

ANALYTICAL INSIGHT INTO PROBLEMS OF VOCATIONAL EDUCATION IN THE SLOVAK REPUBLIC

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Abstract

The level and quality of vocational education is an important determinant of economic and social development of the country as well as its employment and competitiveness. The transformation of economic and political system had a significant impact on the development of vocational education in Slovakia, which currently faces many problems. One problem is long-term lack of students and inferior status of vocational education and training compared to general education, despite the growing demand for professional skills in the labour market. This article illustrates the pros and cons of the Slovak system of vocational education. The evaluation is based on opinion survey of vocational education subjects, which was conducted among external students of teaching technological disciplines from different regions of Slovakia. Collected data were analyzed by statistical methods (two-dimensional descriptive statistics).

Key words: education, problems of vocational education, vocational education.

Introduction

The whole 20th century was characterized by a strong acceleration and modernization of the Slovak society, which allowed it to go beyond the century framework, seemingly at the same level as our neighbours. But the speed and stigmatization of the regime brought a numerous modes of deformation, which is still unable to cope with.

The last twenty years meant a huge change in the organization and financing of education and science, as well as fundamental economic transformation. Very often can be seen the steps forward and decline, but also pretending of changes. It is possible to talk about significant change in the rules which for various reasons did not cause the expected change of reality in Slovakia (Beblavý, 2010). A reduced competition of private and denominational (religious) schools was introduced into primary and secondary education. Other changes related to transition to the student performance funding (which is much more equitable than the previous system based on the strength of connections), transfer of schools administration to the municipalities and regions, as well as multiple deformation of salary system. According to a State of Education Report of the Slovak Republic 2008 (Ministry of Education, 2009) the generational exchange has not yet begun at universities (situation in other levels of schools is not better) even though it has slowly began to occur; quality workplaces (especially science and technical) continue to improve, but it can not be said about the level of secondary technical schools. The coexistence of science and its needlessness from secondary schools perspective along with other organizational factors cause failure of preparation and reproduction of the intellectual elites.

Vocational Education - A Place of the Creation of Irreplaceable Innovation

The literature on innovation is extremely vast and contains a huge amount of definitions of "innovation". This highlights the need of people to denominate the phenomenon (of creating

something new) which determines human development. The existing definitions of innovation are always marked by a subjective view of the authors on the issue of “creating something new”. For the purpose of this paper, we have chosen the following definition of innovation: “Innovation is practical transfer of ideas into new products (goods and services), processes, systems and social relations” (Tureková & Mičieta, 2003). In vocational education as a product of an institutionalized educational process of the Ministry of Education of the Slovak Republic, the educational institutions with their educational programmes can be perceived as products of social innovation. Different thoughts and ideas that led to the solution of some social challenge can be considered as examples of social innovation - from those which give rise to new organizations, institutions and citizens’ movements to those reactions and measures that govern and regulate relations between people in a new way (Malová & Buzalka, 2010). Innovations in modern society are one of the most important levers of economic and social development - especially innovation related to economic development of the firms i.e. product and technological innovation. Their bases laid right in vocational education – from primary schools, through secondary schools to colleges and universities.

Changes indicated in the introduction of the article point to our ability to absorb the innovations of others. Automobile and electric industry in Slovakia is the most visible example of change that economics passed over the transformation. While this change has brought a change in behaviour of customers - consumers, failed to produce positive change in the understanding of vocational education by parents of pupils and students. Parents of schoolable and post-schoolable children till today do not want to understand this induced change, they permanently prefer non-technical fields of study and economic (technical) education. Disinterest of pupils in studying in technically oriented high schools analyzes Krušpán (2009) who sees problem already in primary schools, especially in combination with indifferent attitude of the schools to technical education. According to this author technical education at secondary schools is absolutely devastated, while abroad just this is the platform for general technical education. The system of educational vouchers of the Ministry of Education is perhaps a foundation for relationships to the training activities that can lead to better knowledge and innovation. This system of educational vouchers has the form of special funds to support professional education in the schools and educational institutions (Korintuš & Lajčin, 2009).

From the perspective of innovation management and management of vocational education important elements of the institutional chain is the Ministry of Economy of the Slovak Republic and Ministry of Education, Science, Research and Sport of the Slovak Republic (Ministry of Education). The existence of the Ministry of Education is much less noticeable in addressing issues than the existence of the Ministry of Economy of the Slovak Republic. Ministry of Economy demonstrated its activity mainly in time of strategic investors localization. Activities of the Ministry of Finance are in the minds of the public and professionals more resonant. In terms of change management is possible to say that the difference consists in their willingness to change and in different external pressure on change. It should be noted that both institutions do not exist in the marketplace, but are strongly subject to political environment. The Ministry of Education operates markedly in public environment and is a stable part of the public sector economy. We have to clearly say that the gap formed between the public infrastructure of the information society and the private economic infrastructure (which has significantly changed under the influence of the current hyper-competitive environment) constantly evolves, but not decrease. To problems of unpreparedness and hence uselessness of the graduates point small and medium entrepreneurs.

The fundamental problem that concerns the management of vocational education is a fact that the actual structure of schools and their study fields and study programmes (in relation to population years and many institutional and populist changes affecting educational system during the previous period) does not correspond to labour market. These are the main problems of vocational education (Sláviková & Tej, 2010):

- labour market requires graduates in absolutely different skill and occupational structure as provides educational system;
- persistent and in the long-term irreversible demographic problems associated with low natural population growth;
- disruption of natural links between schools/colleges and places (companies) where the practice of students is/was implemented;
- change of the school subjects structure to the detriment of vocational school subjects;
- lagging technical equipment of vocational schools;
- other factors, such as those related to budget funding of education (funding per pupil).

Methodology of Research

This research aims to study present situation and main problems of vocational education in Slovakia. In research was used statistical procedure, for data collection was used a questionnaire that included closed and open questions. Research was carried out twice - in 2009 and 2011 and was aimed at vocational education subjects. For the purpose of obtaining the opinions of the wider professional community a survey was conducted among secondary school teachers. Part of the survey was a investigation of their perception of the problems of vocational education and their views on the pros and cons of the Slovak system of vocational education. In the survey participated respondents from all (total eight) regions of Slovakia.

Sample of Research

Relevant information was gathered on the basis of a sample survey. The sample selection was intentional (non-probability). Respondents were secondary school teachers - external students of technology and teaching (i.e. unqualified teachers in additional education). These respondents were selected particularly because they represent a group that knows the situation of the vocational education in detail and based on their own experiences are able better identify the problems that currently faces vocational education in Slovakia. In the survey were interviewed 650 teachers in 2009 and 590 teachers in 2011 from all eight administrative regions of Slovakia.

Data Analysis

For detection of statistical dependence between variables was used two-dimensional descriptive statistics (Cramer's coefficient). Data were analyzed by Cramer's contingency coefficient which interprets measure of strength of association between two variables and has values between 0 (no association) and 1 (maximum association). For interpretation of the coefficient was used (in sociology and psychology well-established) Cohen's scale (Correlation: Cr smaller than 0.111 is trivial, Cr = 0.111 – 0.333 is weak, Cr = 0.334 – 0.666 is medium, over 0.667 is strong dependence). Results of the survey were analyzed using MS Excel.

Results of Research

Results of the survey noticeably show that the difference between Slovak regions was negligible (measured by contingency coefficient has the value $C = 0.012$ which is very weak dependence on $n = 650$, significance level of 0.01 and degrees of freedom $h = 5$). The differences between the opinions of men and women were very low (measured by contingency coefficient has the value of $C = 0.213$ which is very weak dependence on $n = 650$, significance level of

0.01 and degrees of freedom $h = 1$). At the same survey conducted two years later (in 2011), differences in opinions between the regions were more significant (measured by contingency coefficient $C = 0.311$ level representing a moderate dependence on $n = 590$, significance level of 0.01 and degrees of freedom $h = 5$). This is a result of deepening effects of current crisis, which has regionally differentiated impact. It is a factor of change (decrease) in funding allocated to schools budgets, decline in jobs creation (especially in the production sector) as well as increase of unemployment of graduates and the workforce with technical education.

Respondents were not extremely critical to the current management of vocational education. They rather define individual partial practical problems faced by the practice of vocational education. Individual negative aspects (cons) are arranged in ascending order of their frequency (Table 1).

Table 1. Reasons of the negative status of vocational education (2009).

Answer	2009
Budget funding which leads to an increase in the number of applicants admitted at the secondary grammar schools by virtue of bidden free places (and downtrend population curve) which often leads to the recruitment of pupils and students with no choice.	1.
The emphasis on educations rather than vocational subjects or "unnecessary subjects" that were added to the curriculum to the prejudice of vocational subjects.	2.
Practical preparation (training) does not take place in real actual environment and there is minor opportunity to acquire practical skills in schools.	3.
Preference of study fields of non-technological focus, services focus (e.g. beautician, hairdresser, manicurist and nail modelling ...).	4.
Outdated textbooks and teaching tools that do not correspond to the current situation in vocational (professional) practice as well as outdated technical equipment.	5.
The existence of a large number of study fields in secondary schools.	6.
Transformation of vocational schools into economic study fields.	7.
The costingness (financial costs) of study.	8.
Disinterest of students and lack of qualified teachers.	9.
Weak financial rewards of professional teachers and vocational subjects teachers	10.

In the same survey which was conducted in 2011 respondents defined following problems of vocational education (Table 2). The column on the right side of the table shows the change of a factor compared with its rankings in previous research conducted in 2009.

Table 2. Reasons of the negative status of vocational education (2011).

Answer	2011	Change
Outdated textbooks and teaching tools that do not correspond to the current situation in vocational (professional) practice as well as outdated technical equipment.	1.	↑
Budget funding which leads to an increase in the number of applicants admitted at the secondary grammar schools by virtue of bidden free places (and downtrend population curve) which often leads to the recruitment of pupils and students with no choice.	2.	↓
Weak financial rewards of professional and vocational subjects teachers.	3.	↑
Bad behaviour of pupils to teachers, underestimation of the teacher profession by parents and whole society.	4.	↑
Disinterest of students and lack of qualified teachers.	5.	↑
Practical preparation (training) does not take place in real actual environment and there is minor opportunity to acquire practical skills in schools.	6.	↓
Preference of study fields of non-technological focus, services focus (e.g. beautician, hair-dresser, manicurist and nail modelling ...).	7.	↓
Transformation of vocational schools into economic study fields.	8.	↓
The costingness (financial costs) of study.	9.	↓
Frequent changes - ineffective reforms in education.	10.	↑

In addition to these (most frequent) responses there were some general answers regarding to the status of teachers, the lack of assessment, intervention of parents and school council or the minimum effect of school reform. But their significance in comparison with the main problems was very low. The evaluation of responses by age showed a very low dependence ($C = 0.015$).

Respondents also specify many positive aspects of Slovak vocational education system. They were more general in nature, connected particularly with education, socialization and ICT equipment in schools. As shown in Table 1 and Table 2 during two-year duration of symptoms of the current economic crisis came to the forefront the following problems:

- ♦ School facilities even more grown old, their equipment (equipment of the classes, didactic technics, canteen equipment, boiler rooms etc.) has not been improved, textbooks has become obsolete and oftentimes missing textbooks have not been published.
- ♦ Budget funding of schools is not very fair indeed, but bureaucratic allocation of funds to the school budgets is more objective.
- ♦ Poor financial rewards for teachers are naturally perceived as a problem in times of crisis. But the problem is also contextual comparison with other professions in which incomes - at the same level of qualification - are incomparably better.
- ♦ It subsequently creates the problem of underestimating the tutorial profession by parents and society. This in turn causes bad behaviour of students to teachers and pupils' disinterest in education.
- ♦ Existing conditions lead to the removal of pedagogically skilled people outside the education sector hence in society there is a shortage of qualified teachers, which increases proportionally with increasing distance of schools from urban and education centres.
- ♦ Respondents began to perceive critically the financial costs of study at the state schools that through the collecting financial resources from the parents are trying to solve their capital underextension.

- ♦ Also negatively are perceived the changes in education, especially teachers' obligation to attend courses, education or training. Frequent argument is that instead of better preparation for teaching (alongside increasing students' disinterest) teachers spend time "chasing" credits for (temporarily) higher salary.

Respondents were asked to suggest a way of solving present difficult situation of vocational schools. Their suggested solutions have general and unclear character as well as very concrete character. Individual solutions for vocational education are presented in Table 3 according to their importance and the average position in both surveys (2009 and 2011).

Table 3. Proposals for solving the problems of vocational education.

Answer	Ordinal number
Reassess financing of vocational schools as well as the whole educational system.	1.
Attract and reinvolve businesses into the process of practical education and training.	2.
Revise structure of secondary schools and study fields, because it doesn't meet the needs of the labour market.	3.
Improve the compliance between theory and needs of practice.	4.
Realize the financing of vocational schools according to the social urgency and needs of enterprises as actors of economic development of the country as well as region.	5.
Enable teachers to work and not to burden them with useless activities that inhibit them from preparing satisfactorily (often in unsuitable conditions of the school).	6.
Reduce the number of pupils in classes for vocational subjects.	7.
Create structure of schools in accordance with the needs of "buyers" of the workforce, not according to demand i.e. interest or disinterest of parents (because future secondary school students often can not decide in their own about preferred type of school).	8.
Management of schools entrust to skilled managers (with adequate economic education), improve marketing of schools.	9.
Enable students to have professional practice remunerated.	10.

Discussion

Many surveys in several countries investigated the status of vocational education and specified main problems which the vocational education currently faces. With the results of the survey included in this study correspond some results of conference focused on vocational education in Poland (III Ogólnopolska Konferencja „Rozwój Szkolnictwa Zawodowego w Polsce i Unii Europejskiej”). The main conclusions of this conference summarized Moos, Bartosiak, Jankowska and Pastusiak (n.d.) and propose concrete solutions to problems of vocational education in Poland for example the need for reform of the vocational education, reduction of the number of theoretical and practical school subject in favour of vocational subjects, using a new teaching methods (e.g. project teaching) and linkage between vocational schools with the labour market and its needs (http://www.gazeta.edu.pl/Rozwoj_Szkolnictwa_Zawodowego_w_Polsce_i_Unii_Europejskiej-100_272-0.html).

The issue of research and development of vocational education at secondary level and appropriate methodological procedure discusses Asztalos (2009) who presents a detailed methodology for solving current problems of vocational education. The need for marketing in schools has long been pointed by many authors, for example Jurková and Ferencová (2010).

From proposed solutions is evident that respondents correctly evaluate the present situation in vocational education. The responses in the survey in many fields correspond with the declaration of the Ministry of Education, Science, Research and Sport of the Slovak Republic issued in April 2010 (Desiatky študijných odborov zaniknú, 2010). The Ministry of Education in cooperation with Central Office of Labour, Social Affairs and Family (ÚPSVaR) prepare the analysis of study fields which indicates redundancy of some social science disciplines. To support study fields in compliance with market demand is the role Fund of the Development of Vocational Education and Training (Fund). Ministry of Education assumes that entrepreneurs will financially contribute to the Fund. They will be at the same time members of the administrative agencies of Fund. The main task of the Fund is to help create some study programmes according to current requirements, provide some technologies and specificities that can not be financed from the normative.

Act on Vocational Education (Zákon č. 184/2009 Z.z. o odbornom vzdelávaní a príprave) through tax-relief motivates employers to invest into training/education of their future employees. Students can be motivated by scholarships or awards for productive work that employers can disburse to students under the concluded employment contract. The issue of student motivation in detail discusses Birknerová (2011). Similarly, they can provide students food, accommodation, travel expenses, protective equipment etc. Employers could support the modernization, technical and material equipment of schools and centres of practical training. There are obvious efforts to deal with “severe trauma” of vocational education as evidenced by the establishment of the Government Council for Vocational Education and Training (Štatút Rady vlády SR pre odborné vzdelávanie a prípravu) in 2009.

Conclusions

In recent years education faced many laws made by the Ministry of Education. Despite this are changes for the better not very visible and paradoxically, neither teachers nor students can not perceive the implemented changes positively.

Vocational schools lack for students. The reason is that instead vocational schools students prefer schools of general education, although the labour market demands for professional skills. Changes in education system and vocational education lasts too long, many of the negatives of education system are consequences of the errors or passivity of previous governments. Valid is an Act which allows vocational schools to align curriculum with the needs of the labour market, although many teachers are not informed about it.

In relation to vocational education is necessary to realize that highly desirable is support of bottom-up initiatives. Schools should identify themselves and enforce their initiatives in the regions with their establishments. It is necessary to overcome deep-rooted behavioural patterns of educational institutions - from vocational schools to institutions at the central level. That is the way to stabilize the vocational education which is essential for building a knowledge society and beneficial innovation.

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