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High School Technical Education—High Prerequisite for Getting a Job

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The paper is theoretically based on the concept of "postindustrial" (information) society (Bell, 1973) where the importance of education is emphasized and caused by changes in the structure of employment rate, growing intellectual labor exigence as well as higher unemployment rate of individuals of the lowest educational category. Therefore, higher secondary and tertiary education are becoming frequently the basic prerequisite for entering in new technological spheres and labor market in the information society where both service and production are more and more complicated. The attained education level—theoretical knowledge, professional specialization and understanding of inter-disciplinary relationships, thus, playing the key role in furnishing the individuals with knowledge and skills necessary for a successful integration in social and economic life.

Keywords: post-industrial society, primary, secondary, tertiary education, theoretical observations, special knowledge, position, branch bound employment, unemployment

Introduction

The high school technical education means a long-term theoretic preparation for the profession especially by systematic theory and special knowledge of the branch. The performance of a profession or a job within the studied branch depends on the opportunities of applying the attained knowledge and on the proportion of socially useful activities given by the division of labor and applicable in the job market which are performed by specially prepared professionals—engineering education graduates. This view is applied upon the aspects of the tertiary technical education and its application in the job market.

The empirical data show how the technical education attained by the VŠB-TUO (High Moutenous School-Technical University in Ostrava) graduates helped them in entering the job market, i.e., in getting the adequate position, in getting the possibility of performing a job in the graduated branch and of applying the attained theoretical and special knowledge and other methods.

High schools strive for preparation of high qualified experts who will be able to assert in the labor market, and their potential acquired through learning and retroactively will favorably appreciate their education in their practical job positions. The study at a technical university encompasses both a broad theoretical basis and special knowledge of the branch as well as other pieces of knowledge from social sciences, including learning of foreign languages. The following aspects of education with respect to their importance for the practice were offered for evaluation to the graduates from VŠB-TUO who had graduated since 1995. They expressed their satisfaction with their educational training in a range from 1 ("Very bad") to 5 ("Very good").

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Theoretical and Special Knowledge of the Graduates

The theoretical knowledge together with special knowledge of the branch unambiguously belong among the best appreciated areas of school preparation.

Theoretical Knowledge

After merging of all answers of satisfied graduates, we find out that prevailing majority of graduates (94%) after 2000 were generally satisfied with their theoretical training at the school. Above-average satisfied with their theoretical knowledge, there were graduates who were employed in the branch which they studied (average 4). Dropping portion of those employed in the branch corresponded also with the lowering level of satisfaction (3.7) in a related branch, out of branch (3.4). The theoretical preparation was above-average assessed by graduates from all faculties, however, most strikingly by the graduates of FEI (Faculty of Electrical Engineering and Informatics) (3.9) and EkF (Faculty of Economics) (3.9).

The quality of the preparation for practical employment—special knowledge of the branch—shows as well the best average for the whole university. The school training in special knowledge was best appreciated by those who were employed in the branch (average 3.5). The satisfaction of the graduates with that "unexploited" potential of school education was decreasing with shrinking possibilities of making use of this knowledge. Men were more satisfied (3.4) than women (3.2). The most satisfied with the branch education were the graduates from the FEI (Faculty of Electrical Engineering and Informatics) (3.5), FMMI (Faculty of Metallurgy and Material Engineering) (3.4), and Faculty of Mechanical Engineering (FS) (3.3), their assessments were better than the average of the university as a whole (3.25).

It is interesting that those graduates who immediately after graduation entered leading positions retrospectively assessed their theoretical (average 3.9) as well as special knowledge (average 3.4) attained during their school preparation. These findings confirm the correctness of revaluation of concepts and curricula of the lines of study and the proportionality of the contents of education. Approximately, four fifths of graduates from the VŠB-TUO Ostrava were markedly satisfied with their special knowledge attained. Differences between the levels of satisfaction with theoretical and special knowledge are shown in Figures 1 and 2.

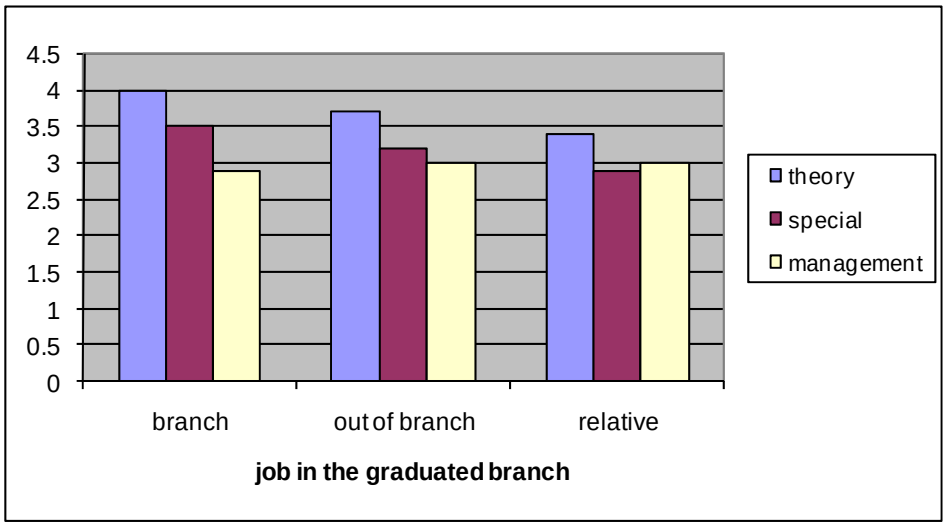

Figure 1. Evaluation of education acc. to branch bound job.

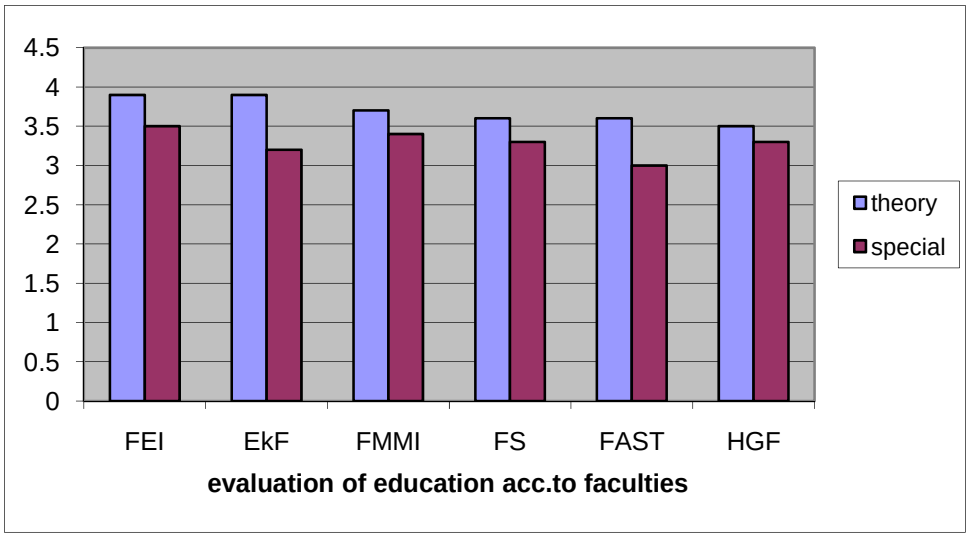

Figure 2. Evaluation of education acc. to faculties.

The observed results thus confirm correspond with results achieved at other technical universities in the Czech Republic (Data Institute for Education Information, 2010).

The Influence of Education Upon Graduates' Job Opportunities

The presentation will also show the fact how is the attained level of education important for working in highly qualified positions and for employment opportunities. This fact is confirmed both by the demands of the employers and by the data on low unemployment rate of tertiary education graduates. It has resulted from an analysis of requirements of large size and small size companies that the most accented reason for accepting a high school graduate are his/her personality prerequisites: his/her willingness to adapt to the company culture, willingness and ability of rapid learning and flexibility. Another significant group is presented by special and general competences: newer theoretical knowledge, knowledge of new technologies, and language skills (Balcar, 2008).

Also, the data collected by us on the potential of graduates as their prerequisite for getting a job in the labor market correspond with the requirements of the employers. Nearly, one half of the graduates start working in the branch studied, others in a related branch and only approximately 15% find job out of branch they graduated in. To the branches, the graduates traditionally find jobs belong subsequently: engineering, building industry, public and state administration, transport and telecommunication, trade, services for companies, and power engineering. Since 2000, a great influx of graduates has been witnessed in secondary industry, IT (information technologies), and real estate industry (Papřoková, 2008).

The context of the level of education attained and its effect upon the unemployment rate is shown in Table 1. The distinctive decrease in all education categories that had persisted until 2008 was relieved by an increase caused by the economic crisis and the following economic recession. However, it still holds that the higher the level of education the lower the unemployment rate.

The unemployment rate of graduates from high schools in Czech Republic has had a long term share in the total unemployment rate of 3% as average since 1997 (3.1% in 2001, 2.9% in 2003). These data also confirm the situation in EU (European Union) where the unemployment rate of highly qualified persons in Czech

Republic with 2.7% share on total unemployment rate in 2001 nearly copied the EU average of 2.1% (Eurostat, 2002). The unemployment rate of master degree graduates respected the general trend of growing unemployment rate, however, with relatively low figures. It was 3.6 in April 2008 (before the start of the economic crisis) and 4.3 % one year later. In 2009, the rate of unemployment of freshly graduated masters was 4.3%, in April 2010 amounted to 6.4% and in April 2011 climbed up to 7.1% (Studie, 2011).

Table 1

Rate of Unemployment of Graduates in the Czech Republic Within 2008-2011

Standardized rate of unemployment	2008	2009	2010	2011
Lower secondary education with apprentice certificate—E	12.75%	25.28%	32.14%	31.34%
Secondary education with apprentice certificate—H	6.21%	11.98%	17.75%	17.11%
Secondary professional education with GCE (General Certificate of Education), advance education—L/0, L/5	7.79%	11.81%	19.35%	18.17%
Secondary professional education with GCE—M	5.67%	7.85%	10.62%	11.45%
Higher professional education—N	5.52%	6.79%	8.91%	9.39%
High school master education T	3.60%	4.29%	6.42%	7.11%

The data on the unemployment rate of VŠB-TUO graduates show their long termed low unemployment rate. Due to the adverse economic development, the unemployment rate of the VŠB-TUO graduates has increased since 2009, however, has not reached the average for the Czech Republic (see Table 2).

Table 2

Development of Unemployment Rate of the VŠB-TUO Graduates in 2009-2011

Standardized rate of unemployment	2009	2010	2011
Bc. (bachelor degree)	5.5%	8.8%	6.9%
Mgr. (master degree)	3.3%	5.8%	5.6%
Ph.D. (doctoral degree)	0.0%	3.6%	1.3%

The data show unambiguously that the unemployment rate significantly decreases with the higher degree of education, however, it depends on the line of study and on the region. This finding is of general validity. This is confirmed also by the data on the unemployment rate of young people of the 15-24 age group (without relation to the education attained), which reached 16.6 % in the Czech Republic in 2009 and already 18.3 % in 2010 (OESD average 16.7 %, EU average 20.3 %).

Interesting is also the look at the educational structure of the employed which increased as compared with 2000. There are more people among the employed with completed high school or higher professional education. Their total number in the population increased from 11% in 2000 to 14.5% in 2008. Despite this, the portion of persons with tertiary education is in the Czech Republic still below the EU 27 average (24%). The educational structure of young employed people in the Czech Republic is with regard to EU as follows:

(1) Persons with primary education in EU 14.4%, in Czech Republic 4.2%;

(2) Persons with secondary education in EU 48.9%, in Czech Republic 69.1%;

(3) Persons with tertiary education in EU 36.4%, in Czech Republic 26.5%.

The center of gravity of the educational structure in the Czech Republic are secondary school graduates, there are still reserves in the tertiary education (like AT (Austria), RO (Romania) a.o.), and contrary to all EU countries, there is the lowest portion of persons with primary education only (6%) in the Czech Republic. The distribution according to education is in other EU countries more balanced and that in both directions—both in

favor of the greater portion of the high school educated UK (United Kingdom), DK (Denmark) (a.o.) and in favor of the group of the employed who attained primary education as maximum (DK).

It applies both for the Czech Republic and Slovakia the chance of getting employment increases proportionally to the level of education. Here, there is significantly less job opportunities for young people without education as compared to other EU member states. Young people in Czech Republic and Slovakia are used to devote long years to school preparation, they enter the labor market in higher age and then they complement or extend their qualifications. The Czech labor market is relatively technologically more sophisticated and the employers demand qualified labor force, prefer completed secondary education or bachelor degree education (Vojtěch & Chamurová, 2011). The developments of the share of persons on the tertiary education in selected EU countries are presented in Table 3 (Koucký & Lepič, 2008).

Table 3

Portions of the Employed Acc. to Tertiary Education in Selected EU Countries

Standardized rate of the employed with tertiary education	1995	2000	2005	2010
AT (Austria)	8.54%	15.84%	19.92%	20.92%
BE (Belgia)	31.72%	34.24%	37.54%	40.46%
BG (Bulgaria)	24.70%	23.42%	24.68%	25.76%
CR (Czech Republic)	14.20%	15.52%	17.80%	20.62%
DE (Germany)	24.42%	25.09%	25.79%	26.77%
DK (Denmark)	27.51%	27.21%	32.62%	33.12%
EE (Estonia)	40.00%	32.84%	35.60%	40.54%
FI (Finland)	24.79%	31.83%	36.18%	39.55%
FR (France)	23.03%	27.86%	30.86%	34.95%
HU (Hungary)	17.59%	18.99%	22.96%	27.64%
NL (Netherlands)	23.52%	23.90%	29.51%	32.91%
PL (Poland)	21.72%	22.69%	24.85%	30.16%
RO (Romania)	14.98%	13.89%	17.14%	18.90%
SE (Sweden)	30.10%	29.01%	29.23%	32.96%
SL (Slovenia)	18.21%	20.79%	26.34%	30.97%
SK (Slovakia)	16.45%	17.63%	21.55%	24.65%
UK (United Kingdom)	23.02%	27.81%	30.86%	34.54%

Conclusions

The VŠB-TUO graduates enter the job market equipped with wide range of both theoretical and special professional knowledge which help them to attain the desired flexibility. If we relate the employer requirements to the profile of graduates, we can see the conformity of their preparations with the needs of the employers and higher chances of the graduates to enter the job market.

Higher education provides apart from the "cultural capital" also the economical profit in times when the qualification demands of professions and a chance of being successful have those who are "prepared", i.e., those equipped with certain knowledge, abilities, and skills. In the framework of development trends, less qualified job positions die away which limits the employability of persons with low education. As jobs and investments asking for lower level of working skills are moved to countries outside both EU and OECD and as the global competition shifts to new territories, the highly qualified labor force is becoming the only way to preservation of the standard of living in long term horizon (Šťastnová, 2011). Thus, education and application

of skills present the main power that can be competitively explored by the "knowledge" and the post-industrial societies.

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