

## **COOPERATION OF SECONDARY VOCATIONAL SCHOOLS AND INDUSTRIAL ENTITIES OPERATING ON THE LABOUR MARKET OF THE CZECH REPUBLIC AND SLOVAK REPUBLIC WITHIN THE FRAMEWORK OF PREPARATION OF A SKILLED WORKFORCE IN METALLURGY**

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### **Abstract**

At industrial enterprise management, human aspect gets to the forefront as one the key factors of enterprise performance. A long-term problem of metallurgical entities currently operating in and coming into the labour market of the Czech Republic and Slovakia is a shortage of skilled workforce. Available human resources in required sector and qualification structure and respective time period are becoming key factor at enterprise management. They are prerequisite for its successful operation. Current supply of labor resources does not correspond in many aspects to the requirements of metallurgical companies.

**Keywords:** Secondary vocational school, graduate, industrial entity in metallurgy, skilled workforce, targeted education

### **1. INTRODUCTION**

Mismatch between graduate structure and the requirements of metallurgical business sector causes troubles to both enterprises, through the lack of qualified human resources, and to government due to the inefficient spending funds for inadequate education the result of which is also structural unemployment.

Significant share in this existing state is due to the lack of connection of education system and metallurgical business sector and its requirements for the development of sector structure and qualification.

The reflection of metallurgical sector human resource management in the education system, especially in technical regional education is basic functional element of efficient education system, school network and their sector structure setup. The contribution assesses individual reasons for needs and resources mismatch and strives to find solutions to create the environment supporting the cooperation of metallurgical businesses and education system.

### **2. CURRENT STATE IN THE SECONDARY VOCATIONAL EDUCATION**

Over the past few years, the education system records increased interest in the issue of technical education. At schools in the Czech Republic and Slovakia, this interest is reflected in reform steps that have led and lead to a change in the approach and objectives of education, to the revision of educational content and modernization of the teaching process itself, consisting in the use of modern teaching methodologies. In this context, it seems that one of the basic economic concepts, i.e. the market and also the labour market if considering the human factor, is being partially neglected or avoided.

The labour market, as well as other markets, is governed by laws but the education system is also substantially influenced by many external interventions which undoubtedly comprise state interventions, including a system of legislation, management of, and supervision over schools and school issues. Labour demand is determined by companies - employers, whereas the amount and quality of the workforce depends on the size of the

particular metallurgical enterprise, but generally also any enterprise, on its technical and technological maturity, which is dependent on the specific production programme of the company, especially on its order backlogs within a certain timeframe.

In adopting corporate personnel strategy, it is necessary to keep in view the plan of preparation of personnel resources and reserves. Finding strategic advantages is a continuing activity. If we wish to achieve excellent results in the long term, we must work with corporate human resources consistently and systematically. [1]

Currently, the relations between secondary vocational schools and employers are not functionally linked. The relationship between educational institutions and the business community is quite disengaged. The system of cooperation is characterized by an uncoordinated network of unclear links between individual entities, which depend on a number of objective and subjective factors (economic, social, regional, political).

There are several crucial reasons for the inefficient (as well as often also irresponsible) management of the education system after 1990, which have caused and further support the mismatch between the number and qualification structure of graduates on one hand and the lack of skilled workforce for specific industries, business, employers on the other.

The first reason was the delimitation of corporate apprentice training centres, corporate secondary vocational schools, centres of practical teaching, practical training centres and school economies from companies and management of sectoral ministries under the establishing authority of the regions and the central power of the state through the Ministry of Education, Youth and Sports.

This delimitation of vocational schools from businesses disrupted direct links to the staffing requirements of companies. Loss of continuous information about the requirements of employers for the structure and number of future human resources is the major cause of missing forecasts of labour market needs at all levels.

The second reason is the introduction of normative funding, i.e. funding according to the number of pupils or students, which has logically resulted in the efforts of founders and managers of specific schools to obtain as many students as possible. The objective of this behaviour was and still is to gain maximum funds from the state budget, often at the expense of the selection criteria for candidates to study, the study itself and the introduction of apprentice and study fields which have rather (or preferentially) recruitment marketing importance affecting the decisions of students and their parents for studying "attractive" fields. The objective of ensuring a necessary, desirable and usable structure and quality of future graduates of secondary vocational schools in accordance with the needs and expectations of enterprises is not the main criterion.

The third reason is the support and implementation of expansion of the number of classes at grammar schools and business schools with the declared aim of supporting the preparation of graduates of these schools for tertiary education, whereas - as with the second reason - the requirements for the mental and skill level of applicants for this type of secondary education have decreased.

In the Czech Republic, starting projections of macroeconomic variables are not performed. There is no authoritative official summary projection of the need for the number of jobs according to various sectors of the economy, which would be reflected in the sectoral educational offer. The only thing being done is an ad hoc comparison of the share of workers of individual economic sectors in the total employment and the proportion of graduates for the corresponding groups of fields of education. This is just followed by stating the mismatch between the production of personnel resources and their needs. Individual practices, which are so far implemented, are applied through partial projects at many levels and departmental orientations which are not interconnected. They do not allow common sharing of outputs and do not provide a comprehensive system of predicting qualification requirements for the country.

In addition, the socioeconomic, cultural and family background and status of specific applicants for the respective study (despite the declared equality of entitlement to, and support in, education in the Czech Republic and Slovakia) has considerable influence. Another problematic area caused by disruption of the

functional link between secondary vocational schools and employers is the interruption of transmission of requirements for the curriculum content based on the development of techniques and technologies.

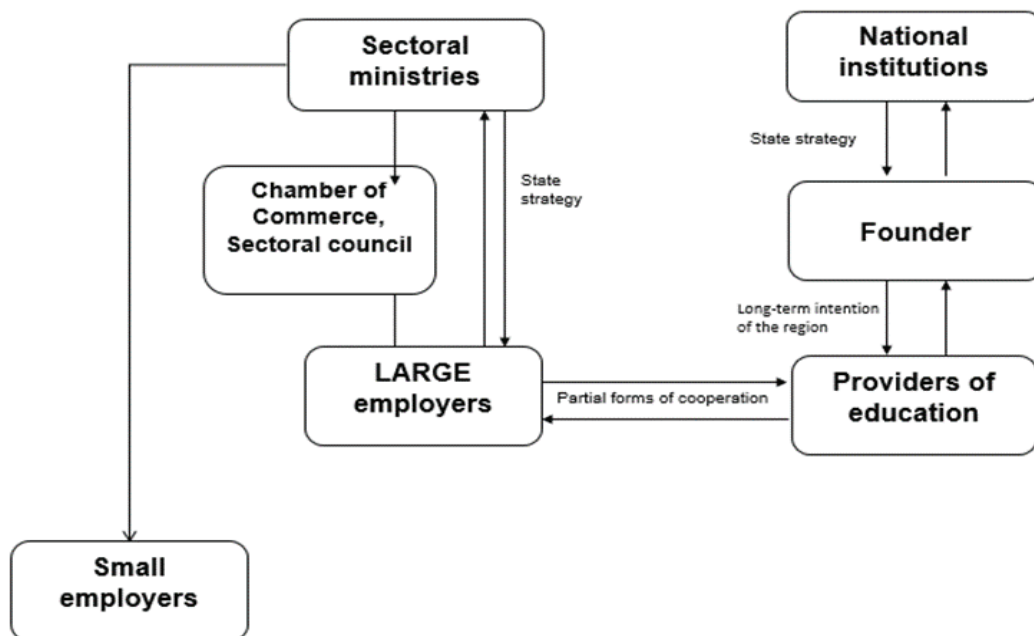
Without cooperative links and interconnection of the systems, the education system is not able to intercept requirements resulting from changes caused by the rapid development of techniques and technologies, which is reflected in the development of professions, and incorporate them into education programmes in sufficient time. Units of work are changing as well as vocational qualifications and requirements for professional competence. The system lacks a quick and flexible tool for the transmission of requirements which would enable their inclusion in the curriculum content in advance.

Due to the above disruptions and changes in funding, individual jobs and the resultant cooperative ties ensuring the implementation of vocational training, as well as professional experience in a real work environment, have gradually disappeared. With regard to the current staffing of secondary vocational schools, there is nobody who can implement the cooperation between the schools and companies. Schools are limited by the actual normative method of financing employees.

This problem area has emerged as a consequence of the separation of vocational training from the real work environment. Due to the insensitive interventions into the system, the world of education began to move away from the world of employers. These two worlds have started to live independently and seek their own instruments for their functioning.

**Figure 1** summarizes current state of the education and employers systems.

## Current structure



**Figure 1** Schematic representation of the current state of isolated systems: system of education and system of employers

### 3. THE TASK OF PERSONNEL MANAGEMENT INDUSTRIAL SECTOR

Based on the content of the officially published data from individual educational institutions represented by a set of secondary vocational schools, practical training centres and centres of practical teaching, supported by

the declared statistical data of the founders of these schools and ultimately by the Ministry of Education Physical Education and Sports of the Czech Republic and Slovakia, it is obvious that securing the preparation of a qualified workforce should not be a problem with regard to the number of schools, teachers and students. However, the opposite is true.

Associations of employers' unions and especially employers themselves are "bleeding" due to the lack of a skilled workforce with the required knowledge, skills and abilities. The key problem is not so much the order backlog and the entry of new investors onto the labour market; for several years, the remaining and increasingly deepening problem is as follows:

- 1) From the perspective of current and development trends of labour market needs - a practice, undesirable structure of apprentice and study fields at different types and directions of schools.
- 2) At the level of failure to cope with vocational training - practical training, creativity, required skills of future graduates in accordance with the requirements and needs of a specific industry and specific employers, at the level of technical, technological and information equipment, communicating with the actual conditions of employers.

Absence of these factors leads to the fact that the labour market lacks the required amount of professionally qualified workers, whereas the graduates:

- Do not find their self-fulfilment in the labour market represented by particular employers.
- Seek work outside their expertise and specialization.
- Are frequent visitors to labour (employment) offices.
- Attend retraining courses because of the inconsistency of their expertise and specialization with the requirements and needs of the labour market.

The task of human resources management is to ensure that the organization is efficient and that its performance steadily improves. A way to fulfil this task is possible through continuous improvement of the utilization of all the resources which the organization has and through participation in the preparation of these resources. [2]

Each company or its individual organizational units fulfil their objectives through active and due efforts of all their employees. The more consistently and purposefully the individual basic managerial competences (planning, organizing, selection and placement of employees, management and control) are fulfilled, the more competent the staff in the company, the better the results achieved. "Everything good is the enemy of the great". This is one of the main reasons why we have so little of what becomes great. We do not have great schools mainly because we have good schools. We do not have a great government primarily because we have a good government. Few people live a great life especially because it is so easy to arrange a good life. The vast majority of businesses will never become great exactly because the greater part of them is good enough and that is their main problem. [3]

#### **4. LABOUR MARKET, EDUCATIONAL SYSTEM AND SECURING CONTINUOUS REQUIREMENTS OF THE CZECH METALLURGY**

Together with the preparation for Industry 4.0 it is essential to give higher priority to technical fields. Czech metallurgy faces a long-lasting challenge. Large employers in metallurgy, but also small and medium businesses in foundry industry, keep complaining about the lack of applicants for technical jobs, whether newly created ones or released based on intergenerational exchange. Over extended period Czech foundries miss qualified workers on the position of metal molders who could read models, i.e. determine production technology procedure. Similar situation is with the occupation of foundry technologist that assumes study at foundry vocational school. As to the fields such as blacksmith and molder, the occupation of melter-operator-metallurgist and others, they undergo retraining and training internally in companies. Metallurgy and foundry enterprises pay a lot of attention to vocational education and training because the lack of vocationally trained

human resources leads to lower competitiveness of Czech businesses. They have pointed out over a long period that vocational education and educational programmes should be adapted to the technology development of digital technologies as vocational occupations also in metallurgy increasingly depend on the use of digital technologies. What companies did is that they proactively launched their own internal educational programmes. They help retrain occupations that are similar in their fields of application. However, adequate technical education is necessary for some jobs.

It is said that general reason for that is the lack of labour force. On the other hand, however, there is still some percentage of unemployed people although we have the lowest rate of unemployment in Europe. In general, we cannot say that the long-term unemployed are not interested in work. The causes are often more complex. In order to get a job in metallurgy, foundry and similar industries one needs to fulfill specific requirements for such occupations. Besides qualification criteria and experience also health condition is important.

Metallurgy and foundry companies encounter the following difficulties when searching for employees:

- 1) In general, there are few applicants for the positions in metallurgy and foundry businesses.
- 2) Applicants for jobs, jobseekers do not have required qualification.
- 3) Applicants are qualified but do not have practical experience.
- 4) Jobseekers do not meet health requirements for the jobs.
- 5) Jobseekers have excessive inadequate financial requirements.

Metallurgy companies find real unsolved challenges in applicants' readiness for their future jobs. It can be the case of insufficient or non-required qualification or insufficient professional experience in studied field. Apprenticeships such as metallurgist, metal forming worker, ferrous metals manufacture or molders are the fields which are not applied for because interest in the field, but are opted for as the second one in case the applicant fails in the first round of recruitment procedure for some other, more attractive field. This fact needs to be taken into account.

In any case this is a challenge that requires systemic solution but also proactive approach of participants. Also the real cooperation among metallurgy companies and schools is needed.

Requirements of the companies are very specific. Labour market is not flexible. The objectives of education are not identical to employers' requirements. The school educational system educates and prepares students for the "entire life", not only for one employer. The educational system will never be able to prepare employees for one specific job.

Employers should understand the schools that guarantee that students in the same field should get, throughout vocational training, comparable practical professional competencies that arise from the framework educational programmes (RVP). However, such competencies are not explicitly specified in the RVPs. Only in the school educational programme (SVP) they acquire specific content. RVPs are designed on a long-term basis and companies' conditions change quite frequently.

The representatives of metallurgy and other companies do not realize that within professional training students usually learn much broader range of competencies than they can acquire in one company with specific production programme. Therefore it is desirable that a consensual document exists - the standard of metallurgy professional training that would reflect the requirements of respective occupational qualification and specified qualification part of vocational training. Other specific requirements are associated with employers' particular requirements that can be incorporated in the school educational programmes based on the cooperation of schools and enterprises.

It is important to build on the tradition of school and enterprise cooperation, determine the conditions of real cooperation in order to provide students with practical experience. Agreements between schools and metallurgy companies can be concluded whereby students can undergo vocational training from the 2<sup>nd</sup> and 3<sup>rd</sup> year largely in real work conditions at workplaces in companies that would guarantee that students learn

throughout such vocational training all necessary practical competencies taking into account safety risks and demanding limiting conditions of metallurgy companies. Such cooperation would be beneficial also for schools that would get acquainted with new trends in metallurgy manufacturing technology and at the same time they would not have to invest in school equipment.

## **5. CONCLUSION**

The objective is to ensure industry proportionality, reconcile the numbers and industry structure of school graduates and their knowledge and skills with the requirements of labour market. The aim is also to reconcile the educational system with the requirements of metallurgy employers. The focus should also be on good revisions of metallurgy branch RVPs that reflect and correspond to the new trends in metallurgy technology based on the company requirements for metallurgy branches in the National Qualification System that always responds to current needs of metallurgy employers at the national and regional level regardless their size. It would be valuable to establish regional centres for analysis, research and monitoring of employers' needs across the industry structure and employers' national and regional policies. It means the centres where vocational education and preparation meet up with the requirements of labour market in real time. The present period of RVP revisions gives the opportunity for real fulfillment of the objective.

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