

Brief Introduction to Vocational Education in the Czech Republic

In the 1990s, mutual relations between vocational education and employers deteriorated. The cutting of ties between companies and the education system resulted in many problems for vocational schools. The focal point of practical training moved from companies to schools, which subsequently resulted in education programmes becoming, with regard to the quick pace of technical developments and the high cost of materials, obsolete and lacking in currency. At the same time, teachers lost contact with the latest developments and innovations in the respective fields.

At the time of fast-paced economic growth and a decline in the population, the lack of a qualified workforce, especially in the trades and technical fields, essentially stood in the way of the development of entrepreneurship. A certain discord between the requirements of companies and the skills of graduates led to companies being forced to invest their own funds into training new workers. The disproportion between the requirements of businesses and the inability of the school system to fulfil these requirements led to employers again reviving cooperation with schools, with the concurrent objective of preparing their future workers. It was shown that the key to improving the situation on the job market and securing a sufficient number of qualified workers is close cooperation and partnership between companies and the educational sector and the involvement of companies in the education and training process.

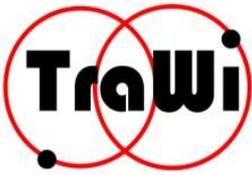
The first breakthrough occurred in 2001 when the so-called White Paper was published. This was the basic strategic document for the development of education in the Czech Republic. This document calls attention to the need for close cooperation between schools and employers. The fact that employers can influence vocational training only to a limited degree is one of the reasons for the difficulty that graduates are having entering the profession. Theoretical and practical instruction takes place in schools far removed from the actual world of work in businesses and companies. At the same time, the White Paper represents the first step toward an overall reform of the education system. By the adoption of the Education Act (Act No. 561/2004 Coll.), the system of multiple-level creation of education programmes was introduced into the Czech education system.

In 2005, education reform, also referred to as curriculum reform, was commenced (the reform brings with its changes in the content and targets of training. In addition to imparting knowledge, schools should now be placing emphasis on students working with information and mastering other skills – referred to as key competencies – that will allow them to live a full-fledged life in the 21st century).

The new concept also includes closer cooperation and creation of functional links between schools and the social and work environment. This means a move away from the concept of centrally planning the content of vocational education to greater autonomy and freedom of schools. Schools can specialise and accommodate the needs of employers and the needs other social partners on the regional level.

The formal framework of education reform comprises the transition from individual documents to the so-called frame education programmes, based on which schools create their own education and training programmes.

On the state level, framework education programmes (FEPs) are created for each subject. These documents set out the general education objectives, specify the key competencies necessary for the individual personal development of pupils, define the material aspects of



education and its contents, characterise the expected learning outcomes and lay down the conditions and rules for the creation of school education programmes, including lesson plans.

Based on the framework education programmes and the rules defined therein, schools prescribe their own programme documents – so called school education programmes (SEPs). These programmes allow for a significant, individualised specialisation of schools, and schools can better accommodate the needs of students and the needs of the regional job market.

In the period from 2007 to 2012, 284 frame education programmes for the various secondary education fields were published gradually. According to the Education Act, an expert from the field, acting as a member of the examination committee, has to be present at every final examination that leads to the successful completion of secondary education with a vocational certificate (ISCED 3C).

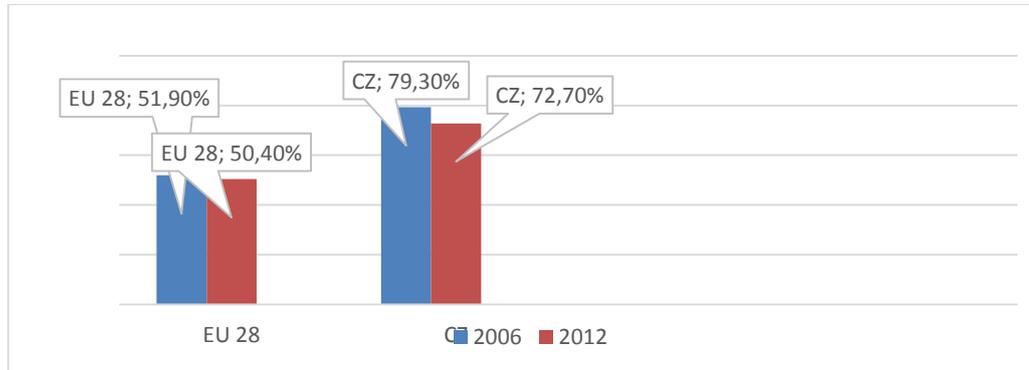
The Act on Recognition of Further Education (Act No. 179/2006 Coll.) has substantially contributed to social partners playing a greater role in the broader context of development of education programmes. The act defines clear roles for social partners in the process of the creation and approval of the respective qualifications and evaluation standards.

In the Czech Republic, there is a relatively great number of people who have achieved secondary vocational education, as the country has a long tradition of vocational education. Secondary vocational education (ISCED 3) is concluded with a school-leaving examination (ISCED 3A), which was passed by 47% of all secondary school graduates. The school-leaving exam allows access to tertiary level studies. Secondary education without a leaving-certificate (ISCED 3C), which allows direct access to the job market, is obtained by 27% of all secondary school graduates.

In the Czech Republic, there has always been a great number of people with secondary vocational education (ISCED 3, completed either with a leaving certification or a vocational certificate) and, even at this time where there is apparent interest across Europe in studies in general fields, the share of secondary vocational education graduates is relatively high in comparison with the European average (EU 28). (See Graph 1).¹

¹ Source: Eurostat, Table educ_ipart, obtained on 27 May 2014.

Graph 1: Students in vocational education (ISCED 3) in the EU 28 and CZ



In the Czech Republic, a long-term decline in interest in studying vocational fields without a leaving certificate has been registered in favour of fields concluded with a leaving certificate. Interest in general fields of study remains steady (see Graph 2).

Graph 2: Development in the number of pupils starting full-time (not short-cycle) studies in the first year of secondary education, including pupils of private schools and pupils with physical handicaps.

Source: www.infoabsolvent.cz

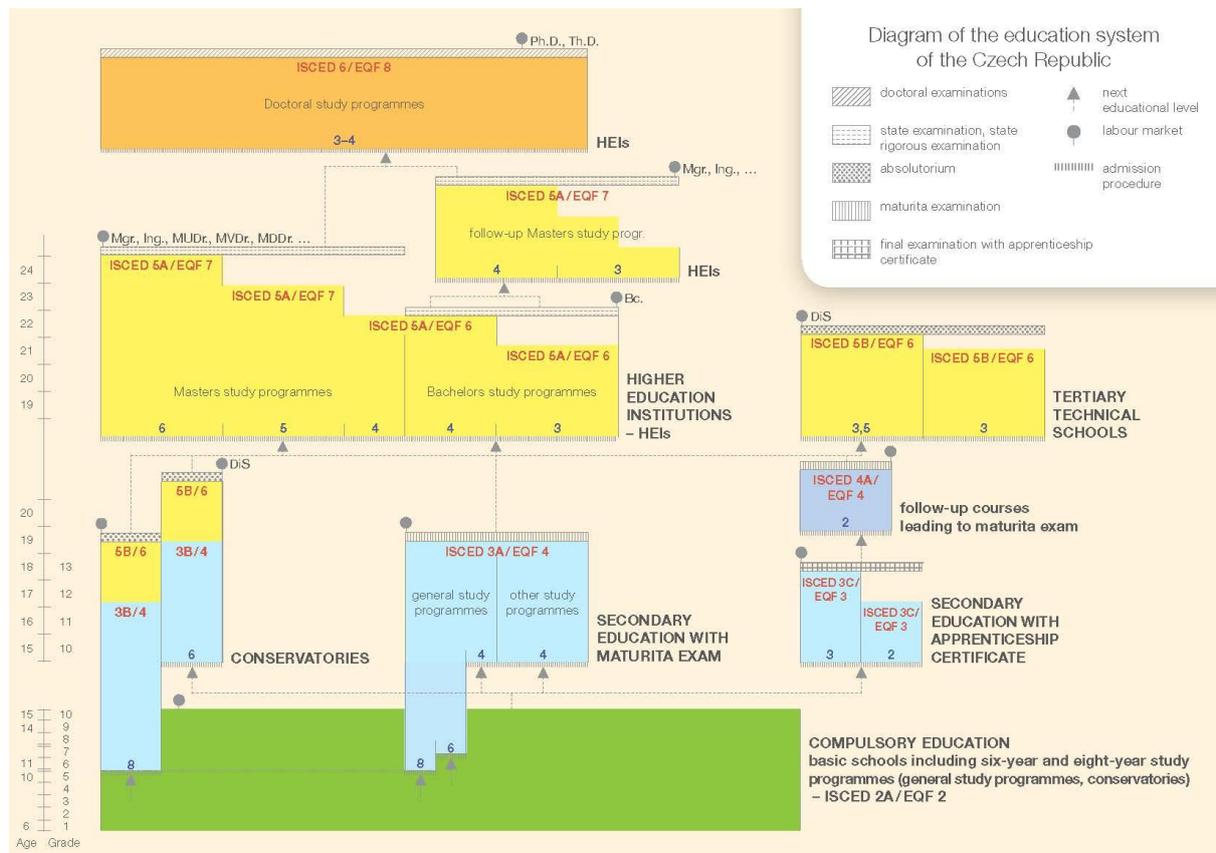
As at September 30	Grammar school	Secondary education - categories M, J and C				Categories H+E and LO			Total	of which with leaving certificate
		with leaving certificate	lyceum	without leaving certificate	Total	with vocational certificate	with leaving certificate	Total		
2002	25 226	50 740	2 263	1 603	54 606	52 400	8 817	61 217	141 049	87 046
2003	25 736	51 086	3 092	1 559	55 737	51 338	8 600	59 938	141 411	88 514
2004	25 683	50 254	3 767	1 411	55 432	49 030	9 117	58 147	139 262	88 821
2005	26 187	48 216	5 288	1 243	54 747	46 504	9 367	55 871	136 805	89 058
2006	27 112	50 171	6 217	905	57 293	45 472	10 687	56 159	140 564	94 187
2007	25 845	48 496	6 662	881	56 039	42 010	10 096	52 106	133 990	91 099
2008	25 994	48 308	6 527	883	55 718	39 858	10 155	50 013	131 725	90 984
2009	24 707	47 131	5 883	943	53 957	39 729	9 413	49 142	127 806	87 134
2010	22 859	41 097	5 059	1 010	47 166	35 090	8 002	43 092	113 117	77 017
2011	22 361	38 187	4 464	1 007	43 658	33 876	7 186	41 062	107 081	72 198
2012	22 811	36 024	3 998	978	41 000	33 202	6 406	39 608	103 419	69 239
2013	22 175	36 256	3 804	971	41 031	31 566	6 486	38 052	101 258	68 721

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Initial vocational education is provided in particular in the secondary sphere.

Secondary schools provide higher secondary education (ISCED 3), both general (grammar schools) and vocational. Pupils enter secondary school after concluding nine years of mandatory school attendance and successfully undergoing the acceptance procedure (see Graph 3).

Graph 3: Structure of the Czech education system

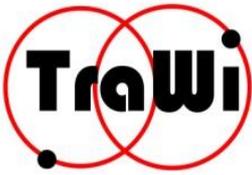


After successfully completing a certain education programme at the secondary level, graduates obtain these levels of education:

a) Secondary education

A graduate obtains a secondary education after successfully completing a one- to two-year education programme. Secondary programmes (without a vocational certificate and without a leaving certificate, ISCED 2C/EQF 2-3) represent only a small segment of secondary education and are intended particularly for pupils with special education needs. Education programmes are provided by secondary vocational schools (SVSs) or practical schools.

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b) Secondary education with vocational certificate

Three-year education programmes (ISCED 3/EQF 3) completed with a leaving exam or vocational certificate provide graduates with direct access to the job market and prepare graduates for manual jobs and similar professions (e.g., mason, hairdresser). These programmes are usually provided by secondary vocational schools (SVSs). Graduates can complete a two-year higher vocational study programme (ISCED 4A/EQF 4) and then sit for a school-leaving exam, which will allow them to continue their studies at a higher education level. Secondary vocational schools also offer a few four-year programmes completed with a school-leaving certificate (ISCED 3A/EQF 4).

c) Secondary education with vocational certificate and leaving certificate

Secondary education with a vocational certificate (ISCED 3C and 3A/EQF 3-4) can be attained by successfully completing four years of regular studies or short-cycle studies.

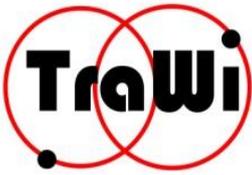
d) Secondary education with leaving certificate

Secondary education with leaving certificate will be obtained by a graduate after successfully completing a six- or eight-year grammar school programme, a two-year higher vocational educational programme or short-cycle education programme. Four-year programmes that end with a leaving certificate allow students to apply for studies at a higher education institute or carry out a technical, administrative or similar profession at the mid-level (e.g., construction technician, IT systems administrator). Secondary schools also provide lyceum programmes with a high degree of general education (up to 70% of the curriculum) which prepares graduates for studies at a higher education institution. This kind of secondary school is represented by conservatories, which prepare pupils for demanding artistic professions in the field of music, dance, voice and theatre. The studies are completed either with a school-leaving exam (secondary education - ISCED 3B/EQF 4) or by a completion of studies without defending a degree (higher vocational education - ISCED 5B/EQF 6).

School-leaving exams in all kinds of schools provide access to tertiary education.

Practical vocational training is a fixture of all educational programmes. Framework education programmes stipulate minimum capabilities that graduates should acquire and the minimum time frame of the lessons necessary for them to acquire these skills. In three-year education programmes that prepare pupils for blue-collar and handicraft professions, practical training comprises 36-46% of lessons. This share is dependent on the nature of the study field and the requirements placed on job skills. In the study fields in which pupils with learning disabilities or special needs are taught, practical training comprising at least 46-56% of lesson plans. Schools can expand the scope of practical training in their educational programmes after agreement with their social partners. In the four-year education programmes that prepare graduates for mid-level technical, economical and other positions, the minimum scope of vocational training is set at one month in the framework education programme; in some educational programmes it is longer. Practical training takes place in schools, school facilities, or at companies. At this time, the possibility for supporting practical lessons executed at companies and how to more strongly involve social partners in education is being discussed in close cooperation with the social partners.

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Standing of the chemical industry in the Czech Republic

The chemical industry is the third largest industrial sector in the Czech Republic; nevertheless, schools have problems recruiting pupils for studies in chemistry-related fields. Chemistry-related fields are not attractive to pupils (or their parents); the number of people interested in this field has been falling in the last few years and there is a shortage of graduates in chemistry-related fields, i.e., a qualified workforce.

In the Czech Republic, there are 26 secondary chemistry schools in total, 5 of which are members of the Chemical Industry Association of the Czech Republic (132 members, including companies, schools and universities). The association is trying to promote chemistry, increase the popularity of the field and develop chemistry-related studies. Since 2013 it has been organising the national “Young Chemist” competition. It supports the Olympiad at secondary schools, with the most successful participants being able to study at the Faculty of Chemistry of Pardubice University without having to take the entrance exam. Furthermore, the Sector Council for Chemistry was also set up. It strives to develop cooperation between enterprises and schools and communicates employer requirements to the school sector.

Within the Czech economy and processing industry, the standing of the chemical industry has remained stable over the last few years. At the end of 2008, due to the economic crisis, revenues in the industry have fallen slightly. 2010 saw a recovery, and revenues grew by almost 27% between 2010 and 2012. In 2012, the chemical industry employed a total of 113 245 employees; the average salary in the industry was about CZK 24 950 (approx. EUR 924).

Importance of the competencies of graduates from the employers' point of view (industrial sector – data from 2012, www.infoabsolvent.cz).

The most important knowledge, skills and abilities necessary for successfully entering work life:

For graduates with leaving certificate:

- Reading and understanding work manuals
- Ability to solve problems
- Willingness to learn
- Assuming responsibility

For graduates with a vocational certificate:

- Reading and understanding work manuals
- Willingness to learn
- Assuming responsibility
- Ability to work in a team

Particularly employers in the industry require practical abilities and knowledge of the profession, closer ties with the profession during studies, and expansion and improvement of the quality of practical lessons for pupils and students. It ensues from the respondents'

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answers that future graduates are lacking in particular practical knowledge and skills of the field in question, but also knowledge of the real work environment.

Very good language and IT skills, willingness to learn, adaptability and flexibility are among the competencies whose importance will increase substantially according to employers. Industry assumes that the importance of competencies in informatics and the ability to work in a team will increase.

Studies in certain chemistry-related fields falling under technical chemistry and chemistry of silicates

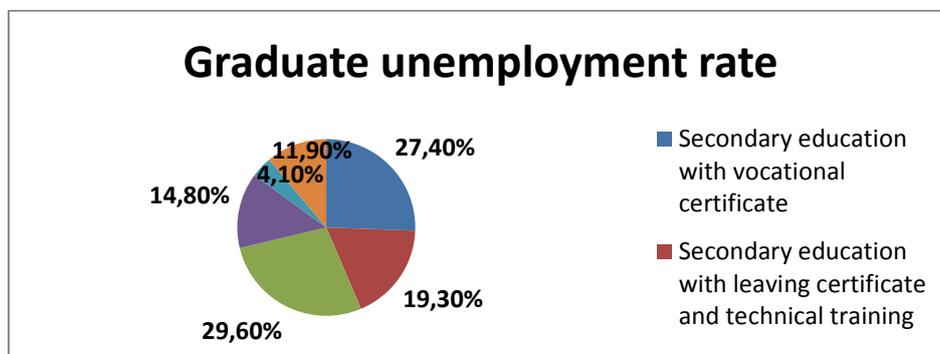
Seventeen secondary schools offers studies in the following fields: chemical technologist or applied chemist [4 years of study concluded with a leaving certificate; corresponds to chemistry lab technician (Chemielaborant) in Germany]; chemical plant operator (3 years of study concluded with a vocational certificate; corresponds to Chemikant in Germany). These fields of study fall under technical chemistry and chemistry of silicates. In 2013, there were 2059 students and 329 graduates in these fields. The greatest share of students and graduates is in the Applied Chemistry field of study.

The number of students accepted into this field of study was relatively low in 2013. Last year, 551 students were accepted into the chemical technologist field of study (with leaving certificate). In comparison, the number of all students accepted for studies in the first year of this category was 40 060. This means that the percentage of students accepted into the first year of the mentioned category and group of fields was 1.4%. The number of students accepted into the chemical plant operator field of study (with vocational certificate) was 145.

Unemployment of young adults and average income

In the Czech Republic, the unemployment rate among young adults up to the age of 25 hovered around 19.2% to 19.5% in the third quarter of 2012; compared to the total unemployment rate, the number is three times higher (see Graph 4 and 5).

Graph 4: Unemployment rate of graduates according to education level attained in 2013



Source: www.infoabsolvent.cz

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Graph 5: Overview of the unemployment rate of graduates – April 2013

Education category	Number of graduates (2012)	Number of unemployed graduates (April 2013)	Unemployment rate of graduates (April 2013)	Comparison with April 2012
Secondary education with vocational certificate	27310	7483	27.4 %	10.7 p.p.
Secondary vocational education with leaving certificate and vocational training	5531	1068	19.3 %	6.9 p.p.
Higher vocational education	3727	1105	29.6 %	12.0 p.p.
Secondary vocational education with leaving certificate	39825	5895	14.8 %	5.8 p.p.
General education (grammar school)	23888	971	4.1 %	1.0 p.p.
Higher vocational education (tertiary sphere)	4926	584	11.9 %	4.0 p.p.

Source: www.infoabsolvent.cz

The unemployment rate in the selected fields exceeds the total average and has grown substantially compared to last year. The highest rate of unemployment in the chemical plant operator field of study (with a vocational certificate) was 74.2% in 2013, which is substantially higher than the average in the entire category of education with a vocational certificate (26.2%). In chemical technologist field of study (with a school-leaving exam), the unemployment rate in 2013 was 15% and thus corresponds roughly to the average unemployment rate in those fields of study with a leaving certificate (14.8 %).

In fields of study with a vocational certificate (chemical plant operator), salaries range from CZK 18 000 to CZK 25 000 (EUR 666-925 – at the exchange rate of CZK 27/EUR). Graduates of secondary education with leaving certificate (chemical technologist) can earn between CZK 20 000 and CZK 32 000 (EUR 740 - 1185). The amount depends on the profession and whether the job is in the private or public sector.