of the employee in the field of safety and health at work. The financial security of the student means e.g. motivational scholarship, corporate scholarship and reward for productive work.

*The motivational scholarship* is paid from the state budget to a student preparing for a profession in a field of study, which is included in the list of fields of study with an insufficient number of graduates for the needs of the labour market. The motivational scholarship is paid to the student monthly at the time of school teaching in the field of the following table 1:

*Table 1: Student 's motivational scholarship in the dual system of education and training*

average student achievement	% of the subsistence amount	scholarship amount
up to 1.8 including	65	60,85 EUR
worse than 1.8 to 2.4 including	45	42,12 EUR
worse than 2.4 to 3.0 including	25	23,40 EUR

Source of Table 1: Ministry of Education, science, research and sport of the Slovak Republic (2018)

*The company scholarship* can be paid by the employer to a student who participates in practical training with the employer, who can provide it from his resources. The law stipulates that a company scholarship may be provided monthly during school hours, up to a maximum of four times the amount of the subsistence minimum, which is 374.44 €. In the process of determining the amount of the corporate scholarship, particular account should be taken of the student's achievement in practical training and his / her regular participation in practical training.

*Remuneration for productive work* is provided to the student for every hour of performed productive work, but at least in the amount of 50% of the hourly minimum wage - currently from 1.49 €. The quality of the student's work and the student's behaviour should also be taken into account in the process of determining the amount of remuneration for productive work.

In terms of material security of the student performing practical training in the dual system of education and training dual system of education and training, the employer provides at his own expense personal protective equipment and also covers the costs associated with evaluating the student's health, the sensory and psychological ability of the student if the performance of practical training requires (in more detail e.g. Čepelová et al. (2011), Čepelová (2014a, b). From the material provision of a student performing practical teaching in the dual system of education and training, the employer also reimburses the student from his resources the costs, which are formed by the student's eating at the time of practical teaching in the amount

set by § 152 par. 3 and 8 of the Labour Code. From material security of a student performing practical training in the dual system of education and training, the employer can reimburse the student from his resources the cost of his accommodation in the boarding school, also travel expenses for transport from the place of permanent residence to the position of secondary vocational school, also places of practical teaching, as well as places of school boarding school and back, also from the school boarding school to the place of secondary vocational school and place of practical teaching and back.

Ministry of Education, science, research and sport of the Slovak Republic (2018) also states the context of the dual system of education and training with the Labour Code. In this respect, the employer may enter into a contract for a future employment contract with a secondary vocational school or secondary vocational apprentice school students, but not before the student reaches the age of 15 (the contract is still signed by the student's legal representatives), subject to the employer's obligation to hire a student - a dualist - after graduation and at the same time this contract contains a commitment of the student to become an employer's employee. The law also recognizes a situation where the employer may refuse to enter into an employment contract. These are cases, for example, if because of the new tasks or products, he/she does not have a suitable job for the student because his / her tasks are changing, or because of the student's medical incapacity, or if the student has not met the pre-agreed evaluation and classification conditions. The contract may also include a commitment by the student to declare that he/she will remain with the employer for a certain period, for a maximum of three years. If this deadline is not met, the employer may ask the student to reimburse the costs he/she has previously incurred in preparing him for the future profession.

According to Špániková (2018), the position of the dual system of education and training in the process of preparing a quality workforce is significant. In the current situation, where employees with the necessary qualifications, acquired skills, updated knowledge and competencies are lacking in the labour market, experts also have shown that retraining employees are costly and too much for many companies, which significantly affects their competitiveness.

According to Kováč (2018), the State Institute of Vocational Education is the implementer of the National Dual Education Project and the initiator of the processes of employers' entry into the dual system of education and training and at the same time their guide in their

cooperation with schools. The above-cited author states that the best evaluated in terms of employer involvement are those employers who have foreign investors. There is a presumption that they have transferred the culture of dual system of education and training from the mother countries and are also implementing it from the parent companies to the companies in our conditions. The dual system of education and training in Slovak small and medium-sized enterprises with a lower number of employees shows lower interest and a lower guaranteed degree of stability and perspective, which is also reflected in the conclusion of stable and promising commitments to students and schools for longer periods.

The cited author further states that the unequivocal positive of the amendment to the Vocational Education and Training Act is the additional financial incentive, as well as the simplification of the administrative procedure for entering the dual system of education and training, but many Slovak employers are still not clear reasons for entering the dual system of education and training and benefits or advantages of this entry. Another problem that is evident is the problem on the part of secondary vocational schools to achieve mutually beneficial cooperation between schools and employers.

Based on the record of the conference under the auspices of the Ministry of Transport and Construction of the Slovak Republic (2018), co-organized by the Union of Transport, Posts and Telecommunications of the Slovak Republic and the State Institute of Vocational Education, we state that the conference aimed to create space for communication which needs to be implemented based on primary experience with dual system of education and training in the department and at the same time initiate the process of beginning the solution of application problems that the dual system of education and training has brought. The conference was attended by representatives of the National Council of the Slovak Republic, central state administration bodies, professional organizations and study field of secondary vocational schools and employers. The conference participants highlighted the dual system of education and training, which is an important tool for reducing youth unemployment. As they stated, the dual system of education and training is also an important tool for eliminating the mismatch between the readiness of secondary vocational school graduates entering the labour market with the needs of employers recruiting secondary vocational school graduates entering the labour market. Experience showed that the dual system of education and training has

an irreplaceable place in the process of acquiring work habits directly in the production process, which ensures a smooth transition from education to the profession and a smooth link to current labour market needs. A significant benefit is also the financial security and material security of the student by the employer and, to a significant extent, the guaranteed acquisition of an employment contract after the completion of secondary school studies.

Based on the information from the conference, in terms of employers' requirements, the Bratislava self-governing region was actively involved in the whole process of modernizing the curriculum by providing financial evaluation and scholarships, which was reflected in increasing students' motivation for better learning outcomes. In terms of improving cooperation between schools and employers, the Bratislava self-governing region actively participated in the process of simplifying the administration for entry into the dual system of education and training, as well as in the process of introducing departments suitable exclusively for the dual system of education and training and the Bratislava self-governing region participated in the process of organizing a large campaign, which aimed to recruit to study in secondary vocational schools.

From the State Institute of Vocational Education (SIVE) and their implemented National Project "Dual Education and Increasing the Quality and Attractiveness of Vocational Education and Training", one-day seminars were organized for educational counsellors and class teachers of 8th and 9th grades with information about dual system of education and training and required professions in the labour market, included presentations of offers of study departments and study fields for the school year 2018/2019 and the assumptions of employers for the school year 2019/2020 who are involved in the dual system of education and training. In the next stage of the project, the involved experts will focus on connecting the relationship employer – secondary vocational school – student and will focus on creating a unified information environment focused on the dual system of education and training and increasing the attractiveness and quality of vocational education, which includes training of instructors, VET trainers and teachers. The conference participants pointed out that active cooperation of employers and other stakeholders in the long-term effective application of the dual system of education and training is really necessary, they pointed at the importance of developing cooperation between relevant schools and employers through obtaining

and providing material and financial support, school excursions, etc. Conference participants also consider that it is necessary to actively promote the dual system of education and training through the media.

From the quality and professional implementation of the dual system of education and training, the conference participants consider that it is necessary to increase the intensity and quality of education of pedagogical employees of primary and secondary vocational schools, which requires the creation of a professional career guidance system for vocational students by matching its requirements especially with the possibility of studying in secondary vocational schools. Based on the findings and discussions, the conference participants formulated conclusions, which result into the necessary regular mutual exchange of experiences and knowledge from the process of addressing the shortage of skilled workforce in the sector and the negative impact of this situation on the labour market. At the same time, it is necessary to support the dual system of education and training within the competencies and possibilities of cooperation in acquiring and retaining a qualified workforce in “scarce” professions. It is desirable to focus on facilitating conceptual changes and legislative changes, creating suitable conditions for the development of vocational education and training, including the dual system of education and training, according to updated labour market requirements, according to the conference report under the auspices of the Ministry of Transport and Construction of the Slovak Republic. (2018).

During May 2018 Slovak Business Agency (SBA) within the Business Environment Monitoring program following the application of the “Think Small First” principle surveyed small and medium-sized enterprises and secondary schools involved in the dual system of education and training with a focus on identifying general satisfaction with the dual system of education and training and its current state according to stakeholders.

All small and medium-sized enterprises and secondary schools in Slovakia involved in the dual system of education and training were contacted via e-mail in which the purpose of the survey was presented and explained. Subjects of the dual system of education and training were asked to fill in a google form with two types of questions – with pre-filled answer options and with open answers that the respondents had to fill in according to Slovak Business Agency’s own real experience (2018). To this intention, questionnaires for small and medium-sized enterprises and secondary schools were developed in the

preparatory phase of the survey, with some questions which were common and some were focusing specifically on small and medium-sized enterprises or secondary schools. In this way, the SBA addressed more than 100 small and medium-sized enterprises and more than 70 secondary schools involved in the dual system of education and training.

The questionnaire for secondary schools contained 19 survey questions, and small and medium-sized enterprises were contacted with a questionnaire containing 23 questions. Questions common to small and medium-sized enterprises and secondary schools concerned satisfaction with the legislation governing of the dual system of education and training; motivations for joining the system expected benefits for both types of organizations; identification of system deficiencies; experience with hands-on verifiers; the quality of curricula, and at the end of the survey a question was also asked about the satisfaction with the involvement of regional self-government in the dual system of education and training.

Besides, small and medium-sized enterprises were asked to submit designs for a possible change in learned plans; the way students are selected; feedback on students' work ethic; theoretical knowledge of students; anticipated recruitment of students from the dual system of education and training for future employment; the quality of communication with secondary schools and possible complications. If they occurred, the reasons for the termination of small and medium-sized enterprises in the dual system of education and training were identified.

Specific questions for secondary schools concerned the comparison of the attendance of students involved and not in the dual system of education and training, their learning outcomes; communication with companies and possible reasons for termination of cooperation with small and medium-sized enterprises. As part of the survey, all companies concluded that the dual education contracts were first identified through public resources of the State Institute for Vocational Education (SIVE) and higher territorial units, except for the Bratislava self-governing region, from which small and medium-sized enterprises were selected separately. At the same time, secondary vocational schools involved in the dual system of education and training were identified. These small and medium-sized enterprises and secondary schools were approached with a request to complete a questionnaire. Out of 103 respondents of small and medium-sized enterprises, 10 responded to the questionnaires and out of 70 secondary vocational schools, 31 Slovak Business Agency also responded (2018).

*Results of the survey among small and medium-sized enterprises* (Slovak Business Agency, 2018) - Act no. 61/2015 on vocational education does not represent a sufficient legislative basis for the organization of the dual system of education and training according to small and medium-sized enterprises. Entrepreneurs would 80% welcome its refill and the other 20% in the survey said it needed major changes. However, in the meantime, several changes, both by the professional public and representatives of small and medium-sized enterprises, were positively evaluated and positively received.

The main motivation for participation in the dual system of education and training for small and medium-sized enterprises became “education of a new workforce; recruitment of newly qualified employees; lack of skilled workforce; training of professionals by practice; linking practice with school; recruitment of qualified employees; training of experts; recruitment of new skilled workers; people’s retirement; educating young people according to their own needs/ideas and educating new young professionals “.

The main benefits of the dual system of education and training for companies were “education of a new workforce; training of future workers; faster adaptation; interest in educating their professionals; securing one’s qualified workers on the labour market and maintaining contact with schools “. However, some small and medium-sized enterprises were reticent in evaluating the benefits. Approximately 20% of the surveyed small and medium-sized enterprises said in the survey that they could not evaluate the specific benefits of the dual system of education and training yet.

The main negatives in engaging in the dual system of education and training were the partial “passivity of the state; the reluctance of young people to work, the inability to bind them as employees after the end of the dual system of education and training; administrative burden (especially for certification); too high costs for small businesses; insufficient legislation; concerns of instructors as well as other employees from the dual system of education and training and also that young people (14-year-old primary school students) are not interested in certain areas such as Agriculture “. Small and medium-sized enterprises also criticized the fact that it is not possible to enter the dual system of education and training in the upper years of study.

The administrative burden in the whole process of the dual system of education and training for small and medium-sized enterprises is



not adequate. More than 60% of the surveyed entrepreneurs agreed with the opinion that this obligation is rather not appropriate in the survey. Only a third of all respondents considered that the administrative burden is at least partially acceptable. One-tenth of the respondents considered that the administrative burden is totally disproportionate.

The experience of cooperating with the verifiers of the ability to provide practical training was positive from small and medium-sized enterprises. More than 40% of entrepreneurs rated it as explicitly positive, and a third of respondents partially agreed with this view. The opposite view, i.e. negative, did not appear in the area of experience of small and medium-sized enterprises in this area (Slovak Business Agency, 2018).

The process of verifying competence within the dual system of education and training was evaluated by small and medium-sized enterprises as mostly problem-free. Only about 8% of entrepreneurs surveyed said that this part of the dual system of education and training needed to be simplified (Slovak Business Agency, 2018).

The curricula for the implementation of the dual system of education and training are only suitable partially. More than half of small and medium-sized enterprises are convinced that they need major pre-processing. According to 20% of small and medium-sized enterprises, these requirements would need partial innovation, and the same part could not answer the question.

The curriculum is suitable for the implementation of the dual system of education and training, similar to the curricula examined above. The difference in the answers compared to them was in the proportion of entrepreneurs who believe that the curriculum needs to be fundamentally or only partially innovated. In the curriculum, a major overhaul was required by 10% fewer entrepreneurs than in the curriculum, and conversely, partial changes were required by 10% more entrepreneurs.

Designs to change or supplement the curricula of the relevant study field organization have not been submitted by any of the small and medium-sized enterprises yet, which is in relatively sharp contrast to the answers concerning the evaluation of curricula above, where 70% of entrepreneurs agreed with at least a partial change. Nevertheless, no activity has been done on their part so far. This finding may point to a weakness in the dual system of education and training, which should be addressed in a systematic way so that adequate innovation of curricula and curricula is ensured on an ongoing basis. The current situation

demonstrably indicates that employers and schools are not satisfied with the learned plans, but employers do not feel fully competent to submit their changes yet, while schools (and other responsible institutions such as the Ministry of Education, Science and Research of the Slovak Republic) do not have indications from employers or more general ideas about changes in this area of education.

The criteria for selecting secondary school students for dual system of education and training were “students’ benefits and interests, or companies took all applicants for the dual system of education and training; in a personal interview with the students and their parents or the companies were approached by the students themselves.”

According to the findings of the Slovak Business Agency, (2018), the work ethic of students in the dual system of education and training was evaluated by small and medium-sized enterprises slightly positively or with reservations. 40% of small and medium-sized enterprises stated that the work ethic of students within the dual system of education and training is good and another 30% were not able to answer yet, because of their short experience of working with students.

Critical opinion was expressed by 20% of respondents who rated it as “weak” or described its image as “the consequences of parenting and the mistakes of the state system and education” (Slovak Business Agency, 2018).

The theoretical equipment of students involved in the dual system of education and training was evaluated positively by 4/5 small and medium-sized enterprises. Only 20% of small and medium-sized enterprises stated that the theoretical equipment of students is sooner or insufficient for them.

According to the survey, the estimate of the number of students from the dual system of education and training who perceive small and medium-sized enterprises as their future employees were diverse. 20% to 40% of students can imagine about 2/5 of small and medium-sized enterprises as their future employees. 80% to 100% of students could become employees in more than 20% of small and medium-sized enterprises.

Small and medium-sized enterprises generally considered their responsibilities within the dual system of education and training to be appropriate, but at the same time, small and medium-sized enterprises expressed (cit.) “Great responsibility” in the implementation of the dual system of education and training. Marginally, criticism for unnecessary administration was repeated in the responses. Only 10%

of the surveyed small and medium-sized enterprises considered their obligations as exaggerated.

The work of instructors within the dual system of education and training was positively received by small and medium-sized enterprises. This view was expressed by around 60% of the small and medium-sized enterprises surveyed. Words such as “gradually become involved in the obligations arising from the dual system of education and training”, “as required by law, the borders are not open there” and “gradually become involved in the dual system of education and training” can be considered as complementary opinions.

According to small and medium-sized enterprises, secondary vocational schools provided or are providing sufficient cooperation in the dual system of education and training in almost 90%. Only 10% of surveyed entrepreneurs expressed a slightly negative opinion. Therefore, in this case, it can be stated that according to small and medium-sized enterprises, communication on the part of secondary schools is almost seamless (Slovak Business Agency, 2018).

According to small and medium-sized enterprises, the problems encountered in cooperation with the secondary vocational school have in most cases been addressed constructively, or none have occurred so far. However, on this issue, some small and medium-sized businesses expressed a critical view that secondary schools “did not have enough students, not interested in the field of study, especially that they opened other grammar schools, Higher territorial units are incompetent and should be abolished because they caused the most damage in the state system.”

According to small and medium-sized enterprises, secondary vocational schools were extremely proactive in solving the problem. None of the addressed small and medium-sized enterprises chose any of the other options in the survey (Slovak Business Agency, 2018).

The future operation of the dual system of education and training was expected by small and medium-sized enterprises in the horizon of at least three years or longer. However, at the same time, half of the small and medium-sized enterprises contacted could not answer the question about their future involvement in the dual system of education and training.

The activities of the regional self-government and its relevant departments were evaluated by small and medium-sized enterprises as 50% definitely or rather positively. Only a fifth of small and medium-sized enterprises held the opposite opinion in the survey.

Approximately one-third of the respondents could not express their opinion on regional self-government in this area.

Other measures for which small and medium-sized enterprises expressed demand in the survey were the possibility to oblige students to work for at least 1 year in the given enterprise or the so-called contracting students after the end of the dual system of education and training programme or at least 3 years with legal impact; amendment of the law on dual system of education and training; more variable outlines.

The companies that answered the questions of the questionnaire from the point of view of the industry were active in the agro-sector, furniture production and mechanical engineering. On average, there were 8 students within the dual system of education and training (the highest number was 18, at least 1 student). Half of the companies had a vocational training contract concluded since 2015 and the other half since 2017 (Slovak Business Agency, 2018). In summary, 40% of companies assumed that 80-100% of students would be employed after graduation, 20% of companies wanted to employ 20-40% of students and 10% of small and medium-sized enterprises between 60-80% of students. A peculiarity is that the company that had the most students in the dual system of education and training assumed that it would need only 20% of current students as future employees. When asked about the perspective of small and medium-sized enterprises in the dual system of education and training, half of the companies answered that they want to continue the system for more than 3 years, a tenth of companies expected one year's perspective and up to 30% of companies could not answer the question and their future operation in the dual system of education and training. Therefore, it can be considered as questionable.

The small and medium-sized enterprises that answered the questions in the survey on the state of the dual system of education and training were mainly from western Slovakia. The regional representation of respondents was mainly influenced by the number of companies involved in the dual system of education and training, which is relatively higher especially in the Trenčín and Nitra regions. (Slovak Business Agency, 2018).

*Results of a survey among secondary schools* (Slovak Business Agency, 2018) - Act no. 61/2015 on vocational education represents, according to secondary schools, only a partially sufficient legislative basis for the organization of the dual system of education and training.

2/3 of secondary schools believe that the law needs to be amended. More than a third of schools are convinced that they need major legislative changes. At the same time, only 10% of the addressed schools are convinced that the law is completely satisfying.

The main motivation for participating in the dual system of education and training were reasons such as “helping cooperating companies to obtain qualified professionals for the profession; making vocational training more attractive; links with vocational training directly in companies and societies that need graduates; requirements of employers; cooperation with employers in the preparation of graduates according to their requirements, recruitment of students and teaching of departments related to the needs of the market; attracting more students to study; improving the professional side and linking to reality; strong interest of companies in school students; better vocational education for students; increasing the number of students at secondary schools; better preparation for practice; employment of graduates; the need to increase the interest of primary school students in vocational education in our school; overall efforts to improve the quality of practical teaching; creating new opportunities for closer cooperation with employers in the region; the quality of vocational training with new technologies, the satisfaction of students and parents of the school, the material and financial provision of students from socially weaker families, the growth and image of the school; the need for professionally trained employees in companies in the region; the need to update and modernize education for the needs of the labour market in the district; connecting the school to the real needs of practice (companies); the future and employment of students; creating new suitable job opportunities and conditions for our students; socialization, preparation for future careers and pocket money’.

The main benefits of the dual system of education and training for secondary schools were, in particular, “the fullness of study and teaching disciplines; active assistance of employers in vocational training; making vocational training more attractive; links with vocational training directly in companies and societies that need graduates; requirements of employers; cooperation with employers in the preparation of school education programs; employment of graduates and increase of school credit; improving the quality of the school in the eyes of the public and good cooperation with parents and companies as well as a high impact on the internal culture of the school; greater interest of primary school absolvents in vocational training in some

fields; increasing school credit, improving student achievement and attendance; linking theoretical teaching with practice; increasing students' interest in certain disciplines ". However, among the answers to this question, there were also critical answers such as "the system was unprepared, it all became a responsibility of schools" and about a third of the secondary schools involved also said that the dual system of education and training had no benefits for them so far (Slovak Business Agency, 2018).

The disadvantages of participating in the dual system of education and training that secondary schools encountered were in particular "the shortening of norms and the reluctance of small companies to participate in the dual system of education and training; dismissal of VET teachers; lack of information for students from Eastern counselors in primary schools; increased administrative burden; a complicated system of admitting students to the dual system of education and training; misunderstanding by parents'.

The administrative burden of the whole process of the dual system of education and training is considered appropriate by secondary schools. With the sum of positive and negative answers, it can be seen that only 40% of secondary schools are convinced that the administration of the dual system of education and training burdens them too much (after the amendment of the law, it turned out that this is no longer the case in practice). On the contrary, 3/5 of secondary schools do not perceive this problem or consider it partial.

Experience with cooperation with verifiers of the ability to provide practical training has so far been mostly positive in secondary schools. Almost 4/5 of secondary schools stated that cooperation with verifiers is positive or rather positive. Only 3% of secondary schools chose a negative experience for the answer to this research question.

The evaluation of the proficiency testing process within the dual system of education and training was mostly positive, or secondary schools were reluctant to refer to the lack of experience as they were not involved in the dual system of education and training long enough. Less often, answers were represented here concerning administrative complexity and bureaucracy. Secondary schools also stated literally that "to satisfy applicants for verification of competence as soon as possible, companies that do not meet the material and technical standards for education in some areas were also certified.

The curricula for the implementation of the dual system of education and training are related by secondary schools as learning plans.

The results of the responses to the curriculum almost copy the responses to the perception of the learning plans of the selected disciplines'; or "we have information from employers about a relatively smooth process"; or "I can't evaluate; I've never seen a verifier." However, schools also appealed here that "it is important that workplaces have the conditions created for the implementation of professional practice, that social, work, spatial and material security need to be created" (Slovak Business Agency, 2018).

According to the findings of the Slovak Business Agency, (2018), learning plans for the implementation of the dual system of education and training are suitable only for more than 16% of secondary schools. 70% said they needed partial innovations or needed to be supplemented. More than 10% chose the answer that they should be fundamentally reworked. An interesting finding is that several high schools believe that the learning plans are irrelevant in this context.

How students are selected for the dual system of education and training by secondary schools "are random; secondary schools take everyone regardless of the quality of the students; leave the choice to employers; the selection is made by the employer through an interview and the school through informing educational counsellors; according to pre-established and published criteria of cooperating enterprises in the dual system of education and training as a part of the School Admission Criteria; personal interviews; based on skill or relationship to the profession; according to the interest of the students, the parents may decide ". One school also stated that "because of the low number of students entering vocational education, companies issue a certificate on the dual system of education and training to anyone who asks for them and then selects them based on the student's success in job interviews."

Students involved in the dual system of education and training have better school attendance compared to students outside the dual system of education and training. 70% of secondary schools chose this statement as a possible answer, while only more than 20% of schools had the opposite experience. However, almost 7% of schools could not answer this question in the survey.

The learning outcomes of students involved in the dual system of education and training are only better according to half of the secondary schools. More than 40% of secondary schools do not have such experience. According to the answers below, the positive impact of dual system of education and training on the benefit of secondary school

students is not confirmed. The evaluation of the work of instructors within the system of dual system of education and training was mostly positive by secondary schools. Approximately 60% of the responses formulated by the schools were formulated in the affirmative. However, there were also evaluations, according to which, for example, “Not all instructors have room for students, they have responsibilities from their own job and they do not have the necessary place to educate our students.” At the same time, secondary schools appreciated the interest of instructors in working with students as well as their expertise.

They also expressed the belief that instructors should be better paid for their work. Responses were also represented, suggesting that instructors are a purely “matter” for companies and were slightly irrelevant to their actions. (Slovak Business Agency, 2018).

Companies in the dual system of education and training provide sufficient cooperation in the dual system of education and training to secondary schools. In the survey, up to 90% of secondary schools expressed this opinion. 40% of all answers were definitely “yes”, and “rather yes” it was over 56%. Communication problems were indicated by only 3% of secondary schools.

The problems encountered in cooperating with companies were mostly expressed by secondary schools as “normal” or “none”. They partly concerned “the exchange of vocational training instructors; non-certified companies in the field; different approaches of employers to the dual system of education and training”. Some schools criticized that “several companies do not have employees for the dual system of education and training” and that “there are problems with paying for productive work” or that companies “do not fulfil the curricula”. Secondary schools also stated that “some companies do not provide evaluation for students in the dual system of education and training”. Some secondary schools felt that working with companies within the dual system of education and training is not a priority for companies” (Slovak Business Agency, 2018). In cooperation with the business sector, secondary schools would also welcome the unification of procedures in recruitment activities, the same professional approach to all schools involved in the dual system of education and training. Finally, one of the schools also commented on their potential for passing on theoretical equipment to students: “misunderstanding by instructors that it is not possible to teach the subject in advance for practical lessons 30 (35) hours/week in 2 hours/week”.



According to secondary schools, the solution to the problems that arose with employers was very diverse, with constructive statements slightly prevailing. A quarter of secondary schools said that companies were active as well as helpful in solving problems. Up to 25% of secondary schools chose the answer that companies were reluctant or passive to solve problems. More than 26% of schools that had problems with companies said that companies did not respond at all - without any response.

The reasons that led to the termination of cooperation with companies in the dual system of education and training were only 3 of all addressed secondary schools: "serious threat to the student in the dual system of education and training by the company's employees; disinterest on the other hand and unregistered students in the field". It can, therefore, be stated that secondary schools do not have fundamental reasons for not participating in the dual system of education and training yet (Slovak Business Agency, 2018).

The evaluation of the involvement of regional self-governments and their respective departments was identified by secondary schools as rather positive. Half of the schools contacted chose this type of cooperation from among the options. About a third of secondary schools expressed a negative evaluation. About a quarter of schools did not know how to answer the question or rated the cooperation as neutral (Slovak Business Agency, 2018).

The measures that secondary schools would take within the dual system of education and training are mainly of a legislative, financial and motivational nature on the part of the state. According to high schools, the state should work with companies on issues of levies and reliefs. At the same time, secondary schools expect students to be motivated by scholarships also on the basis of attending school in theoretical classes. It is extremely important for secondary schools that the norm per student is not reduced if it is integrated into the dual system of education and training. They also suggest that the state promote the dual system of education and training in the environment of primary schools. The system of an admission of students to the dual system of education and training should be simplified by selecting from the already admitted students, but not by separate admission for the dual system of education and training. Some schools would welcome an increase in the number of theoretical lessons in the dual system of education and training for their students. At the same time, secondary schools expect, from a quantitative and qualitative point of view,

a higher interest of companies in the dual system of education and training.

Of the 31 secondary vocational schools involved in the dual system of education and training, which answered the questions of the questionnaire, up to 2/5 of the schools had concluded contracts with employers for up to 3 years. Almost a third of schools also had 1 and 2 years. However, within the number of students, they did not have the most students in the dual system of education and training of schools who were involved in the system for longer. Only 2 schools, which were in the system for 3 years, belonged to those that had a higher percentage of students in the dual system of education and training. Schools that were in the system for 2 years had a higher number of students involved in the dual system of education and training. Most schools with 3-year contracts had, on average, only 4.55% of students in the dual system of education and training. On the contrary - schools that were involved in the system for 2 years had more than 15% of the total number of students involved in the dual system of education and training. Schools that were in the dual system of education and training for only one year managed to participate in 6.58%. Such a comparison of the data of the students involved may indicate that secondary vocational schools that have been involved for a longer period may lose motivation over time to continuously increase the proportion of students in the dual system of education and training.

The overall structure of the degree of involvement of secondary vocational school students in the dual system of education and training according to the answers to the questionnaire shows that only one school had more than 52% of its students involved in the dual system of education and training. Two schools reached a level of approximately 30% and the other 2 secondary schools more than 20%. Between 10% and 20% of the students' participation were 6 schools. Other schools (approximately 2/3) managed to participate in the dual system of education and training only up to 5% of the total number of all their students, Slovak Business Agency (2018).

Within the survey, active and industrial schools, in particular, took part in the active respondents. Hotel and transport academies are currently among the schools that participate minimally in the dual system of education and training (Slovak Business Agency, 2018), but - as the authors of the scientific monograph state - the situation has significantly improved by 2020.

### 4.3.3 Experiences with the dual system of education and training in the Slovak Republic

According to the most current sources, the topic of the dual system of education and training was theoretically addressed by many authors, e.g. Neupauerová (2013) wrote about the possibilities of using the dual system of education and training following the example of Austrian and German success, Gregová (2013) also addressed the current young generation as a risk group in the labour market in terms of dual education, Gonda (2014) focused on some aspects of the dual system of education and training on the example of Slovakia, Orbánová (2015) paid attention to the dual system of education and training as a tool for reducing youth unemployment, Rozinaj, Podhradský and Rybárová (2015) dealt with modern IKT in the dual system of education and training in secondary vocational schools and described the activities of projects H2020 “NEWTON” and ERASMUS + “TECHpedia”, Petlák described the existing views on the dual system of education and training dual system of education and training, Nekolová, Pastuchová and Pavlíčková (2016) paid attention to the support of the dual system of education and training at the University of Economics in Bratislava, Nekolová and Prváková (2016) described the current state and development trends in the labour market, Olšavský and Treľová (2016), Treľová and Olšavský (2016), Treľová and Olšavský (2017) and Treľová and Olšavský (2015) paid attention to the dual system of education and training in practice in our conditions, Nevická (2017) wrote about the dual system of education and training as a means of preventing the outflow of skilled labour, Hricová and Madzinová (2018a, b) wrote about the dual system of education and training in the context of Industry 4.0, Orbánová (2018 ) dealt with the dual system of education and training in the Slovak Republic in the context of labour market requirements, Treľová (2018b) described the benefits of theoretical education in schools and practical training directly in enterprises.

According to the available data, banks, insurance companies and financial advisory institutions are most interested in the implementation of the dual system of education and training, especially in connection with the professional practice of students who will graduate from the professional component (e.g. a bank worker in experimental verification). Further cooperation is set up in the field of glass and printing (SIVE, 2018).

According to SIVE data from March 2019, the current offer of study places in the school year 2019/2020 reached the level of 5055 offered places, while the highest number of offered places is the Košice self-governing region with 854 places, followed by the Prešov self-governing region with 764 places and the third is a Bratislava self-governing region offering 743 places in the dual system of education and training. Currently, the verification of the competence of employers entering the dual system of education and training is being carried out, with more than 300 offers of prepared training places being prepared.

Based on the notification of the Ministry of Education, Science, Research and Sport of the Slovak Republic (2019) as a provider of a contribution to the dual system of education and training, based on the approved Aid Scheme to support the dual system of education and training, it was possible to submit applications to the State Institute of Vocational Education as an executor of application to enter State aid schemes. The state aid scheme is aimed at stimulating the wider involvement of employers, focusing on small and medium-sized enterprises (including self-employed persons) in the dual system of education and training. Completion of the application for entry into the State Aid Scheme is a necessary precondition for participation with the subsequent submission of an application for a contribution.

According to Kováč (2018), the benefit for companies is when schools help employers with the training of instructors, with the methodical guidance of instructors, employers provide innovative training for schools to increase the expertise of vocational subject teachers and VET teachers or provide them with the latest materials, etc.

According to the source of the School Service (2015), it is possible to change the system of current education by the dual system of education and training. Employers themselves began working with selected schools to educate future employees. Based on the legally supported the dual system of education and training (according to the system from Germany, Austria or Switzerland), it has the potential to contribute to solving high unemployment, especially for graduates in Slovakia. The main aim of the dual system of education and training by the employer is to provide secondary vocational school students with internships (motivation can also be merit or corporate scholarships) and to profile future employees for themselves according to their needs.

According to the daily Pravda (2020), the dual system of education and training has proved as very successful abroad, its essence is that

in addition to studying at school, students also work in the company in the area of their focus. Such a combination of theory with practice is not a piece of big news, as it worked in our country already under socialism, as we have already written about in the relevant subchapter.

As stated in the cited source, the aim of the combined form of study is for students to acquire work habits, the ability to manage finances and have a realistic idea of the next life. The dual system of education and training graduates have a higher degree of independence and they have developed critical thinking, which gives them a competitive advantage over peers from general schools. Everyone benefits from it – students, parents and companies that were involved (Pravda, 2020).

According to Industriellen vereinigung, which represents 3,500 companies in the Austrian industry, around 40 per cent of primary school leavers choose the dual system of education and training in this Alpine country. The apprentices then spend two days at school and three days in the company, where they are taught by people from companies. Such training lasts two or three years. Practical teaching in this system takes place with the employer who has concluded an apprenticeship contract with the student (based on a dual education system agreement between the employer and the school). The employer decides on the choice of the student. When elaborating the educational program, it can also, together with the school, modify its content by including new knowledge resulting from the latest developments in science and technology or to adapt the curriculum to the current needs of the labour market or region.

The dual system of education and training offers a wide selection of technical, non-technical, traditional and completely new directions of study. The most popular are industrial, especially from the engineering and automotive industries such as mechanic toolmaker, mechatronics, electrical engineer, car repairer or mechanic adjuster. In this system, future specialists in rubber and plastics, glass, wood and furniture production, workers in a trade field, services, food industry, farmers and foresters are also preparing to perform their profession. Among the traditional fields, we can also mention chefs, bakers, confectioners, dairies, shoemakers, masons, carpenters or carpenters. Also, several lesser-known and interesting disciplines are certified for the dual system of education and training, such as horse breeders and riding, sheep breeders, blacksmiths and ceramics, gardening and so on (Pravda, 2020).

Pravda (2020) further states that a novelty in the dual system of education and training is the sector of banking, finance, insurance, public

administration, administration or information technology. Among the new departments, we can mention, for example, logistics or the protection of people and property. Therefore, the dual system of education and training does not need to be associated only with craft or industrial production. This method of teaching is praised, for example, by Anna Dvorščáková, director of the Business Academy in Liptovský Mikuláš. This school is one of the first business academies in Slovakia to join this system. “If we want our graduate to be prepared to hold positions in economic, administrative or business activities, we need to educate him not only on a theoretical basis but above all to cultivate him the ability to use the learned knowledge and skills in practice,” explained the director. Activities which the school deals with are based on labour market demand and the requirements of employers. Therefore, they introduced subjects such as digital office, online marketing or project management and communication into teaching. It is also necessary to equip professional classrooms, which need to replace real workplaces, so the school focuses on obtaining funding for equipment through projects and Euro funds. The first year of the dual education and training programme is completed by the students of the academy in the administration and in the economic department of a certain company in the Liptov Education Center. Some have already signed a dual contract with the local business company Tomirtech. “Dual training will help us train new promising employees according to our taste and need. The company is in a position where many of our employees, who have worked for us for 15 years or more, are retiring. It is not easy to maintain a stable team with loyalty to the company, and therefore I welcome this way of training for a profession,” said the manager of the company Ján Tomčík. During practical training, students of the business academy will gain experience in economics, business and applied informatics, which they can then use in various professions - from farmers, product managers, sales officers, logistics centre employees and accountants to HR professionals, receptionists or archivists (Pravda, 2020).

Other practical examples show, according to the cited source, that from the tourism, automotive, mechanical engineering, electrical engineering, metallurgy, woodworking, construction and building materials production, transport, chemistry, agriculture and food sectors, employers joined the system based on the most important knowledge that without a quality workforce and a suitable workforce, their position and competitiveness will not be at the required European level.

For example, DM Drogerie Markt has been supporting students in the dual system of education and training since 2012 and is educating its future workforce even more effectively. If a student is interested in education in DM, the future high school student will apply for secondary school only after its acceptance by DM. Thus, the student together with the parent (s) first attends the Open Day directly in a branch, obtains the necessary information about their future profession and at the same time completes a selection interview. After fulfilling the conditions, the candidate will be included in the program and will receive a confirmation of the teaching contract, which is part of the application for a secondary vocational school. In addition to the fact that the dual system of education and training will provide them with the security of future employment and quality education exactly according to the requirements of the named company, students have several benefits: Students of a secondary vocational school in dual system of education and training can be reimbursed for the costs of a boarding school or travel, similarly to all DM employees.

According to the school service (2015), the specific employer of DM Drogerie Markt appreciates the fact that it is possible to participate in the curricula of the study field, what enabling the employer to educate students in the specific skills needed for their future work. The current reasons of specific employers cannot be missed by trained instructors of internal practice, professional textbooks, good teaching aids, etc.

According to the Slovak Alliance of Modern Trade SAMO (2019), trade is the second largest employer in Slovakia after industry. According to the data of the Statistical Office of the Slovak Republic, a total of around 300,000 employees work in the retail and wholesale sector, of which almost 10% are employees of SAMO members - Billa (<https://www.billa.sk/specialfolder/footer/kariera/dualne-vzdelavanie/dualne-vzdelavanie>), DM drugstore market (<http://www.dm-vzdelavanie.sk/dualne-vzdelavanie-s-dm.html>), Kaufland (<https://kariera.kauffland.sk/ziaci/dualne-vzdelavanie.html>), Lidl (<https://www.lidl.sk/sk/Lidl-ponuka-dualistom-viac-ako-3100-10401.htm>), Metro (<https://www.metro.sk/kariera/studenti-a-absolventi/dualne-vzdelavanie>), Tesco (<http://www.podstudovatobchod.sk/vybersi-s-kym/tesco-stores-s-r-o/>). The perspective of employment and career advancement is growing together with the developing network of business operations of SAMO members, therefore the education of its experts is one of the key activities of the Slovak Alliance of Modern Business and its members.

Already in 2015, foreign retail chains joined the dual system of education and training and, in cooperation with secondary vocational schools throughout Slovakia, prepared 126 students for trade and offered another 400 places for the school year 2018/2019. *“Studying and working in business is suitable for many students because it requires common skills of young people, such as pleasant communication, relationship to modern technologies and the desire to work in a team. We believe that the offer that our members have prepared for high school students will attract students in ninth grade to study business and subsequently to work for one of our members, “says Katarína Fašiangová, President of the Slovak Alliance of Modern Business. According to the cited source, dual education and training with foreign retail chains brings many benefits to students:*

- a more interesting and attractive form of study - as much as 50% of time is spent at the workplace;
- study beneficial for his future career - he tries everything directly in the store as part of the internship;
- the student chooses his / her partner for professional practice himself/herself even before the secondary school entrance examinations;
- attends training and workshops among the best;
- the student starts earning already during the study;
- the student receives a contribution for food, accommodation or travel, work clothes and aids are a matter of course;
- will have job security after graduation;
- graduation does not have to be the end station for the dualist, he can continue his studies in the field of business at university;
- the best ones can look forward to rapid career growth (SAMO, 2019).

More than sixty high school students are already preparing to work in Lidl.<sup>2</sup> Company Lidl of Slovak Republic acts as an attractive partner not only for its current but also for future employees. The discount has recently made the remuneration system more attractive for “dualists”, and thanks to Lidl, quarterbacks can earn more than 3,100 € a year. In the school year 2018/2019, 36 students in first grade from secondary schools began to prepare for their future careers in Lidl. This is more than double of all the students involved in the dual

<sup>2</sup> *Lidl offers dualists more than € 3,100€.* [on-line]. 2019. [cit. 2019-06-26]. Available on: <https://www.lidl.sk/sk/Lidl-ponuka-dualistom-viac-ako-3100-10401.htm>



system of education and training in the mentioned supply chain. Lidl has been actively involved in the preparation of secondary school students for future careers since the 2015/2016 school year and has been doing it so for the last three years within the dual system of education and training. Gradually, 5, 6, 14 and most recently 36 students showed interest in future work in the discount chain. Lidl decided to gradually increase the current uniform hourly remuneration at the level of 2.76 € / hour for dualists so that students in the first grade receive € 3 / hour, students in the second grade € 3.30 / hour, students in the third grade € 3.60 / hour and students in the fourth grade get € 3.90 / hour. “In the new system, we have set the remuneration to have progressive growth. In this way, students will learn that values such as diligence, conscientiousness and loyalty bring better financial rewards and career advancement, which is also important from their future life,” said Zuzana Baloghová, Head of Personnel at the Slovak Republic. The well-known and gradual increase in the wages of dualists copies the long-running model of remuneration in Lidl. When signing the contract, employees know the development of their salary for the next four years. Students can receive a motivational financial scholarship of € 500 per year from Lidl, which is conditional on good academic results. The remuneration system also includes a meal allowance of € 3.80 per day. “We treat dualists as our colleagues and take their education seriously. After successful completion of their studies, they have a guaranteed position with us and can continue to grow, resp. to continue in the dual system of education and training at a university in Germany,” concluded Zuzana Baloghová. Lidl currently offers dual education and training in cooperation with ten schools in nine Slovak cities. Students can choose from the study fields “sales worker”, “marketing worker” and “warehouse operator”. The practical part of education is implemented in Lidl stores, but the employees of the retail chain also participate in the theoretical training of students in the form of professional lectures. After graduation, a guarantee of a job position for an indefinite period is prepared for graduates. The company Lidl Slovak republic (the public company) is one of the stable employers. This company employs more than 4,000 people in its 132 stores, three logistics centres and headquarters. The chain has long managed to create new jobs, most of which are created independently of expansion. Lidl is a two-time holder of the Top Employer Europe and Top Employer Slovakia awards, as well as the current winner of the “Most Employer” survey in the trade and services

category. For its activities in relation to employees, Lidl also received the Via Bona award given to the most responsible companies in Slovakia. As part of its strategy to support the candidates' educational process, Lidl has prepared "studentship" and "trainee" programs for university students and recent graduates. Their aim is to involve students and university graduates in the functioning of international society. Since autumn 2015, Lidl, in cooperation with the Faculty of Business of the University of Economics in Bratislava, has been a partner of a unique educational project in the field of retail - the Retail Academy. From the discount chain, the latest activity in the area of training future employees is the offer of dual studies at a university in Heilbronn, Germany.<sup>3</sup>

As part of dual system of education and training, Tatra Banka (2019) offers a monthly scholarship from € 30, salary for worked hours, internship in the most valued bank in Slovakia, special financial and non-financial bonuses for the best and a job immediately after graduating from school. It also organizes the Dual Academy of Tatra Banka. So what exactly does Tatra Banka offer to dualists:

- monthly income from € 30 - earns the first € 30 just by learning. After meeting the agreed criteria, he will receive a monthly scholarship of € 30 from Tatra Banka. A clever student will earn even more;
- salary for hours worked - for hours worked after training, there is also a proper remuneration. He will receive € 2.90 for each such hour;
- meal tickets - for each day in practice he receives € 3.60 on his gastro card;
- career lead – in 4 years of study he also has 4 years of experience in a CV and his first career promotion;
- special financial and non-financial bonuses for the best students – for a special performance, special reward, whether in the form of financial bonuses or selected types of training for the best students;
- job immediately after graduation - the student will show what he knows and immediately after graduating from the business academy, Tatra Banka will offer him a job. If he wants to continue his studies at university, he will adapt his working hours according to his needs;

<sup>3</sup> *Lidl offers dualists more than 3,100€.* [on-line]. 2019. [cit. 2019-06-26]. Available on: <https://www.lidl.sk/sk/Lidl-ponuka-dualistom-viac-ako-3100-10401.htm>

- practical experience with student benefits - enjoys student benefits, but from the beginning it is also a part of Tatra Banka, gaining trainers, tutors, colleagues;
- training and support from experts from Tatra Banka - education is provided by experienced internal lecturers of Tatra Banka, but external suppliers who are considered to be at the top of the market are also invited to help (Tatra Banka, 2019).

Billa (2019) mentions the benefits in the dual system of education and training in the form of work experience right from the beginning, individual career development under the supervision of experts, job guarantee, financial and motivational benefits, the opportunity to be part of a large team of a stable multinational company and material benefits (work clothes, work aids, pleasant working environment).

Volkswagen Slovakia also joined the dual system of education and training. "We opened a dual academy for high school students together with our partners in 2016, so we are still gaining experience. However, it turns out that dual education and training brings benefits in the form of better education and greater awareness. With the current young generation, we would welcome greater interest in a foreign language," admits Michal Ambrovič.

Mokošová (2018) writes that the first ten students entered the first year of dual bachelor's studies in the automotive industry in the academic year 2017/2018. The pilot project is the result of cooperation between Volkswagen Slovakia and the Faculty of Mechanical Engineering of the Slovak University of Technology in Bratislava. The professionally-oriented four-year study has an above-standard length of practice directly at the Volkswagen Slovakia plant in Bratislava. "It is encouraging that the dual higher education project met with a positive response among students. We believe that they will prepare them well for the needs of the practice and after successful completion of their studies they will apply as our colleagues," said Eric Reuting, Member of the Board of VW SK for Personnel area.

Almost half of the bachelor's degree in the automotive industry consists of internships at Volkswagen Slovakia. During the entire program, the student is also entitled to a monthly corporate scholarship, depending on the achieved results. According to Ľubomír Šooš the dean of the Faculty of Mechanical Engineering of the Slovak University of Technology in Bratislava, the difference between the qualifications and structure of university graduates and the real need

for practice is constantly increasing. “The result is an army of unemployable graduates who graduated, on the one hand, and the acute shortage of skilled professions needed by industry, on the other. So let’s do something to change that. This is what our joint pilot project is about. “The bachelor’s degree in the automotive industry will take place for the first two years as for regular full-time students, but with a summer internship at the Bratislava plant. Students will work in Volkswagen throughout the third grade on specific tasks and projects with an assigned mentor, and they will also get a salary for their work. In the fourth year, they will return to the university and can obtain the experience they have obtained in creating a final bachelor’s thesis.

The pilot project of professionally oriented bachelor’s studies in the automotive industry, which Volkswagen Slovakia launched in cooperation with STU last autumn. It was a transitional form to accredit this study program. “Through it, we want to educate our experts according to our needs. We contacted other companies in the engineering industry and signed a memorandum on the introduction of dual study in an accredited form,” explains Michal Ambrovič, a spokesman for Volkswagen Slovakia. Volkswagen Slovakia, alongside with bachelor’s study programmes, offers student further opportunities. “We are pleased to be interested in the programs we offer students. We regularly receive applications for writing diploma theses, for students of technical fields we often find consultants. However, in many cases, we are contacted by students of the humanities, economics or management, but we are so sorry, but we cannot help them, because we are factory and we do not have experiences in this field.”

The internship of these students is 50 per cent and they have a mentor at the Volkswagen Slovakia plant for four years, and the student can ask him for help whenever he needs, so the networking process with the future employer takes place during their studies, which is beneficial for both parties,” explains Ambrovič. Volkswagen Slovakia also supports employees who have decided to study at a university in addition to employment, if it is necessary for the performance of their work. And what should change to get into the labour market more workforce, which is required by the structure of the industry in Slovakia? “Systematically change the financing of education to increase the share of internships during studies, schools are motivated and cooperate even more with industry,” emphasizes Michal Ambrovič (Mokošová, 2018).

The trainee program at Volkswagen Slovakia is intended for university graduates who want to develop their professional knowledge and are interested in their further professional growth. Activities in the Trainee program include work on projects; rotation in production and non-production departments related to the future position; language and computer courses and interactive training. It includes an internship abroad in a group. After the end of the program, its graduates are assigned to the selected position in the professional department.

According to the source NAY (2019), dualists from secondary schools commented on the dual system of education and training as follows:

“I decided on dual education and training so that I would not only have to go to school but also experience practice. I chose NAY because I like electronics and I am surrounded by it. I want to stay here after school.”

“What I enjoy the most is that I can gain experience in working life and I can make my own money. Our school is suitable for people who like to communicate with people and want to learn to work with the technology that is surrounded by us every day.”

“The biggest benefit is that we learn to communicate with customers, work with colleagues and get the right work habits. The advantage is the salary, thanks to which I have enough money and I don’t have to ask my parents.”

I like how the business works, what is behind the process to make everything work as it should. I’m looking forward to not having to look for a job after high school, but to have a job at NAY.”

Pravda (2020) presents other specific opinions of dual education and training programme graduates. One of the first graduates of the dual system of education and training at the department of car repair and mechanics at secondary motoring school in Trnava and in company Auto Impex, says about dual system of education and training: “As a graduate of a dual education and training programme, I already knew how it works in the company when I started to work here. You can say that I grew up in it, I ran directly into the system. I already met people, I knew what a job it was. From the first year, we got used to the running of the company, we even “beeped” every morning, so even this was no new for us as employees. We already had the benefits that employees have as students. We had the advantage that we didn’t have to go to the employment office or anything like that, after school, we started working right away. I would definitely recommend the dual

system of education and training to current students. I see a big positive in that. Already during their studies, they are practically preparing, they get used to work and to the team. In addition, they can earn money. Another graduate (girl) of the Secondary School of Commerce and Services of S. Jurkovič in Bratislava, currently the deputy head of the DM drugstore market for dual education and training, states: “Participating in the dual system of education and training was such a certainty for me. I knew that after school I had a certain place that I could work where I knew it and where they knew me. And that I will do what I already know and what I enjoy. The advantage of the dual system of education and training is that you have theoretical knowledge and practical experience right after school. And that helped me move up my career very quickly.”

Pravda (2018) published other specific experiences of students involved in the dual system of education and training.

- **a student (boy) of the Department of Electrical Mechanics at the Secondary Vocational Technical School in Vrábľe** (this is a four-year field of study whose graduates receive a full secondary vocational education. They work independently on electrical equipment, including construction, production, assembly and operation of electrical equipment, food and other industries, but especially in electrical engineering).

“The most interesting thing is to monitor and learn how to operate machines and control them using computers. At the end of the ninth grade, I decided which high school to go to. I searched the internet and noticed the school I’m studying now. I had one more advance, but when I saw this field, I was sure I wanted to study it. From the beginning, I was determined to want to study as a dual student. I don’t regret it, because it has many advantages, especially that I can practice directly in the company, and some high school students do not have this option. “

- **a student in the field of mechatronics mechanics at the Secondary Vocational School in Dubnica nad Váhom** (the study field is a combination of mechanical engineering, electrical engineering, electronics, informatics, control systems and a whole range of other systems in contact with the latest technologies and processes).

“I consider the dual system to be beneficial mainly because of its essence, i.e. the connection of theory with practice. What we learn, we are going to try. At school, we have furnaces and programs on which we learn machining. This is one part and the other is training in the company, which allowed me to go to a course in Germany,” says Andrej. “The scope of my work is reading drawings and subsequent automation of devices, wiring, production of components from mechanical engineering, wiring from electrical engineering,” he says. “I chose this field because it has a wide range of specializations. So it was mainly decided that as a graduate of this field I will be comprehensively prepared,” he concluded.

- **a student of the mechanic adjuster department at the Secondary Vocational Technical School in Zlaté Moravce:**

“The graduate will go through all areas, such as manual processing, conventional and unconventional machining, setting, machine sorting, plus the mentioned tool technician, this is a field that has a job,” said the mechanic of the adjuster, director of the Secondary Technical School in Zlaté Moravce.

“Studying my field requires imagination and especially interest because everyone who wants to learn something will learn it without any problems. I got to my future profession thanks to my brother and now I recommend it to others. “

- **a student of the sales department of the Secondary Vocational School of Trade and Services of Samuel Jurkovič in Bratislava:**

It is studied for four years and the graduate will receive an apprenticeship certificate and a school-leaving certificate after graduation. “Above all, students learn to get to know the operation of the store, from the very beginning. From where the goods are ordered, how they are received, stored, treated, appreciated, how they should be stored in the store to the sales process itself and the subsequent processing of documentation,” said the school principal.

If students choose to study it dually, they have a variety of employers to choose from. “I’ve learned a lot in the dual system,” says Oliver. “My father brought me to this department. My favourite business is working with a customer.”

- **a student of the metalworking department at the Secondary School of Mechanical Engineering in Považská Bystrica:**

This field allows the student to acquire knowledge and skills necessary for work on lathes, milling machines, grinders, drills. After graduating from school, he is also ready to join the work process in machining by turning, milling, drilling and grinding, thanks to practical training at the employer in the dual system of education and training.

“The results of the work of metalworkers can be found everywhere. Everything made of metal is mostly from us. Anyway, it had to be made by someone who had learned mechanical engineering,” Miroslav thought. “I enjoy turning the most and I would like to work with it in the future as part of my job.”

Miroslav also considers it is very important that they work with the latest technologies as students. “A metalworker should be able to machine machining, computer machining, as in the case of CNC machines, and also manual metalworking. So I control partly plumbing, locksmithing, milling machines, grinders, lathes, drills, CNC milling machines and CNC lathes. You can also do various welding courses, which I will also do,” said Miroslav. The dual system of education and training in which he studies his field is an advantage, especially because he has a future in mind he says. „After school, the employer I work with can keep me in the company. “

- **a student of the rubber and pastoral production operator at the Secondary Vocational School in Púchov:**

Our field is focused on the processing of rubber and plastics and belongs to the group of fields of applied chemistry. “In Slovakia, the rubber and plastics industry is a fairly important component as a supplier to the automotive industry. Therefore,



this field of the study prepares a future expert for the needs of the chemical industry with a focus on new technologies and sustainable industry, “said the school principal. “This department is in charge of the course and proper functioning of the line that processes rubber or plastics. I make sure that everything goes as it should and if a fault or other problem occurs, I have to report it.

We can use the latest lines. It is a newer and easier way, as everything is fully automated, but there need to still be a person on the line as a supervisor,” explained Ľuboš. “I get a school-leaving certificate and an apprenticeship certificate and, besides, I have a contract with my employer, based on which I can start working,” he talks about the benefits of the dual system of education and training.

The theory alternates with practice, so it’s not monotonous. Plus, he also sees that he can try things out. In addition to his work, Ľuboš also plans to finish university. “We are students with experience, this is a plus for us, and after college, it should be even better, so then some career growth is possible,” he concluded. Continental Matador Rubber, where it is practically trained, itself supports university studies because they also need highly qualified employees.

- **a student in the field of the operator of operation and economics of transport at the Transport Academy in Trenčín:**

This four-year department is intended for all those who love technology, and especially the railway industry. Today, this is a highly sought-after field on the part of the employer, where graduates find employment in the field of long-distance line management on various types of security devices, find employment as dispatchers, traffic supervisors, technologists, traffic dispatchers, control dispatchers, traffic controllers or transport deputies.

“My father is a storyteller, he took me to the railway from an early age, and I’m also interested in trains,” says Filip. He claims that he would not want to work in the office, he is

attracted by the work of a dispatcher and he directly touches the traffic. In his own words, he will gain better practice in this way. “I will already know what awaits me after finishing school, I will already be able to control several things. It’s better than just learning the theory and not having practice because those who finish school and have no practice will not believe in me and it will be harder for them to start,” he thinks.

- **a student who is studying at the Secondary School in Pruské, Department of Agriculture – Mechanization:**

It is a three-year apprenticeship, which is designed specifically for boys and has the task of preparing them for working on farms. Graduates who go into practice must master the basics of plant and animal production, mechanization, repairs and driving a tractor, or they can also obtain a driver’s license to drive a car. The graduate of this department covers the entire mechanization part. “We have it in the family, my great-grandfather was a farmer and even had the first tractor in Horná Súča”, says Ondrej.

- **a student of the department of food workers – production of durable foods at the Secondary Vocational School of Trade and Services in Prievidza:**

It is a three-year apprenticeship, which ends with a final exam. Its graduate has professional knowledge and practical skills in food production, has mastered production technology and machinery in the food industry. From the very beginning, the students in the dual education and training programme are in contact with the technological equipment, with the production lines, with the warehouse space of a specific company, as well as with its employees.

“A food professional need to be able to create a final product from raw materials that are imported into the company or produced directly in the company. Besides its task is to take care of the machines themselves. The most interesting is the production. “How it’s all packed, the whole production process,” thinks Karin.

- **a student of the chef's department at the Hotel Academy in Liptovský Mikuláš:**

It is a three-year study department ending with a final exam. During it, students will learn how to prepare cold and hot dishes for ordinary and festive occasions or communicate in a foreign language, and in the dual system of education and training, they will also gain experience in real operations. "A chef is a person who knows everything about it, is constantly educated and also is brave.

The globalization of the world and gastronomy has brought with it world-class customers who are demanding, and this creates space for creative chefs to realize themselves, "said the director of the Hotel Academy in Liptovský Mikuláš about the department. "A good chef should be interested in cooking, knowing that he wants to pay attention to it, and be able to put emotion into the preparation of food." I often go to the store, buy some fish, for example, and prepare it as I want. I try new recipes, they are from my head, I try new tastes or herbs," explained Matúš.

"They don't take me as an apprentice, but as a colleague. I feel equal, even though my colleagues have, of course, more experience, they are older and better, they will always help me," Matúš described how it goes in the dual system of education and training (Pravda, 2018).

#### **4.3.4 Strengths and weaknesses of the dual system of education and training in the Slovak Republic**

The dual system of education and training, which is aimed at preparing a quality skilled workforce directly in practice, should, in our opinion, be a systemic long-term sustainable solution with long-term outcomes and long-term effects for the changing labour market.

Madzinová et al. (2018) name the individual benefits of the dual system of education and training. One of the positive and necessary facts is the connection of secondary vocational schools to practice, as the practical training of students in the dual system of education and training corresponds to a greater extent to real working conditions on

the labour market. Students acquire work habits already during their studies, which leads to their natural adaptation to the work teams of future employers, and at the same time, the adaptation phase at the beginning of employment is shortened. In this context, at the same time, there is faster achievement of work performance with better pay, which ultimately means a competitive advantage for students involved in the dual system of education and training to enter the labour market. The student even has the opportunity to conclude a contract on a future employment contract with the employer within the apprenticeship contract, which gives him a certain degree of security of the first job or shortens the time to look for the first job after graduation, of course, if the student decides to continue studying at university.

Another positive of the dual system of education and training is, according to the above-cited authors, the building of a society-wide awareness of the real results of the system, which can have a positive effect on students 'or their parents' decisions about the future of the secondary school, resp. professional direction. Students in the dual system of education and training receive an education that allows them to apply more easily in the labour market, and on the other hand, companies are gradually beginning to realize that by preparing a quality student, respectively. The future employee can gain a competitive advantage in the market. Based on this, it is currently possible to observe the efforts of companies to get as many such students as possible. At the same time, there is a growing trend of positive perception of companies involved in the dual system of education and training in the regions.

Another of the strengths of the dual system of education and training is its positive impact on the marketing of secondary vocational schools. In secondary vocational schools that have joined the system, there is a growing interest in education in fields that are not part of the system, which ultimately puts pressure on schools to try to develop activities concerning employers. *Also, the schools involved in the system find it easier to access costly and modern facilities.*

Furthermore, it can be observed that within the dual system of education and training, cooperation between schools and employers is improving. The improvement of cooperation is reflected mainly in the more active approach of employers to the process of creating school educational programs, which makes them more significantly involved in creating the profile of the graduate and the content of education. Overall, we also evaluate positively the increase in the overall

motivation of students, who achieve better benefits and have better attendance as well as discipline. Students are motivated financially by employers in the form of corporate scholarships, but also non-financially, by the influence of real working conditions and by organizing various events, competitions, team-buildings and various other benefits.

At the same time, the positive aspect of the system is the topicality of educational programs and their content, as well as the possibility of flexibility in their adjustment. The curricula are practically targeted for individual disciplines, which leads to the development of professions linked to the needs of the market. At the same time, there is a synergistic effect of shifting knowledge in the triangle of students, school and employer, say Madzinová et al. (2018).

According to Slovak Agriculture and Food Chamber (2019), the strengths of the dual system of education and training include:

- the acquisition of a highly qualified workforce and its smooth transition from education to the labour market;
- acquisition of qualifications and experience directly with the employer;
- acquisition of work habits directly in the production process at the employer;
- teaching on new technologies directly at the employer;
- the responsibility of employers for the practical part of education;
- the influence of employers on the content of vocational training;
- topicality of professional educational programs and their content, possibility of flexibility in adjustment;
- verification of the graduate's knowledge by the employer at the end of the study;
- selection of students for the dual system of education and training directly by the employer and admission of the student to school with the consent of the employer;
- supervision of employers' associations over the dual system of education and training;
- financial and material security of the student by the employer;
- close cooperation between the company, school and student;
- practically targeted curricula for individual fields;
- development of professions linked to market needs;
- high probability of obtaining an employment contract with the employer.

According to Slovak Agriculture and Food Chamber (2019), the opportunities for dual system of education and training include:

- increasing the employment of high school graduates;
- an opportunity for young people to receive quality vocational training;
- improving the level of professional competencies and work ethic of graduates;
- real work, social situations and the acquisition of “corporate culture”;
- selection of suitable graduates and their employment for the company’s own needs;
- creating educational programs according to the requirements and needs of employers;
- strengthening the social status and attractiveness of craft professions - the status of “honest craft”;
- completion and strengthening of professional centres and professional organizations and vocational education and training centres;
- unification of the content and complexity of qualification exams, qualification levels;
- the interest of the state and the willingness of foreign chambers to support the development of the dual system of education and training with their own experience;
- increasing the competitiveness of companies and Slovakia;
- through good examples, the gradual involvement of employers in vocational education and training through the dual system of education and training;
- the entry of employers into raising the professional level of teachers of vocational subjects and VET teachers.

The employer’s benefits from participation in the dual system of education and training, according to Slovak Agriculture and Food Chamber (2019), include:

- the employer participating in vocational training has a good reputation and is positively perceived by its partners and the public. In a market-oriented economic environment, a positive image of the employer is a significant competitive advantage;
- students in the dual system of education and training already perform productive work for the employer during the training period, depending on the age and acquired skills and experience

of the students can cover the total costs of the dual system of education and training;

- regular training of students with the subsequent recruitment of young people protects the employer against the ageing of the workforce and always guarantees a “fresh wind” for the employees;
- student training also serves to maintain a high level of qualification of the employer’s workers, so that the company providing the training always remains at the forefront of technological innovation. The productivity of a technician working with a student will increase by 10 to 20%;
- the employer can use the dual system of education and training to prepare his future employee exactly for the technologies and production equipment that he uses in his business activity;
- the dual system of education and training serves not only on the reproduction of human resources, but also for the needs of the labour market, the employer creates the preconditions for company development and increasing the number of employees, and is ready to respond quickly to increased customer requirements, its business sector;
- recruitment of qualified professionals (from the definition of a vacancy to the selection of candidates, including the actual recruitment and training of new employees) is a time-consuming and costly process, so the dual system of education and training students and their subsequent transition to an employee saves significant costs in technically demanding professions;
- employers who educate students know their potential future employees. Their inclusion in the work teams reduces the time needed to get acquainted with the operation and smooth integration into the team, and also reduces the time required to achieve the required work performance, which reduces the employer’s costs and, conversely, increases his income;
- the positive attitude of the employer to the education of employees’ children leads to a generational tradition in the profession, which guarantees employers a smooth renewal of the workforce with a high share of loyalty to the employer.

The benefits of the school from participation in the dual system of education and training presented by vocational schools abroad according to Slovak Agriculture and Food Chamber (2019) are:

- active participation of the employer in the recruitment of students for the dual system of education and training;
- current connection of theoretical education at school with practical education in real conditions at employers;
- involvement of professional teachers in innovative education at the employer (in the form of innovative training and professional internships of teachers at the employer);
- material, technical and other support of vocational education at school by the employer;
- performance of the practical part of the final or school-leaving examination at the employer and participation of the employer's examining representative in the commission at the end of the study;
- motivation of students for the dual system of education and training and also for theoretical teaching at school with tools such as motivational scholarships from the state, corporate scholarships from the employer, remuneration for productive work and other forms of a material provision of the student by the employer;
- cooperation of the employer on updating the school educational program and model curricula and model curricula for the dual system of education and training;
- positive perception of the school by society etc.;
- a fixed place of the school within the school network.

Student benefits from participation in the dual system of education and training, according to Slovak Agriculture and Food Chamber (2019), are:

- preparation for a profession in real conditions with the employer;
- acquiring work habits directly during the study;
- vocational training using the latest technologies, equipment and materials;
- improving the financial status of the family through incentive scholarships, corporate scholarships, remuneration for productive work and other material security by the employer;
- the possibility to extend the apprenticeship contract to a contract on a future employment contract or to an employment contract concluded with the employer;
- inclusion of the student in the work team of the future employer;



- shortening the adaptation phase when entering employment and achieving work performance faster with better wage evaluation;
- competitive advantage for employment.

The State Institute for Vocational Education defines in the Manual of Implementation of the Dual Education System for Employers, Secondary Vocational Schools and Founders the following benefits of employers from participation in the system, based on application practice of selected countries with a long tradition of the dual system of education and training such as Germany, Austria, Switzerland, England, the USA, which are also expected for the dual system of education and training system in Slovakia.

- a. a good reputation and positive perception of the employer participating in the dual system of education and training by its partners and the public - in a market-oriented economy, a positive image and good reputation of the company is a significant competitive advantage,
- b. continuous preparation and education of students with their subsequent recruitment protects the employer from the ageing of the workforce,
- c. the training of students is necessary to maintain a high level of qualification of the employees; it is assumed that the undertaking providing the training remains at the forefront of technological innovation. At the same time, it is assumed that the labour productivity of an employee who works with a student will increase by 10-20%,
- d. by means of dual education and training, the employer can educate the future employee exactly according to his needs,
- e. creating preconditions for the development of the company in the dual system of education and training - which on the one hand plays the role of reproduction of human resources of the company, but also for labour market needs - creates an opportunity for employees to increase the quality of their workforce, and thus, have a higher competitive advantage compared to other organizations,
- f. with the participation in the dual system of education and training, it comes to a reduction of costs associated with the recruitment of qualified workers, which is also time-consuming. The preparation of students in the dual system of education and

- training and their subsequent transition to employment saves the employer's time and money,
- g. there is a presumption that employees who have undergone training for employment directly with the employer have a lower tendency to change employers, which means a further reduction in the employer's costs associated with employee turnover,
  - h. training of its future employees and their inclusion in the work team reduces the time needed to adapt the employee to the work process and thus shortens the time needed to achieve the required work performance, which also reduces the employer's costs and at the same time increases his income,
  - i. the education of employees' children leads to a generational change, which guarantees employers a smooth renewal of their workforce with an expected high share of loyalty to the employer,
  - j. the employer obtains financial benefits for the provision of practical training (SIVE, 2018, as cited in Madzinová et al., 2018).

As Beracka (2019) currently writes, we still have reserves in the dual system of education and training, but the employers themselves evaluate the whole project positively. Companies educate future employees in the dual system of education and training. The dual system of education and training has been running for three years and the capacity is still insufficient for market needs. At the same time, employers complain about the inefficiency of secondary education. The dual system of education and training currently affects about four thousand students. According to current data from the cited source, 3,970 students were involved in the dual system of education and training at the end of October 2018. The number of employers reached 631 by the same deadline. Students can study in 231 schools, in 161 fields of study and teaching within the dual system of education and training. When evaluating the share of sectors according to the number of students, the first places are the engineering-automotive sector, the electrical engineering sector and the trade and services sector. Within the regional distribution of the reform, most students learn in the Trenčín self-governing region, followed by the Žilina, Nitra and Bratislava self-governing regions (listed by the Industrial Associations (IA). Although the number of students involved in the dual system of

education and training is expected to increase to 12,000 students by 2020, employers claim that they lack up to around 45,000 workers in industrial sectors.

As mentioned above, in 2018, an amendment to Act no. 61/2015 Coll. on vocational education and training, which to some extent changes the dual system of education and training and adapts it to the current needs and conditions of society. The amendment removes some barriers to the entry of secondary vocational schools and employers into this system. Such was, for example, the reduction of the wage norm for practical training. By removing this barrier, it is possible to increase the active approach of secondary vocational schools in concluding cooperation with employers. Another important element is the increase in the share of practical training with another employer operating in the dual system of education and training. This measure is intended primarily for self-employed persons and small enterprises that do not have their capacity to meet the material, technical and spatial equipment or staffing for the performance of practical training. In this context, Pasternáková and Lajčín (2012) draw attention to innovative forms of education of students not only in the conditions of secondary vocational schools, and Lajčín, Sláviková and Várkoly (2014) write about how a particular university can contribute to this with its activities.

However, despite the appraisal of the dual system of education and training, employers have serious reservations about the functioning of Slovak education. According to data, up to 63% of high school graduates do not work in their field, while up to 38% of companies reject contracts for lack of labour. Thus, employers complain that the number of students remains “stuck” in unpromising fields of study that are not currently needed by the labour market (in more detail, e.g. Dušek et al., 2015; Dušek, 2010; Dušek, 2012 or Dušek et al., 2017 and other authors). Employers say that the situation is costing the company. Inefficient annual spending on secondary education alone is 250 million €, plus additional resources are needed for retraining, says IA.

## **5 THE DUAL SYSTEM OF EDUCATION AND TRAINING IN THE SLOVAK REPUBLIC**

The fifth chapter of the scientific monograph will also consist of a summary of findings and results using appropriate methods of scientific work and discussion of the acquired knowledge. In the final part of the chapter, we present recommendations for practice, which are based on the theoretical elaboration of the topic and other information obtained directly from the field. The recommendations are formulated in such a way as to contribute both to increasing the quality of the dual system of education and training in the conditions of a specific company, but also to improving the practice of the dual system of education and training in a more global context.

In this context, we state that the Ministry of Education, Science, Research and Sports of the Slovak Republic has become the coordinator of the international project National Centres for Vocational Education - Introduction of Elements of Dual Vocational Education and Training in the Slovak Republic, which is co-financed by the European Commission under ERASMUS +. The project aims to support the solution of high youth unemployment in the Danube region, in contrast to the lack of workforce. Its intention is to contribute to the further modernization of the vocational education system in Slovakia and thus provide an impetus for other countries in the Danube region. The transfer of positive experiences from Austria and Germany (Baden-Württemberg) should contribute to the creation of compatible education systems in the Danube region. The project is the flagship project of the European Union Strategy for the Danube Region. The aim of the project is to contribute to a comprehensive reform of the system of vocational education and training, not only at the system level, but also by analysing the experience of pilot projects implemented within the manufacturing sector in Slovakia. By improving the quality of practical training for employers, the project can contribute to the implementation of the Europe 2020 strategy and the Bruges Communiqué. Expected concrete results of the project:

1. support for the reform of the vocational education and training system in the Slovak Republic;
2. creation of a project of a competence centre for the dual system of education and training, focused on the education of teachers

- of practical training and the transfer of experience to other countries of the Danube region;
3. strengthening the support and mobilization of small and medium-sized enterprises and enterprises for participation in the dual system of education and training;
  4. continuous exchange of experience in the field of practical training with the employer (in detail <https://www.dunajskas-trategia.vlada.gov.sk/strategia-cu-pre-dunajsky-region/>).

According to TASR (2019), a significant reform of the dual system of education and training succeeded in increasing the interest in the dual system of education and training on the part of employers and students to the extent that the fulfilment of the objectives of the national project should not be jeopardized. This was stated by the Minister of Education, Science, Research and Sports Martina Lubyová in Nitra during the Gaudeamus trade fair. *“The aim of the project was to involve 12,000 students in the dual system of education and training by the end of 2020. The beginnings were very embarrassing, we even threatened to return large sums of money to Brussels. However, the measures taken were successful and the aim of the project should be successfully met in the next school year. We need to reach the limit of 80 percent of the planned aim, which represents 10,500 students,”* said Lubyová.

The dual education and training project has been implemented in Slovakia within the Human Resources Operational Programme since 2016. In the first school year, 450 students were involved in the system, in the second year 1,200 students and in the third approximately 2,100 students. The average annual increase during the first three years was 1,200 students. *“It was clear that at this pace the aims of the project would not be met. We have therefore undertaken a significant reform of the Human Resources Operational Program, in particular through the setting of new legislation.”* stated the minister. According to her, the changes consisted mainly in the removal of bureaucratic barriers for employers to enter the system, the introduction of direct payments that stimulate employers, but also in increasing cooperation between employers in providing practical education and training. We have increased the attractiveness of taking part in the dual system of education and training for students by increasing the possibilities of their evaluation within the framework of dual practice,” said Lubyová.

The introduction of changes resulted in 2750 students enrolling in the dual system of education and training in this school year (2019/2020), which is a 130 percent increase compared to the previous school year and an increase of up to 220 percent compared to the annual average for the three-year project implementation period. *“We are approaching the limit of 7,000 students in the system and new employers are still registering, who offer more than 300 additional study places,”* confirmed the Minister of Education. *“Thanks to the new improved departmental information system, we can also say that other approximately 4,500 students in the system are educated according to the new innovated state education plan for the dual system of education and training. We are now checking how many of them are also involved in the internship at the employer, according to preliminary data, there should be at least 2,000 of them.* So with them, 9,000 students are already involved in the dual system of education and training,” confirmed Lubyová. Currently, 725 establishments and employers offer teaching places in Slovakia, and 176 vocational schools are involved in the dual education system, as stated TASR (2019).

Seněši (2019) also states that participation in the dual system of education and training can mean interesting financial and non-financial benefits for the company. According to the cited author, in practice, the dual system of education and training means such a system of education at secondary vocational schools, within which students of such schools perform the practical part of teaching directly with an employer. In the dual system of education and training, the student completes the practical part of teaching directly with the employer. In the dual system of education and training, a student of a secondary vocational school prepares for the performance of a profession or for the performance of professional activities according to the specific needs and requirements of the employer. The student thus completes the theoretical part of education at school and the practical part directly at the employer’s workplace. By participating in the dual system of education and training, the employer can “educate” future employees who will fully meet his qualification requirements. The dual system of education and training brings several benefits for employers, schools and students themselves (Gábriš, 2019; Krásna et al., 2019; Barnová et al., 2020).

Conditions for participation in the dual system of education and training - the dual system of education and training is regulated by Act no. 61/2015 Coll. on Vocational Education and Training and on

Amendments to Certain Acts, as amended (hereinafter also referred to as the “Act on Vocational Education and Training” in the appropriate word form). An employer who wants to participate in the dual system of education and training needs to be able to provide practical training in the dual system of education and training. The Vocational Education and Training Act does not determine the employer’s ability to participate in the dual system of education and training by any specific and measurable conditions (for example, number of employees, annual turnover or subject of activity). (Seněši, 2019).

At the request of the employer, his ability to provide practical training in a particular field of study is evaluated by the relevant professional or professional organization. These are the Slovak Chamber of Commerce and Industry, the Slovak Chamber of Commerce, the Slovak Chamber of Agriculture and Food, the Slovak Forestry Chamber, the Slovak Mining Chamber and other legal entities with competence in the field of vocational education and training. In addition to them, employers’ representatives, such as the Association of Employers’ Unions and Associations of the Slovak Republic or the Republican Union of Employers, may also evaluate the employer’s ability to participate in the dual system of education and training.

Seněši (2019) further states that the company’s suitability for the dual system of education and training is evaluated by professional organizations - if an entrepreneur wants to join the dual education system, he needs to first submit a written request to the relevant professional organization to verify the employer’s ability to provide practical training in the dual system of education and training. In addition to data on the company, it should also contain the field of study or teaching in which it will provide practical training, the number of students whose employer expects to prepare in the dual system of education and training or the expected number of VET trainers and the chief instructors (§ 12 Section 2 of the Act on Vocational Education and Training). At the same time, the employer needs to enclose a document authorizing him to perform an activity that corresponds to the content of education in the given field of study, several affidavits and an extract from the criminal record.

On the basis of this written request, within 15 working days from the date of its receipt, the relevant organization shall forward the request to its commission set up to evaluate this competence. Subsequently, the commission thus established will evaluate, within 45 working days, the employer’s ability to participate in the dual system

of education and training. An important part of this evaluation will be the inspection of the premises in which the practical teaching is to take place and their material and technical provision.

If the employer fulfils the conditions for the provision of practical training in the dual system of education and training, the relevant professional organization shall issue him with a certificate of the employer's ability to provide practical training in the dual system of education and training. It is valid for seven years. Given that up to two months may elapse between the submission of an application for verification of competence and the issuance of a certificate, it is appropriate for the entrepreneur to deal with any involvement in the dual system of education and training well in advance. (Seněši, 2019).

Seněši (2019) writes that after the employer obtains a certificate of competence, he can contact a secondary vocational school for cooperation in the dual system of education and training. Which secondary vocational school is chosen by the employer is solely up to him, and in this connection, there are no restrictions laid down by the Act on Vocational Education and Training. However, the choice of a secondary vocational school needs to, of course, correspond to the subject of the employer's activity, so that students involved in the dual system of education and training acquire knowledge corresponding to the focus of their field of study. Therefore, an employer in mechanical engineering should address, for example, a secondary industrial school of mechanical engineering and not a business academy. Negotiations will follow between the secondary vocational school and employers, within which they will agree on the conditions of cooperation in the provision of the dual system of education and training. If they agree, they will conclude a dual education contract, which needs to contain several essential requirements under the Vocational Education and Training Act.

The above-cited author lists selected essentials of the dual education contract concluded between the secondary vocational school and the employer:

- the field of study in which the employer will provide practical training;
- the number of students to whom the employer will provide practical training;
- form of practical training (vocational training, a professional practice or practical training);



- place of practical training and its scope, the number of VET trainers or the number of VET teachers employed at the workplace;
- the number of VET trainers or VET teachers employed by the vocational school under the guidance of which students will be provided with practical training if the employer does not have VET trainers or VET teachers or their number is lower than required;
- the number of chief instructors and instructors if the student carries out practical training under the guidance of a chief instructor or instructor;
- schedule of practical teaching following the established organization of education in secondary schools;
- the method of participation of the main instructor and the instructor in the evaluation and classification of the student;
- the method of financial provision for practical training, if part of the practical training is carried out in a workshop;
- the method of financial provision for VET trainers and VET teachers employed by the vocational school under the guidance of which the students will be provide with practical training;
- the method of financial provision of the practical exercise, if the practical exercise is performed at the workplace of practical teaching;
- material security of the student (for example, evaluation of medical fitness, personal protective equipment, meals of the student);
- financial security of the student (reward for productive work, motivational scholarship, corporate scholarship);
- the method of participation of the employer in the final examination, the professional component of the graduate examination or graduate examination (Senéši, 2019).

The dual education contract needs to have writing form and needs to be concluded for at least the period corresponding to the length of study of the relevant field of study. Before the expiry of this period, it may be terminated only in exceptional cases defined by the Vocational Education and Training Act. Following the conclusion of a dual education contract, the employer and the secondary vocational school need to publish on their websites a notice on the possibility of completing vocational education and training in

the relevant field of study in the dual system of education and training. Entrepreneurs involved in the dual system of education and training are then published on a special website. It is also important to mention that the employer can cooperate in the dual system of education and training not only with one but also with several secondary vocational schools (Gábriš, 2019; Krásna et al., 2019; Barnová et al., 2020).

It follows from the Act on Vocational Education and Training that the criteria for the selection of students to participate in the dual system of education and training at the employer are determined by the employer. Following the conclusion of the dual education contract, together with further details, these criteria for successful candidates will also be published on the website of the secondary vocational school and the employer. This will be followed by the division of tasks in recruiting students between the school and the employer. Student selection criteria are determined by the employer and may include various forms of the selection process, such as various tests, skill tests or even personal interviews. The employer will issue a certificate of vocational education and training of the student in the dual system of education and training to the selected candidate. The applicant is obliged to attach this confirmation to the application for study at a secondary vocational school.

From the above mentioned, according to the author Seněši (2019), it follows that the selection of suitable candidates (future students) who will participate in the dual system of education and training at workplace should ideally be made well in advance of the deadline for applications for a vocational school. Therefore, it needs to be no later than April 10, which is according to § 63 par. 2 of Act no. 245/2008 Coll. on Education and Training (School Act) and on Amendment of Certain Acts, as amended, on the last day when it is possible to apply for a secondary school.

Subsequently, the employer will conclude a so-called “apprenticeship contract” with the legal representatives (if the applicants are not of legal age yet) of successfully admitted candidates for study no later than 15th September of the relevant school year in which the student entered the first year of secondary vocational school. It regulates the mutual rights and obligations of the employer and the student in the dual system of education and training, but also, for example, the scope of practical training at the employer (number of hours of practical training in individual years).

If the required capacity of the number of students planned for the dual system of education and training is not met by 15<sup>th</sup> September of the first year, the Vocational Education and Training Act allows the employer in cooperation with the school to admit students to dual system of education and training and conclude with their legal representatives (if they are not of legal age yet) the apprenticeship contract until 31<sup>st</sup> January of the first year. For the sake of completeness, we state that the Act on Vocational Education and Training does not allow students of higher grades of secondary vocational school (students of the second, third, fourth grade) to participate in the dual system of education and training. A student can join the dual system of education and training no later than the end of the first half of the first year of secondary vocational school. The apprenticeship contract is concluded for a definite period, in principle for the entire duration of the student's studies at a secondary vocational school. It can be terminated only for precisely stated reasons, for example, if a student transfers to another secondary school, the student violates the internal regulations of the employer or if he does not participate in practical training without justification (§ 19 of the Vocational Education and Training Act) (Seněši, 2019).

Benefits of the dual system of education and training for school, student and company, according to Seněši (2019) - by participating in the dual system of education and training, the school builds its good image. Such a school is a guarantee of the quality and timeliness of vocational education. By participating in the dual system of education and training, the school confirms that it can educate suitable graduates who know how to apply in the labour market. The school's involvement in the dual system of education and training can play an important role for primary school students and their parents in choosing a department of education and choosing a secondary school. The school involved in the dual system of education and training is not only positively perceived not only by the public but also by employers and business associations. A very important aspect is also that in a school involved in the dual system of education and training the theory does not lag behind the practice, as school teachers can also actively participate in the dual system of education and training in real conditions at the employer. The advantage of the dual system of education and training is that the employer will provide the school with material, technical and vocational training (modern machines, equipment and approaches).

A student who completed a dual education and training programme with his employer receives many benefits. In the first place, he gains

a great competitive advantage when entering the labour market. In the future, he may extend the apprenticeship contract with the current employer with whom he is undergoing dual training to include a contract on a future employment contract with the same employer. However, the ideal vocational training for a secondary vocational school student may not be everything that the dual system of education and training will bring him. A student participating in the dual system of education and training is entitled to a remuneration of at least 50% of the hourly minimum wage for each hour of productive work performed under the Vocational Education and Training Act (at least 1.49 euro per hour in 2019). In case of good achievement, this student can receive a monthly motivational scholarship up to 65% of the subsistence level (up to 30th June 2019 maximum of 60.85 euros per month). The company, in turn, may decide, according to its criteria, to provide the student with a corporate scholarship (monthly during the school year, up to a maximum of four times the amount of the subsistence minimum). Besides, the employer is obliged to provide the student participating in the dual system of education and training with a meal allowance in the same amount and scope as to his regular employee. (Senéši, 2019).

As Senéši (2019) states, the company educates the ideal employee by participating in the dual system of education and training - for the employer, participation in the dual system of education and training is advantageous for several reasons. Perhaps at present, the biggest advantage of the dual system of education and training can be perceived as the fact that the employer thus secures a highly qualified workforce that fully meets his criteria - he is preparing his future employee. He thus has no problem finding suitable candidates for filling vacancies, which also reduces the cost of this activity. It is also possible to say that the involvement of the employer in the dual system of education and training also means a good reputation in the eyes of other entrepreneurs and the public. Employees who have previously completed dual training with their employer are already well acquainted with their employer's working conditions, so they are less likely to be disappointed with this job and leave their jobs unexpectedly. Other benefits for the employer are related to income tax, levies and contributions that can be obtained for the dual system of education and training. To make participation in the dual system of education and training even more motivating for employers, the state decided to support it with various financial benefits. A tax benefit can be quite attractive for employers, through which an employer involved in the dual system of education

and training can reduce the income tax base by a considerable amount for each student who participates in the dual system of education and training in more than 200 hours of practical training in the tax period. This item reducing the income tax base is regulated in § 17 par. 37 of Act no. 595/2003 Coll. on income tax, as amended. The tax base of a taxpayer who provides practical instruction to a student based on an apprenticeship contract shall be reduced in the tax period by:

- 3 200 euros per student if the taxpayer provides more than 400 hours of practical training in the tax period;
- 1,600 euros per student if the taxpayer provides more than 200 hours of practical training during the tax period.

It is also important for entrepreneurs to mention the advantage that the obligatory remuneration for productive work to the student (and possibly also the voluntary company scholarship) is not subject to social or health insurance. (Senéši, 2019).

In addition to tax and levy benefits, employers will also receive a direct financial contribution. In addition to the above-mentioned benefits, each employer can also receive a direct financial payment for active participation in the dual system of education and training in the form of a contribution to the provision of practical training in the dual system of education and training. This financial contribution is paid to the employer by the Ministry of Education, Science, Research and Sports of the Slovak Republic Entitlement to the allowance for the provision of practical teaching in the dual system of education and training arises for the employer for each student with whom he has concluded an apprenticeship contract in the school year in which he first began providing this student with practical teaching in the dual system of education and training. The allowance needs to be applied for by 31<sup>st</sup> March of the relevant school year in which the employer provides the student with practical training in the dual system of education and training. The allowance will be provided to the employer for each student once a year on 30th June of the relevant school year in which the employer provided the student with practical training in the dual system of education and training.<sup>4</sup>

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<sup>4</sup> A Until 31st March 2020, employers involved in the dual education system may apply for a dual education allowance. Its provider is the Ministry of Education, Science, Research and Sports of the Slovak Republic and the applications will be administered by the State Institute of Vocational Education, a directly managed organization of the ministry. The contribution for the provision of practical teaching in the system of dual education is provided, based on Act No. 61/2015 Coll. on vocational education and training, as amended.

The contribution to the provision of practical teaching in the system of the dual system of education and training is:

- in the amount of 1 000 euros per student in the school year for a small or medium-sized enterprise;<sup>5</sup>
- in the amount of 700 euros per student in the school year for an employer who has provided the student with practical instruction of more than 400 hours during the school year; or
- in the amount of EUR 300 per student in the school year for an employer who provided the student with practical instruction in the range of 200 to 400 hours during the school year. (Seneši, 2019). As we have already mentioned in the text above, Beracka (2019) states that we still have reserves in the dual system of education and training, but the employers themselves evaluate the whole project positively. Basically, companies educate future employees through the dual system of education and training.

The dual system of education and training has been running for three years and the capacity is still insufficient for market needs. At the same time, employers complain about the inefficiency of secondary education. The dual system of education and training currently affects about four thousand students. “At the end of October this year, 3,970 students were currently involved in the dual system of education and training. The number of employers reached 631 on the same date. Within the dual system of education and training, students can learn in 231 schools, and in 161 fields of study and teaching. When evaluating the share of sectors according to the number of students, the first places are the engineering-automotive sector, the electrical engineering sector and the trade and services sector. Within the regional distribution of the reform, most students learn in the Trenčín Region, followed by the Žilina, Nitra and Bratislava Regions, “points out the Association of Industrial Associations (IA) (Gábriš, 2019; Krásna et al., 2019).

However, these numbers are far from enough. Although the number of students involved in the dual system of education and training should increase to 12,000 by 2020, employers say they lack up to

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<sup>5</sup> A small enterprise is an enterprise which employs between 10 and 49 people and whose annual turnover and/or total annual assets do not exceed 10 million euros. A medium-sized enterprise is an enterprise which employs between 50 and 249 people and whose annual turnover does not exceed 50 million euros and/or the total annual amount of assets does not exceed 43 million euros.

around 45,000 workers in industrial sectors. “Even though more and more students, schools and employers are involved in the reform of the dual system of education and training, we are far from satisfied with these numbers,” says Alexander Matušek, vice-president of the Association of Industrial Unions and president of the Association of the Automotive Industry of the Slovak Republic.

In (2019), an amendment to Act no. 61/2015 Coll. on vocational education and training, which changes the dual system of education and training to some extent. “With the amendment, we are removing some barriers to the entry of secondary vocational schools and employers into this system. Such was, for example, the reduction of the wage norm for practical training. By removing this barrier, we promise to increase the active approach of secondary vocational schools in concluding cooperation with employers,” said the Ministry of Education about the amendment. “We are also significantly reducing the administrative burden of verifying employers’ ability to provide practical training in the dual system of education and training. Another important element is the increase in the share of practical training with another employer operating in the dual system of education and training. This measure is intended primarily for self-employed people and small enterprises that do not have their capacities to meet material-technical and spatial equipment or staffing the performance of practical training,” added the Ministry. Employers themselves welcome the changes that have taken place in the law. “The amendment brought several positive changes,” says Alexander Matušek.

Despite the appraisal given to the dual system of education and training, employers have serious reservations about the functioning of Slovak education. “As many as 63 per cents of high school graduates do not work in their field. At the same time, up to 38 per cent of companies reject contracts for lack of manpower,” says Matušek. Therefore, employers complain that the number of students and university students remains “stuck” in unpromising fields of study that the labour market does not currently need. Employers say the situation is costing the company. “Inefficient annual spending on secondary education alone is € 250 mill., plus additional resources are needed for retraining,” says IA.

Gulisová (2020) described one of the ways to succeed in the competition in the labour market and that it is to practice since high school. Ľubomír Billý from the company Centire told the students of Petržalka primary school about the possibilities of the dual system of education

and training. “Although the internship system at vocational schools has been in place for decades, many graduates end up at the employment office or do something other than graduate. This is then a waste of money for education. That is why the dual system of education and training was established in Slovakia in 2015”, explains Billy at the beginning of the lecture. According to him, the difference between the common practice that is used in schools and the dual system of education and training is that students go to work in a specific company, in which they can work after school. Other advantages include the fact that employers can intervene in the school curriculum and thus prepare the student theoretically for what awaits him at work. Besides, students receive paid for their work. Their wages range from about 1.66 euro per hour, which represents half of the minimum hourly wage in Slovakia, in some cases up to four euros. How much a student ultimately earns depends on the grade in which he or she is studying and the number of worked hours. Students claim that this system often replaces the brigades they would have to attend after school.

Such a system of education is praised by the students themselves, even though they admit that they had no idea about it before. The freshmen from the Secondary Vocational School of Gastronomy and Services in Prešov, who are studying the field of biochemists - beer and malt production, recommend this study for practice in the Šariš brewery, which is involved in the dual system of education and training.

“After arriving at the Šariš brewery, we change clothes and prepare for work. Our tasks are supervised by an instructor. I really like that they let us directly into production and we can actively participate in it. So far, we tend to do much simpler things, but it’s very interesting,” says Daniela for Forbes. Her peer Marianna, on the other hand, claims that she is always looking forward to production because the work in it has never been boring. “I would never believe how much work there is around beer,” adds their classmate Jakub.

The fact that a similar system is needed in our country is also demonstrated by the story of one of the largest Slovak employers, Volkswagen. It started with practical training years before the dual system of education and training was officially launched in our country.

On the other hand, it is fair to say that the start of the dual system of education and training in our country struggled with various problems. Firms, in particular, complained about the extreme bureaucratic burden, which is now partly removed, while students complained about



the lack of information. The numbers also speak for themselves. When the project was launched in the 2015/2016 school year, the Ministry of Education registered 450 participating students. In the second school year, it was 1,200 and in the third 2,100.

After the introduction of some changes in September 2018 and the removal of part of the bureaucracy, the number of students in the system approached three thousand. However, even this number does not affect the aim that Slovakia must meet in order not to have to return the money earmarked for this project to Brussels. The aim of the project was for 12,000 students to study in the dual system of education and training by the end of 2020, and 80 per cent of this number would be considered as a success.

According to Biliý, however, several myths associated with it are also responsible for the weakly growing interest in this type of study. One of the most exposed was the opinion that after completing a dual education and training programme, a student cannot continue to study at university. This is not true, university studies are possible, the graduate can stay with the employer, for example, part-time.

The expert further points out that it is also not true that a student who has hired a secondary school student needs to remain in employment for the rest of his life, nor is it true that they only offer dual education and training programmes in industry and factories. Among the employers who are interested in dualists are also banks, Slovak post office, but also municipal or city authorities, writes Gulisová (2020).

*According to SITA (2020), Kaufland also succeeded in 2020 in the audit of the international professional organization "Top Employers Institute", which annually evaluates the best employers. It continues to be one of the leading European companies that create first-class working conditions for their employees and provide them with opportunities for career or personal development. Top Employer awards are given after a detailed external audit of the human resources department. The audit evaluates areas such as employee development and training, career opportunities, benefits provided, and, for example, corporate culture. The audit institute for the award of top employers is headquartered in Amsterdam and has 10 other branches around the world. Of the almost 1,600 certified companies around the world, only 8 come from Slovakia. "The fact that we have again succeeded in an independent audit from human resources experts is important feedback for us and we are very pleased. We want every employee to feel satisfied and good with us for a long time, so building employee care*

*processes is very important for our company,” says Karin Marková, Director of Human Resources at Kaufland Slovakia.*

As part of the benefits, Kaufland offers, for example, the possibility of part-time work for mothers or fathers at the nursery, as well as students and retirees. It also focuses on young people, offering them an opportunity to combine study and paid work in a dual education and training programme, in which secondary school students can gain practical experience directly in stores or through a paid Leadership program designed for university graduates, where they are prepared for a leading position in society. *“Our employees are our number one priority, which is why we take care not only of their health but also of their personal development. We also do not forget their families, which we support through grant programs,”* adds K. Marková.

In addition to the TOP EMPLOYER 2020 award, which Kaufland received not only in Slovakia but also in Germany, the Czech Republic, Poland, Bulgaria, Croatia and Romania, it also received the TOP Employer Europe 2020 award. This award for the Slovak Kaufland means that the working conditions provided to its employees are some of the best in Europe. *“We are pleased with the awards, but that does not mean that there is no need to improve further. On the contrary, they are a commitment for us to continue to develop in the top position,”* concludes K. Marková.

Kaufland is one of the leaders in retail chains and currently operates more than 1,230 self-service department stores in Germany, the Czech Republic, Poland, Croatia, Romania, Bulgaria and Slovakia. The first department store was opened by Kaufland in 2000 in Poprad and so far it has opened a total of 68 operations in Slovakia. Kaufland department stores offer a diverse range and attractive private labels. The fact that Kaufland is one of the top brands on the Slovak market is also proven by the Awards Employer of the Year in the category of trade and services (2016), Slovak Superbrands Award (2015, 2016, 2017, 2018), Most Trusted Brand (2016, 2017, 2018) and Responsible Seller (2016). Kaufland is the general partner of the Slovak Ice Hockey Association (SZLH) and PRO-HOKEJ joint-stock company. As part of his social responsibility, it is, among other things, a long-term partner of the Slovak Red Cross. An important factor is also the protection of the environment and various ecological projects that the company implements.

In terms of the dual system of education and training in practice in the conditions of the Slovak Republic, we further focused on a specific

company, namely Energy distributor for the Western Slovakia (ZSD), which is a 100% subsidiary of West Slovak energy joint stock company (ZSE - the ZSE group is part of the multinational energy group E.ON based in Essen) and is the largest distributor of electricity in Slovakia (Gábriš, 2019; Krásna et al., 2019). ZSD has a 95-year history, it has a permit to do business in the energy sector in the scope of “electricity distribution”. This group is responsible for the operation of the distribution system and is subject to regulatory rules following applicable legislation in terms of the requirements of European legislation and Slovak legislation related to energy market liberalization (until 1 January 2013 under the name ZSE Distribution, a.s.). Its mission is to ensure the distribution of electricity and it has been acting as an independent legal entity since 1 July 2007.

Based on published information, ZSE (2018) offers students and students the opportunity to gain professional experience in addition to or after study through excursions, competitions, internships, diploma theses, educational projects and graduate programs during high school and university studies. Cooperation with primary school students is realized in the form of participation in competitions and educational projects (Gábriš, 2019; Krásna et al., 2019).

The mission of the company West Slovak energy joint stock company is a distribution of electricity that is safe and reliable, the company is constantly striving to improve the quality of life of the inhabitants of western Slovakia. Therefore, the company makes many significant investments aimed at the renewal and development of distribution facilities and the development of electronic services for customers. According to internal materials, this employer offers a personal account with funds intended to regenerate the employee’s strength in the amount of € 1,050 per year, five days of leave in excess of the obligation arising from the Labour Code, employer’s contribution to supplementary pension savings, working time fund of 37.5 hours per week and the opportunity to constantly learn from experienced energy professionals. It also offers social assistance, allowances at the birth of a child, the reward for loyalty to the employer, above-standard medical examinations and e.g. also discounts at selected suppliers of goods and services (Gábriš, 2019; Krásna et al., 2019).

According to the Annual Report of West Slovak energy joint stock company, for 2017 (2018), the successor program “Talent Bank” continued with an intensive development program of talented ZSD employees. In the context of training potential future employees, the

company entered the dual system of education and training in two secondary vocational schools in Bratislava and Trnava. At the same time, several projects and events are implemented for students, for example, they can spend one day on the company's premises. In the field of education of primary school students, educational projects continued at the Piešťany Power Plant at the same time as the correspondence competition "Looking for Energy", with the subtitle "Tesla vs. Edison", which involved more than 300 students from more than 160 primary schools.

Information on the dual system of education and training from the energy group E.ON (2015, 2018) Digital & Technology Talent Pool – Dual Studies state that interesting opportunities are offered to study in a dual education and training programme in the field of business informatics and IT security.

During the dual education and training programme, the candidate goes through various areas of the digital and technological industries in all phases of practice, works in international teams and learns about modern working conditions. He is constantly learning new content in business informatics and developing his specialization (Gábriš, 2019; Krásna et al., 2019).

This employer contributes to education according to the tariff, tuition fees, support for voluntary education and various internal E.ON training. In the "buddy" program, the applicant will be accompanied during the study by experienced internal students of E.ON, they also provide a discounted ticket for public transport in Hanover, interesting and constantly changing discounts for employees, regular team events with all dual students, own IT equipment (laptop and iPhone) and flexible working hours (E.ON, 2015, 2018).

We obtained information on the dual system of education and training at ZSD in an interview with Juraj H., as well as a presentation on cooperation with schools in general, as ZSD also cooperates with primary schools, secondary schools for students called trainees and universities whose students are called scholarship holders (Gábriš, 2019; Krásna et al., 2019). When we talk about generally valid regulations, they proceed in accordance with valid laws concerning the dual system of education and training and regularly monitor the website <http://www.dualnysystem.sk>. ZSD has two certified workplaces, namely at Hraničná 14 in Bratislava and Ružindolská 12 in Trnava. The ZSD has a contract on dual education and training signed with two schools: Secondary Vocational School of Electrical Engineering,

Rybničná 59, Bratislava and Secondary Vocational School of Electrical Engineering, Sibírska 1, Trnava. The curricula in these schools have also been adapted to the needs of the ZSD. Learning contracts are concluded with six students. Practical teaching was carried out in the first half of the school year 2018/2019 in the respective school, since February 2019 practical teaching was carried out with 3 students in ZSD. The ZSD created a competent internal presentation, which was already used at the introductory welcome meeting with the dualists and their parents, and for these purposes, the internal rules of the ZSD workplace were created. Because students started to learn at the workplace only in February 2019, the workplace does not have sufficient practical experience (if we do not count practical experience before 1989) with their education yet.

The dual system of education and training at the Secondary Vocational School of Electrical Engineering at Rybničná 59 in Bratislava is carried out in cooperation with BEZ TRANSFORMÁTORŮ, joint stock company. Bratislava, Railway of Slovak republic and West Slovak energy joint stock company. The dual system of education and training at the Secondary Vocational School of Electrical Engineering at Sibírska 1 in Trnava takes place in cooperation with West Slovak energy joint stock company. Related data are published on the websites of both secondary vocational schools in section Dual Education (Gábriš, 2019; Krásna et al., 2019).

Part of this chapter of the scientific monograph will be a summary of the findings and results of the work based on the use of relevant methods of scientific work, discussion of the results and recommendations for practice based on the theoretical elaboration of the topic and other information obtained directly from the terrain, while recommendations will be formulated for increasing the quality of the dual system of education and training in the conditions of ZSD and also recommendations for improving the practice of the dual system of education and training in a more global context.

Based on the information on the realization of the dual system of education and training in ZSD, which we obtained during the interview with Juraj H., we can state that the interviewed employee responsible for the realization of the dual education and training programme stated in our interview that “ready candidates with paragraphs”, given that they already have previous work experience, have higher salary expectations (e.g. in terms of salary expectations there is a difference by region, but in Bratislava, they have a problem meeting the salary

expectations of already “finished” employees) and also higher expectations towards working conditions. Their big disadvantage is that they can come up with established, from the company’s point of view incorrect, work habits and are more difficult to adapt to the new system or changed conditions or situations. However, “dual graduates” – in contrast - are in many respects more formable, instructors are trained to work with them so that their inclusion in the active performance of the profession is effective at minimal cost and in the shortest possible time. The company’s costs for “dualists” are thus significantly lower than the costs that the company has to incur for “someone from the market” who needs to be trained or retrained, to change their habits and work system. Even though not all dualists stay in the company even after the completion of vocational training, companies still pay to invest in them as potential future employees (Gábriš, 2019; Krásna et al., 2019).

During the interview, we found out that the company considers it its internal problem if it raises an employee and he still goes to work somewhere else. They perceive such a situation as a challenge that needs to be worked on, because the current labour market is trying to get qualified people, perhaps with shorter experience, really everywhere. Dualists have the opportunity to conclude a contract for a future contract in society, but it is more of a psychological contract based on their own decision, even if the instructors are trained in various possible situations arising in the stabilization of the workforce. As far as scholarship holders are concerned, the interview and previous experience in the short term have shown that if they decide not to join the company after completing the study during which they received a corporate scholarship, they are obliged to return an aliquot part of the paid scholarship. Most students have deferred this amount, so this is not a decisive factor in signing an employment contract. As part of the company’s policy, they prefer motivation, emphasize the benefits associated with working in the company and strive to retain the employee through a positive work environment, benefits, the possibility of self-realization, and not the pressure of “papers”. In our interview, the interviewed employee responsible for the realization of the dual education and training program emphasized that the currently set graduate program is based on the scholarship holders feeling part of the work team, they are invited to various company events, team buildings, etc. Currently, a sufficient number of scholarship holders is involved in the graduate program, but in some regions, this participation still needs to be strengthened (Gábriš, 2019; Krásna et al., 2019).

According to Juraj H., if he compared the system of practical education in the previous period and the currently applied dual system of education and training, the previous period was also satisfactory for them as a company, because in the period before the introduction of the dual system of education and training they were burdened with too much administration. costs increased by practical teaching, but from the current amendment to September 1st, 2018, both systems - the system of practical teaching and the dual system of education and training - are identical from their point of view. Initially, the dual system of education and training brought more “paperwork” for society, it was necessary to develop work schedules, curricula, certify the workplace and the costs involved. The payroll department has new responsibilities related to compensation for the state, scholarships, etc.

The company considers it a great advantage that it has the opportunity to work with high school students from the 1st grade when it organizes excursions, corporate events for them to motivate them. These students are not able to operate in the workplace yet, so at least they try to motivate them in this way. They believe that motivation is the most important, so they offer students the opportunity to participate in events such as Energy day, various team building, students have the opportunity to visit the Malacky polygon, substations, the company organizes football tournaments, gives students rewards for certificates, etc.

As part of professional practice, the company selects students only in the 3rd grade. Then they receive a reward for their productive work and, based on the results, they are invited for a job interview, so with the system, as Juraj H. states, there is not so much “work around”. He mentioned in the past the experience that students who completed an internship in their company graduated to a unit or two, but if the students did not go to the internship, they had a worse evaluation at the practical graduations. We can state that the company chooses the better students for itself, but based on recent experience, the interviewed employee responsible for the dual system of education and training stated in our interview that the level of graduates is declining (Gábriš, 2019; Krásna et al., 2019).

The expectations of third and fourth-grade students in practical training coincide with the expectations of the company, they are interested in working in it and declare this interest (if they want to stay in ZSE). The advantage is that they know the working environment and the team, they are clear about the direction of their

personal development, they know the production, assembly, work in substations, etc. However, it happens that they do not even graduate to the corrective term, in which case the company cannot rely on them.

When we talk about the feedback from students and parents about the dual system of education and training in this society, it is not comprehensive yet, but at joint meetings, parents supported their children in their decision, although they had the opportunity to choose another workplace (PSA Trnava, BA railways), but according to them, they opted for the diversity offered, as they have the opportunity to learn a lot, it is not behind the machine, which parents consider as an advantage. The company is choosing the students, but so far it has not happened that any candidate does not explicitly suit them.<sup>6</sup> However, there was also a case where the student started going to practice, he enjoyed it, the instructor was satisfied, but he did not go to school in theory, which was solved in cooperation with the school. By the time of the interview, this case had not been resolved, but the employer declared that they were interested in all students studying, although this was not always possible (Gábriš, 2019; Krásna et al., 2019).

Activities that trainees (high school students) perform during practice (ZSD, 2018a), e.g. in the Operations Division (production), work is on newly built lines that have not yet been started under voltage, laying of high voltage, low voltage distribution cables, public lighting cables, low voltage house cables and installation of electricity meter switchboards, installation of equipotential grounding TS and high voltage section switches + measurement of R earthing switches, installation of PRIS cabinets, installation of TS technology, etc. As part of the internship, students are also provided with illustrative inspections of the assembly of live work (however, the work is not performed). Other auxiliary work and assistance services are performed by trainees in the following activities: in the Network and Electrical Service Department for high voltage, low voltage - troubleshooting of high voltage and low voltage equipment, corrective maintenance on high and low voltage equipment, activities resulting from the preventive maintenance plan electrical equipment, electricity meter activity, work with PC, with a tablet, transport in a company motor vehicle to the workplace. In the

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<sup>6</sup> We assume that schools also work with parents of students who came from primary school with „better” study results (authors’ note).



section of VVN services - troubleshooting at VVN equipment, corrective maintenance at VVN equipment, activities resulting from the plan of preventive maintenance of power stations, transport in a company motor vehicle to the workplace, etc.

The **ZSD Trainee program for graduates** (2019) is looking for a company of university graduates up to 1 year after graduation, who have high motivation and prerequisites to manage stressful situations, have practical experience gained during their studies, have excellent knowledge of English and good logical and conceptual thinking. ZSD offers full-time employment for a definite period of 12 - 18 months in the position of Trainee, three to four job rotations in professional departments within the ZSE Group, work in selected projects, targeted development activities and the possibility of internships abroad within the countries in which it operates group E.ON.

The **ZSD graduate program** is intended for graduates of secondary vocational schools and universities, specifically for graduates of secondary vocational schools of electrical engineering, graduates of secondary industrial schools of electrical engineering or graduates of technical universities, in the positions of electrical engineers – junior and electrical engineer. The graduate internship includes quarterly rotations at several workplaces and a development plan of activities that graduates have to learn during the program and a development plan of training that they must complete. A graduate of a secondary vocational school or secondary industrial school with the adjective electrical engineering within 3 years of graduation is an “electrical engineer junior” and a graduate of a university within 2 years of graduation from an engineering degree is an “electrical engineer”. Their guide is an employee who is responsible for the professional guidance of the graduate during the adaptation process. The course of work rotations of high school graduates is shown in the following table 2.

*Table 2: The process of work rotations of high school graduates in ZSD*

<b>Order of rotations</b>	<b>Team name</b>	<b>Duration</b>
1.	Team operation (production and assembly)	3 – 5 months
2.	Operation team (HV and LV network services)	3 months
3.	ES Service Team 3 months	3 months
4.	Electricity service team by agreement	by agreement
Optional	HV, LV energy equipment management team	by agreement

Source of table 2: unpublished internal materials of ZSD (2018a)

The duties and responsibilities of the dual system of education and training guide are formulated in such a way that their task is to acquaint the graduate with the workplace, region, work agenda and activities, work aids and tools, assign and supervise the work activities they perform, care for safety and health of graduates, provide the graduate with professional knowledge and professional support, provide the graduate with feedback on his work and participate in the evaluation of graduates' aims and activities quarterly. In terms of career opportunities provided, ZSD offers the positions of electrician / junior (§ 21), independent electrician (§ 22), electrician leading the group (§ 23), network service technician (§ 23), electricity meter service technician (§ 22), ES operation technician (§ 23), electrician VVN (§ 23), electrician PPN (§ 23), other (administration specialist, construction manager, coordinator) etc. (Gábriš, 2019; Krásna et al., 2019).

## **5.1 Benefits of the dual system of education and training**

Among the advantages of the dual system of education and training for students – based on the analysis of available information and experience from other companies and from abroad – we include:

- the method of education in the reality of practice in the conditions of a particular company;

- learning implemented in the company allows to develop the required competencies required by practice;
- the dual system of education and training will teach students to make effective use of the latest machines and equipment needed to perform their work;
- students are involved directly in the work process;
- students receive a financial reward for productive work;
- quality performance of a student in system education predicts to the potential employer the profitability of other, additional investments in a specific student;
- in countries with a long tradition of the dual system of education and training, the dual education and training programme graduates have higher monthly earnings higher than other graduates;
- for graduates of dual education and training programmes, the transition between school and future employment is much easier;
- students become part of their daily work in the company, they learn the corporate culture, they learn from direct experience from other employees;
- after graduation, graduates enter the labour market directly, find it easier to get a job (not only directly in the company where their dual training took place, e.g. in the partner or supplier segment, etc.);
- if they meet the conditions that students know in advance, they will have a guaranteed job immediately after successfully completing school;
- students participate in solving specific tasks in the workplace (e.g. submitting an improvement proposal, etc.);
- in the conditions of the company, students can produce their own product or functional model based on completing the whole process - from the idea to its implementation.

Among the advantages of **the dual system of education and training for vocational schools** – based on the analysis of available information and experience from other companies and from abroad - we include:

- the school has immediate information about news and current events in the field;
- the dual system of education and training aligns school education programs with the requirements of practice;

- the school has suitable facilities for teacher traineeships and students' placements;
- the school has at its disposal experts from practice to improve the quality of teaching;
- in contact with the practice, the quality of the pedagogical employees of the given school is increased;
- the presumption of obtaining interesting partners and sponsors for suitable projects is increasing.

The benefits of the dual system of education and training **for employers** - based on an analysis of available information and experience from other companies and abroad - include:

- the promotion of the dual system of education and training in countries with a long tradition of dual system of education and training has a proven positive impact on companies and their employees, as well as the financial stability of the company;
- companies will get high-quality employees from "learning" places – they "don't buy a cat in a bag", they test the future employee before they hire him;
- organizations involved in the dual system of education and training have the opportunity to attract the best graduates of secondary vocational schools;
- students – dualists bring new or innovated know-how, new stimuli or ideas to organizations;
- new advertising opportunities are created for the employer (on the school building, school website, company website ...);
- employers involved in the dual system of education and training receive financial incentives from the state, e.g. also a tax bonus (Gábriš, 2019; Krásna et al., 2019).

## 5.2 Conclusions and recommendations for practice

Based on the theoretical elaboration of the topic and other information obtained directly from the field (in more detail also the work of Gábriš, 2019; Krásna et al., 2019), we can formulate **the following conclusions and recommendations for increasing the quality** of the dual system of education and training in ZSD and recommendations for improving the practice of dual education system in a more global context:

1. We have noticed that in the internal materials of ZSD have incorrectly called a group of high school students (the terminology is binding according to the valid Education Act) by students, we will initiate **a terminological change in all internal documents** related to the dual system of education and training.
2. In all internal documents, high school **students** are called **interns** and university **students** are **scholarship holders**. We propose to keep these names for a more thorough distinction of the target group because ZSD also declares cooperation with primary schools, whose trainees are also students so that the terminology used internally is functional and there is no mistake in the target group. Therefore, we suggest that primary school students should be called students, high school student should be called interns, and **university students** should be called **university scholarship holders**.
3. **We recommend linguistic and terminological proofreading in internal materials** so that all internal ZSD documents in the field of the dual system of education and training are at a representative level.
4. **We propose to adjust the presentations following the rules of effective presentation**, which means to follow the 5 x 5 rule, i.e. a maximum of 5 lines per slide and a maximum of 5 words per line. The existing presentations are professionally at a very high level, but those who are not experts in this field (i.e. recipients of information - students (and their parents), trainees (and in the case of minors their parents), class teachers of primary and secondary school students, educational counsellors and fellows).
5. **We propose to supplement the “methodological guidelines”** in the dual system of education and training for educational work with students who are individually integrated, for students with an individual study plan, for students with developmental learning disabilities and to start working on educational materials for working with students in planned inclusive education.
6. **Create a compatible scheme of the dual system of education and training and career guidance**, e.g. in cooperation with SIVE or a specific university, where this issue could be addressed in bachelor’s and master’s theses.

7. **In the field of personnel marketing**, it is necessary to strengthen the development of starting points based on the principles and aims of the dual system of education and training, while taking into account the requirements of practice.
8. **In the area of personnel management**, we recommend strengthening the development of starting points based on the principles and aims of the dual system of education and training and at the same time taking into account the requirements of practice.
9. We propose to supplement the theoretical basis of human resources management with **the theory of the dual system of education and training** and at the same time with application recommendations that take into account the requirements of practice.
10. **In terms of work with lower secondary school students** in the context of career guidance, it is necessary to emphasize the possibility of opting for the dual system of education and training as a suitable way to obtain a qualification for the performance of certain professions and to point out the benefits that this system offers.
11. We recommend **motivating the dual education and training coordinators, chief instructors or instructors** in dual education system to complete at least a bachelor's degree or an extended subject study (according to the possibilities of the region), or supplementary pedagogical study in the study programs Master of Vocational Education, 1.1.2 Teaching of Vocational Subjects and Practical Training or 3.3.15 Management.
12. **We draw attention to the importance of cooperation between employers and parents and families of students.** Another principle can be cooperation with families of students beyond the level of obligations stipulated by law, e.g. in the social area (possibility of vacationing in a company recreational facility, possibility of sports activities on the employer's sports grounds, etc.).
13. In order to make studies in the dual system of education and training more attractive, employers are advised to expand **the offer of study stays for students and university students within the dual system of education and training** in mother plants in the employer's home countries (e.g. Volkswagen - Germany, Peugeot - France, VUB Bank - Italy, Slovnaft - Hungary, etc.).

14. On the part of the secondary vocational school, we recommend **expanding the range of possibilities of obtaining internationally valid certificates** according to the requirements of the employer (CISCO, etc.).
15. In the conditions of secondary vocational school, we propose in the curriculum (but also within non - teaching activities) **to strengthen the teaching of a foreign language according to the home country** of the employer in the dual system of education and training (Volkswagen - German, Peugeot - French, VUB Bank - Italian, etc.), which would allow students to apply in the home country of the employer, or by fulfilling language requirements, it created conditions and opportunities for completing an internship abroad.
16. **Extend natural or competitive forms of “testing” of students involved in the dual system of education and training** (skills competitions, skills marathon, exhibitions, presentations, projects, SOČ, etc.), which focus not only on their theoretical knowledge but on their competencies related to with the performance of activities within a certain profession and for the application of theoretical knowledge in practice (Veteška, Tureckiová, 2008a, 2008b). Many studies show that a student’s school results are diametrically opposed to the assumptions of manual skills or in relation to the student’s practical intelligence. From our own experience we can confirm that honoured students very often have difficulties with creative thinking in application situations and, conversely, according to school results, average students are often highly able to react in atypical situations.
17. We propose to supplement the annual **Open Days** in secondary vocational schools with a **“Labour Market”**, in which “dual” employers would have the opportunity to present themselves to those interested in studying, i.e. they would already address 8th and 9th-grade students and at the same time, this form would create a space for current, as yet undecided students of a particular secondary school to get acquainted with the dual system of education and training in practice.
18. We propose that selected former successful secondary vocational school students, who were later employed by a “dual” employer, become **ambassadors** for the dual system of education and training in secondary vocational schools. Their

specific activities and related responsibilities could be defined in cooperation between the school and the employer, based on the specific needs and requirements of all stakeholders. Such a form of cooperation could be interesting and beneficial, as the available sources indicate a significant degree of influence of a peer group or peer from a reference group during adolescence on a given individual and his decision-making.

19. We propose the introduction of the **“BUDDY” program** (following the model from E.ON from Germany), in which the candidate will be accompanied by an experienced internal employee during his / her studies (Gábriš, 2019; Krásna et al., 2019).

As a part of the fifth chapter of the monograph a summary of the findings and results of the research based on the use of appropriate methods of scientific work, as well as a discussion of the obtained results was presented. In this chapter, we also presented recommendations for practice based on the theoretical elaboration of the topic and other information obtained directly from the field, which mainly concerned the possibilities of increasing the quality of the applied dual system of education and training in ZSD conditions, as well as recommendations for improving the practice of the dual system education and training in a more global context.





## CONCLUSIONS

The scientific monograph was focused on the current trends in the society and on the Slovak labour market with an accent placed on the growing lack of qualified workforce, which specifically occurs in certain professions and has an impact on the whole economy. We approached the presented field from the perspective of maintaining or increasing the Slovak economy's competitiveness by means of vocational education and training taking into account the employers' needs and requirements.

The era of the fourth industrial revolution characterized by emerging automation, digitalization or optimization of processes has brought significant changes to the labour market. Certain professions are gradually disappearing and new ones are emerging. For these, specific skills and competencies are required and the educational systems of all countries must be prepared for the new conditions and requirement related to the global competitive environment. New, potentially significant issues can occur in the field of preparation and further development of human resources, to which organizations - as well as the whole society and the educational system - must respond. All stakeholders' cooperation and coordination of their work are necessary in order to have graduates well-prepared for the permanently changing needs and the requirements of the labour market.

The first chapter of the monograph was focused on the basic terminology of the dual system of education and training as a pathway of vocational training during the process of preparation for the labour market. Relevant key words from the field were discussed in that part of the publication with the aim to create a terminological basis for the elaborated topic based on up-to-date knowledge presented in most recent resources. The topical issues of labour market and qualified workforce were elaborated in the second chapter of the publication using up-to-date resources. The third chapter is focused on another key topic, which is vocational training and professional preparation for the labour market. The dual system of education and training from the aspect of the situation both in Slovakia and abroad formed the fourth chapter of our scientific monograph. We specifically focused on the characteristics of apprenticeship in selected EU countries and their comparison, the history of apprenticeship in the area of the Slovak Republic, as well as the legislative framework, and a description of the dual system of education and training in Slovakia with special

attention paid to its strengths and weaknesses. In the above chapter, examples of good practice were presented, too. Several multinational companies have brought their experiences with the system of dual education and training from abroad and apply them in the specific conditions of the Slovak Republic. The fifth chapter of the publication contained a summary of the findings and results of a scientific research on the dual system of education and training in Slovakia. Within that research, an investigation in a company operating in Slovakia and participating in the dual system of education and training was realized. In the final part of this chapter, recommendations for practice were formulated based on the theoretical elaboration of the topic presented in the monograph and relevant information obtained in firms. The recommendations are formulated in a way that opens an opportunity to contribute both to increasing the quality of the dual education and training programme in the conditions of a specific company, but also to improving the practice of the dual system of education and training in a more global context.

The aim of the included chapters was to provide a theoretical basis in the field of (qualified) workforce based on available data, as well as to map the current situation both in the Slovak Republic and abroad. Alongside with that, we attempted to characterize the dual system of education and training and describe it in more details. The aim of the empirical part was to analyse the current situation in a selected organization involved in the dual system of education and training, to carry out a semi-structured interview with the person responsible for the realization of dual training in that organization, by means of analysis, to draw conclusions, and - based on the information obtained in the theoretical and empirical part of the monograph - to provide recommendations for practice for both the participating organization and the wider context of the system of dual education and training.

In the presented scientific monograph, for the purposes of a theoretical elaboration of the theme, traditional desk research methods were applied. For achieving the set goals available resources were reviewed and a qualitative approach in combination with analysis as another method of scientific work were applied in addressing both key issues – (qualified) workforce and the dual system of education and training. The method of synthesis was applied for linking knowledge by means of analytic cognitive processes and, inductive-deductive reasoning was used for the purposes of generalization, as well as in the process of data evaluation based on previous findings. The method

of comparison was applied to compare the authors' presumptions with research results by other authors. In the empirical part, the authors used the method of questioning, more specifically a semi-structured interview.

One of the most important findings of the presented monograph is that the participating organization – based on published information (ZSE, 2018) - offers students the opportunity to gain professional experience in addition to or after study, in the form of excursions, competitions, educational projects during their high school and university studies, as well as graduate programmes. Cooperation with primary school students is realized by organizing various competitions and educational projects in which schools can participate.

In the participating company, they perceive the benefit of the dual system of education and training in the opportunity to work with vocational school students from the first grade, so they have enough time to motivate them, which they consider an important factor by which future employers can influence students' interest in participating in the dual system of education and training, and their decision making regarding their future profession. For these reasons, this employer considers motivation to be important in the long run.

As we found out, the company's costs on training students in the dual system of education and training are lower compared with hiring an experienced person who needs initial in-company training and whose working habits must be modified. It is costly to change the working habits of a person who is already used to a certain system of work, conditions and requirements. In the dual system of education and training, companies can tailor apprentices' training to their needs and requirements.

Another finding is the positive acceptance of legislative changes by this particular company as a future employer. Thanks to new regulations, the administrative burden was reduced and the employer positively evaluated the state's efforts to create a link between vocational training and the employers' needs by providing practical training at the workplace in the dual system of education and training, but also by the fact that a representative of the employer is delegated to the final examination committee. Besides that, if a vocational school has a contract with a vocational school on dual education and training, it participates in the creation of school curricula for vocational education and training.

We can conclude, that the implementation of the dual system of education and training into the system of vocational education and

training in Slovakia definitely brings benefits for all stakeholders. At the same time, it must be noted that there is still a lot to be done by the state in this sphere as employers, schools and the students/apprentices themselves must face a range of barriers and are not sufficiently motivated to take part in the dual system of education and training. Moreover, it is necessary to increase students' interest in vocational education as such, because the situation when a disproportionately large part of the population – regardless their abilities – attends secondary grammar schools is not acceptable.

## BEFEJEZÉS

A tudományos monográfia témája a társadalom és a hazai munkaerőpiac jelenlegi tendenciáira összpontosult, hangsúlyozva a képzett munkaerő növekvő hiányának kérdését, amely kifejezetten egyes szakmákban jelentkezik, és kihatással van az egész gazdaságra. A kérdéses területet a szlovák gazdaság versenyképességének megőrzése, illetve emelésének lehetősége szempontjából közelítettük meg oktatási kontextusban.

A negyedik ipari forradalom kezdetével és a folyamatok fokozott automatizálásával, digitalizálásával vagy optimalizálásával összefüggésben jelentős változások történtek a munkaerőpiacon. Egyes foglalkozások eltűnnek, és új foglalkozási csoportok alakulnak ki, amelyek speciális készségeket és kompetenciákat igényelnek, és ehhez az egyes országok oktatási rendszerét fel kell készíteni. A globális versenykörnyezettel kapcsolatos új feltételek és követelmények kerülnek előtérbe. Az emberi erőforrások előkészítése és fejlesztése során új, potenciálisan jelentős problémás területek jelennek meg, amelyekre a szervezeteknek, valamint a társadalomnak és az oktatási rendszernek egészében reagálniuk kell. Alapvető fontosságú, hogy ezek a résztvevők összekapcsolódjanak az összehangolt munka érdekében, ezáltal oktatva és továbbképezve a munkaerőpiac folyamatosan változó igényeinek megfelelően felkészített abszolvenseket (hallgatókat).

A monográfia első fejezetében a duális oktatási rendszer terminológiai hátterére összpontosítottunk a munkaerő-piaci szakképzés részeként, részletesebben a kérdés kulcsszavainak és kifejezéseinek megértésének egyesítésére összpontosítva. A tudományos monográfia második fejezetében kidolgoztuk a képzett munkaerő témáját, figyelembe véve a legfrissebb kiindulási pontokat. A harmadik fejezetet egy másik kulcsfontosságú témára, azaz a munkaerő-piaci oktatásra és képzésre szenteltük. A duális oktatás rendszere a hazai és a külföldi portfólió jelenlegi helyzetét tekintve képezi tudományos monográfiánk negyedik fejezetét. Konkrétan az Európai Unió kiválasztott országaiban a tanulószereződéses gyakorlati képzés jellemzőire és részleges összehasonlítására, a Szlovák Köztársaságban tanult gyakornoki oktatás történetére, valamint a szlovákiai duális oktatási rendszer jogi keretére és jellemzőire koncentráltunk, hangsúlyozva annak erősségeit és gyengeségeit. Ez a fejezet példákat mutatott be több olyan multinacionális vállalat bevált gyakorlatára is, amelyek tapasztalataikat a külföldi kettős oktatás rendszert használják hazai körülmények között. A bemutatott

tudományos monográfia ötödik fejezete szintén a megállapítások és eredmények összefoglalását tartalmazza a tudományos munka megfelelő módszereinek felhasználásával, valamint a megszerzett ismeretekről való értekezés. A fejezet utolsó részében a gyakorlathoz kapcsolódó ajánlásokat mutattunk be, amelyek a téma elméleti kidolgozásán és más, közvetlenül a terepből nyert információkon alapulnak. Az ajánlások úgy vannak megfogalmazva, hogy hozzájáruljanak a kettős oktatási rendszer minőségének javításához egy adott vállalat körülményei között, de hozzájáruljanak a duális oktatási rendszer gyakorlatának globálisabb összefüggésben történő javításához. Ennek a fejezetnek a része egy Szlovákiában működő, a duális oktatás rendszerében működő vállalkozásban végzett felmérés. A fejezetben összefoglaltuk tapasztalataikat, érdekes észrevételeket és eredményeket mutattunk be a tudományos munka megfelelő módszereinek felhasználása alapján. Ezt követően a megállapítások megbeszélését és a gyakorlathoz kapcsolódó ajánlásokat fogalmaztunk meg a téma elméleti kidolgozása és a közvetlenül a terepről szerzett információk alapján. A munka utolsó részében ajánlásokat fogalmaztunk meg a duális oktatási rendszer minőségének javítására egy adott vállalat körülményei között, és ajánlásokat fogalmaztunk meg a duális oktatás gyakorlatának globálisabb kontextusban történő javítására.

A vonatkozó fejezetekben a cél az volt, hogy a rendelkezésre álló adatok alapján leírja a (képesített) munkaerő elméleti alapjait, és feltérképezze a jelenlegi helyzetet a Szlovák Köztársaság és a külföldi viszonyok között. Ugyanakkor megpróbáltuk a kettős oktatási rendszer jellegzetes és részletesebb leírását rendelkezésre bocsátani a meglévő adatok alapján és feltérképezni a téma jelenlegi helyzetét. A monográfia alkalmazás részében az volt a cél, hogy elemezzék a duális oktatási rendszerben részt vevő kiválasztott vállalat jelenlegi helyzetét, interjút készítsenek a duális oktatási rendszer megvalósításáért felelős alkalmazottal, következtetéseket vonjanak le a megállapításokból és ajánlásokat fogalmazhassanak meg a monográfia elméleti és alkalmazási részében szereplő információk alapján, úgy a részt vevő társaság körülményei között, mint a duális oktatási rendszer gyakorlatának szélesebb összefüggéseiben.

Ebben a tudományos monográfiában az irodalmi módszert alkalmaztunk az alapirodalom tanulmányozására, a kvalitatív módszert a javasolt célok teljesítésére, ugyanakkor az elemzést további tudományos munka módszerének is használtuk a két kulcsfontosságú téma – (képzett) munkaerő és duális oktatás - alap gondolatának tagolására. A

szintézist a megszerzett ismeretek analitikus gondolkodási eljárásokkal való kombinálásával alkalmaztuk, ugyanakkor indukciós-deduktív eljárásokat alkalmaztunk az általánosításra, valamint a következtetések korábbi megállapítások alapján történő értékelésére. Ha feltételezéseinket más szerzők eredményeivel hasonlítottuk össze, elsősorban az összehasonlítási módszert alkalmaztuk. Az alkalmazás részében a kérdezés módszerét alkalmaztuk, konkrétan a félig strukturált interjúkat használva eszközül.

A benyújtott monográfia legfontosabb megállapításai között szerepel, hogy a részt vevő szervezet – közzétett információk alapján (ZSE, 2018) – lehetőséget kínál a tanulók és a hallgatók számára, hogy tanulmányaik mellett vagy után szakmai tapasztalatokat szerezzenek kirándulások, versenyek, üzleti gyakorlati lehetőségek, diplomamunka formájában, oktatási projektek középiskolai és egyetemi tanulmányok, valamint posztgraduális programok során. Az általános iskolásokkal folytatott együttműködés különféle versenyek és oktatási projektek szervezésével valósul meg, amelyekben az iskolák részt vehetnek.

Ebben a konkrét cégben úgy látják, hogy a kettős oktatási rendszer előnyei abban állnak, hogy a középiskola első évétől kezdve dolgoznak a diákokkal, tehát van elég idejük a diákok motiválására, amelyet fontosnak tartanak, ezáltal a jövőbeli munkáltatók befolyásolhatják a hallgatók érdekeit és döntéseit. Ezen okok miatt ez a munkáltató hosszú távon fontosnak tartja a motivációt.

A részt vevő cég feltételei között azt találtuk, hogy ennek a cégnek a költségei a „duálisok” számára lényegesen alacsonyabbak, mint azok a költségek, amelyek felmerülnek, ha felvesznek egy „piaci szereplőt”, aki már rendelkezik bizonyos tapasztalattal, de akit képzettséggel vagy átképzéssel kell ellátni. Nagyon költséges megváltoztatni annak a személynek a szokásait, aki már megszokott egy bizonyos munkarendszert, feltételeket és követelményeket. A munkáltató számára előnyösebb, ha tanulmányai során „alakíthatja” a munkavállalót az igényei szerint, így ő azonnal kész munkavállalóként léphet be a cégbe, további képzés vagy oktatás nélkül.

Egy másik megállapítás a törvényi változások pozitív elfogadása az adott vállalkozás, mint jövőbeli munkáltató számára. Az új szabályozásnak köszönhetően csökkentek az adminisztratív terhek, így a munkáltató pozitívan értékelte, hogy az állam erőfeszítései a diákok munkaerőpiacra való felkészülésének valódi összekapcsolására irányulnak, méghozzá a kettős rendszerben gyakorlati képzést nyújtó munkáltatók által törvényesen biztosított szakképzés megszervezésével,



de pl. az is, hogy a munkáltató képviselőjét a záróvizsga bizottság, az érettségi bizottság szakmai felügyeletén belül delegálják. Ugyanakkor abban az esetben, ha a középfokú iskolának a kettős oktatásról szóló szerződése van, akkor együttműködik egy szakképzési iskolai oktatási program kidolgozásában egy konkrét munkáltatóval, amellyel a kettős oktatásról szerződést kötöttek.

A monográfia végén kijelenthetjük, hogy a duális oktatási rendszer bevezetésének a középfokú szakképzésbe Szlovákiában tagadhatatlan előnyei vannak az összes érintett fél számára. Ugyanakkor meg kell jegyezni, hogy az államnak még sok tennivalója van ezen a téren, mivel a munkáltatók, az iskolák és a diákok maguk is különféle nehézségekkel szembesülnek, és még mindig nem kellően motiváltak ahhoz, hogy részt vegyenek a kettős szakképzésben. Ezen túlmenően fokozni kell a tanulók érdeklődését a szakoktatás iránt, mivel továbbra is fennáll a helyzet, amikor a népesség aránytalanul nagy része, képességeitől függetlenül, általános műveltséget nyújtó gimnáziumot választ.

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## **APPENDICES**

Appendice 1: Manual – how to prepare your child for dual education  
from the 1st September 2019

Appendice 2: Example of selected parts of the Internal Rules of the  
Practical Teaching Workplace

## Appendice 1

### Manual - how to prepare your child for the dual system of education and training from the 1st September 2019

S.n.	Task	Perform	Term
1.	Consultation of parents with educational counsellors and primary school management about the child's opportunities to study in technical fields of education	parent	September
2.	Visit the website of the relevant study field or professional organization and get acquainted with the offer of education departments and „certified“ workplaces of practical training of employers for the dual system of education and training	parent/student	October
3.	Selection of the relevant field of education	parent/student	October- November
4.	<b>Recruitment into the dual system of education and training and issuance of a certificate of VET student in the dual system of education and training</b>	<b>Employer, school parent/student</b>	<b>January- March</b>
4.1	Contact the relevant secondary vocational school to provide information on whether it has a dual education contract with employers	<i>parent</i>	January
4.2	After the recommendation from the secondary school the consultation with the chosen employers, acquainted with the environment and conditions in the company.	parent/student	February

4.3	After showing the consent of parents and students and a successful interview with the employer, issuing a certificate of VET of the student in the dual system of education and training	employer	March
4.4	Attachment of a certificate of VET of the student in the dual system of education and training issued by the relevant secondary school	Parent	<b>until 10<sup>th</sup> April, 2019</b>
5.	<b>Submission of the application for to a vocational school</b>	<b>parent/student</b>	<b>Until 20<sup>th</sup> February 2019 talent until 10<sup>th</sup> April, 2019 other</b>
6.	<b>Admission procedure</b>	<b>Student</b>	<b>15<sup>th</sup> March – 30<sup>th</sup> April, 2019 talent. 13<sup>th</sup> and 16<sup>th</sup> May, 2019 other. 18<sup>th</sup> June, 2019 to unfilled places.</b>
7.	<b>Response to the call of the employer for an adult student or a minor student and his / her legal representative to conclude an apprenticeship contract</b>	<b>parent/student</b>	<b>June-September 2019</b>
8.	<b>Concluding an apprenticeship contract with the student / legal representative</b>	<b>parent/student</b>	<b>until 15<sup>th</sup> September, 2019</b>
9.	<b>Student enter the dual system of education and training</b>	<b>student</b>	<b>2<sup>nd</sup> September, 2019</b>

Source of Annex 1: Ministry of Education, Science, Research and Sport of the Slovak Republic. Available on: <https://www.minedu.sk/>

system-dualneho-vzdelavania/

## Appendice 2

### Example of selected parts of the Internal Rules of the Practical Teaching Workplace

#### 1. Identification data of the employer who provides practical training at the workplace of practical training (hereinafter “WPT”):

Business name of the employer:	distributor for Western Slovakia, joint-stock company
Address:	Čulenova 6, 81647 Bratislava
Identification number	36361518
The person responsible for practical teaching at WPT:	Juraj H.

#### 2. Practical training in the dual system of education and training

Practical training is an organized process that provides students with the practical skills, abilities and habits necessary to pursue a profession, group of occupations or professional activities, which is performed at the WPT with an employer. The workplace of practical training is an organizational part of the employer or another place to which the employer has the right of ownership or right of use if to the employer was issued a certificate of competence of the employer to provide practical training in the dual system of education and training. Therefore, it is an operation in which the employer carries out business activities (practical training is carried out by a student directly involved in the employer’s operation).

The practical teaching of the student is carried out by the employer in the form of professional training. Vocational training is organized as a vocational subject according to model curricula for the dual system of education and training. Professional training is performed under the guidance of an instructor.

A student in vocational training performs practical work or productive work. Practical work is performed by practising the manufacture of products, the provision of services or the performance of work activities corresponding to a profession, a group of occupations

or professional activities for which the student is preparing in the relevant field of study.

Productive work is the activities of a student which result in the manufacture of products or their parts or the provision of services from which the employer may obtain an income corresponding to the occupation, group of occupations or professional activities for which the student is preparing in the relevant field of study.

The employer creates working conditions and living conditions for students at the workplace of practical training, which he creates for his employees following § 151 of the Labour Code.

Practical training at the employer is regulated in particular by the following legislation:

- Act no. 245/2008 coll. on Education and Training (School Act) and on Amendment of Certain Acts
- Act no. 61/2015 Coll. on Vocational Education and Training,
- Act no. 124/2006 Coll. on Safety and Health Protection at Work,
- Act no. 596/2003 Coll. on State Administration in the Education and School Self-Government,
- Act no. 311/2001 Coll. Labour Code,
- Act no. 138/2019 Coll. on Pedagogical Employees and Professional Employees and on the Change and Supplement to Some Acts
- Act no. 601/2003 Coll. on Subsistence Minimum,
- Act no. 663/2007 Coll. on the Minimum Wage,
- Act no. 314/2001 Coll. on Fire Protection,
- Act no. 595/2003 Coll. on Income Tax,
- Act no. 580/2004 Coll. on Health Insurance,
- Government Regulation no. 286/2004 Coll. of the Slovak Republic, which lays down the list of works and workplaces which are prohibited for juvenile employees and which lays down certain obligations for employers in the employment of juvenile employees,
- Decree no. 65/2015 Coll. on Secondary Schools,
- Decree no. 64/2015 Coll. on the System of Education Departments and the Material Scope of Education Departments,
- Decree no. 318/2008 Coll. on the Completion of Studies at Secondary Schools,
- Decree no. 231/2009 Coll. on Details of the Organization of the School Year in Primary Schools, Secondary Schools, Primary

Art Schools, Practical Schools, Vocational Schools, and Language Schools.

**3. Maximum number of students to whom the employer can provide practical training in the dual system of education and training at WPT on 1 teaching day of practical training:**

Code and name of the field of study	A maximum number of students in 1 day
2697 K mechanic electrical engineer	2

**4. Organization of the provision of practical training at the WPT** (Beginning and end of the practical training day, breaks, organization of the practical training regime).

**5. Teaching day of practical teaching:**

**6. Absence of a student in practical teaching**

**7. Evidencia Records during professional training**

**8. Records of student attendance for practical classes**

**9. Evaluation and classification of the student**

Student evaluation is carried out within the education according to the level of achieved results:

- verbal evaluation,
- classification.
- a combination of classification and verbal evaluation.

The student's achievement in the subject of vocational training is classified by the following levels:

- a. 1 - excellent,
- b. 2 - commendable,
- c. 3 - good,
- d. 4 - sufficient,
- e. 5 - insufficient.



The subject of evaluation is the level of achieved knowledge and skills within the practical teaching according to the valid thematic educational plan of the subject vocational training. The evaluation and classification of a student's proven performance in a vocational training subject cannot be reduced based on the student's behaviour.

Continuous and summary classification of the student is performed. Continuous classification is used in the evaluation of partial results and manifestations of the student. Aggregate classification is performed at the end of each semester.

Appropriate complexity and pedagogical tact are applied to the student, his / her performance is evaluated comprehensively, the student's efforts are taken into account and his / her human rights are fully respected. Evaluation is a motivational and educational means, as well as means of positively supporting the healthy self-confidence of the student.

During practical training, students can be assessed and classified only by a pedagogical employee who is a VET teacher at the vocational school or a VET trainer at the employer.

The instructor participates in the evaluation and classification of the student in cooperation with the VET teacher, who is the coordinator of dual education and training, and who was appointed by the school principal. The documents for the evaluation and classification of the student are processed by the instructor during the practical teaching in the form of the student's evaluation sheet for the practical teaching within the deadlines set by the employer. The evaluation letter is handed over by the instructor to the employee responsible for practical teaching at the WPT, who continuously hands it over at agreed dates to the coordinator of dual education and training - the VET teacher appointed by the school principal.

While obtaining materials for the cooperation of the instructor in the evaluation and classification of the student, the instructor looks on the results and he is monitoring the student in areas such as:

- relation to work and practical activities,
- learning practical skills and habits, mastering effective ways of working,
- ability to cooperate in solving tasks,
- use of acquired theoretical knowledge in practical activities,
- activity, independence, creativity, initiative in practical activities, talent,

- quality of results of activities,
- organization of own work and workplace, maintaining order at the workplace,
- compliance with regulations on safety and health protection at work, fire protection and care for the environment,
- meeting deadlines,
- economical use of raw materials, materials, overcoming obstacles at work,
- operation and maintenance of production or laboratory equipment and aids, instruments, tools and gauges.

In practical teaching, the criteria listed in the next section for the grades of student classification (from 1 = excellent to 5 = insufficient) are used in the student classification.

In evaluating and classifying the student's behaviour within practical teaching, are taken into account the compliance with the provisions of these internal rules of the practical training workplace and other internal regulations of the employer and compliance with established rules of conduct, human rights and children's rights, observance of moral principles of behaviour at the employer and in public during activities related to practical teaching. During classifying behaviour, the health status of the student is taken into account in individual cases. To evaluate and classify the student's behaviour, the instructor cooperates with the VET teacher, appointed by the school principal, who ensures the coordination of dual education and training between the employer and the school.

For the evaluation and classification of a student in the subjects of theoretical teaching and the classification of behaviour, the student at the school applies the classification rules of the school.

## **10. Ensuring health protection in practical training**

### **11. Student's injury during practical teaching:**

In the event of a student's accident at work, the employer proceeds in the same way as in the case of an employee's accident. After the implementation of the basic measures associated with the student's injury, the employer shall immediately inform the school and the student's legal representatives about the work accident.

## **12. Emergency and accident contingency plan and emergency telephone numbers in case of an emergency**

In practical training at the WPT with the employer, the same measures apply in the event of emergencies and accidents and the same emergency telephone numbers in the event of an emergency as apply to the employer and which are listed in the documentation prepared by the employer following Act no. 124/2006 Coll. on safety and health protection at work and related legislation and other regulations.

Source of Appendice 2: ZSD internal materials (2018).

## **Title: DUAL SYSTEM OF EDUCATION AND TRAINING AS A PATHWAY TO THE LABOUR MARKET**

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