

# New Paradigm for the System of Professional Focus of Young People in Accordance With Trends in the Labour Market

*Švarcová Jena, Chochoňáková Anna, Dobeš Kamil*

## Abstract

In recent years, the Czech labour sector has encountered a number of specific problems, particularly in relation to the impact of the recent economic crisis. In 2007, there was an enormous gap between demand and supply in the labour market in the manufacturing sector, especially the manufacturing of machinery and equipment and machinery of vehicles, which are the most important constituent of the Czech economy. The deficit for qualified labour force caused a situation where all enterprises required new staff from the secondary schools and universities, especially graduates with technical qualification. The economic crisis in 2008 curtailed the demand for labour, currently, most enterprises have overcome the crisis and the demand for qualified technical and research staff is growing again. This research was conducted by Faculty of Management and Economics of the Thomas Bata University in Zlin (FaME TBU). From the 854 students selected from Czech secondary schools and 171 university students, it was revealed that students do not follow the employment demand of companies. The Czech economy also faces a problematic demographical trends and structural problems in the labour market. This problem is further compounded with the trends in students' professional focus. This research paper uses Roe's classification of occupations and theoretical conclusions. According to Roe's theory, people usually focus their career choice in one of eight groups of occupations. The research confirmed that only 9 percent of students have some career focus. Furthermore, the average Czech student chooses professions from 5 groups and there are huge gaps between the student's choice and the demands of the labour market, especially in the fourth group of occupations - technologies, which is still the most important economic output for the Czech Republic.

*Key words: professional focus, career developmental theories, career education, career decision-making, labour market*

## 1. INTRODUCTION

There is no doubt that the economic crisis in the years 2008 -2009 deeply touched the long-term relations rooted in the labor market in the Czech Republic. The high overhang of demand of firms for technical professions in the pre-crisis period was quickly replaced by consolidation and layoffs of experienced workers. The current labor market re-opened the high demand for specialists in manufacture of machinery and equipment and machinery of vehicles, which are the most important for the Czech economy. How can the turbulent demand for selected occupations be aligned with education and professional targeting young people preparing for the labor market? This is a question that researchers from TBU FME inquire.

Czech young people do not dream about technical profession as the research presented in this paper has shown. TBU FME conducted wide primary research among Czech secondary school students and comparative research among first year students of the University. The research questions were based on Roe's theoretical conclusions and other theories of vocational choice presented in the next chapter. Presented conclusions should start building new paradigm to solve these problems.

## 2. THEORETICAL BASES

Which is the first – demand of the enterprises for specific professions or the supply of the labour force, their willing to prepare for some profession matching the demand of the enterprises? Hard to say – the demand of the enterprises reflects the actual economical condition and is quickly changeable as the crisis 2008 - 2009 has shown. On the other hand the supply side is quite rigid because it takes some time (usually measured in years) to prepare well qualified labour force. This paper concentrates its effort to clarify willingness of young people to choose some profession and their motivation factors. This paper reflects both developmental theory and psychodynamic theories with special focus on Roe occupational classification and its implementation in the nowadays carrier planning.

The process in which a person develops and accepts an integrated and adequate picture of itself and of its role in the world of work is not short and easy. A central concept is that people develop through stages over their lifetime.

The general principles underlying developmental approaches to careers are that:

- individual development is a continuous process;
- the developmental process is irreversible;
- these processes can be differentiated into patterns called stages in the life span;
- the result of normal development is increasing maturity.

The names most closely associated with this theory of vocational choice are Ginzberg (1951) and Super (1990). Super earlier (1960) presented that for making a vocational choice there is a need of developed skills, interests, self-reflection and personal attitudes and beliefs.

Klimová (1987) highlight the fact that the vocational choice is not a single act of student who finishes his attendance at school, but it's a dynamic process which lasts until the retirement of each person. On the other side, all companies require that employees select the most basic individual choice at a relatively young age.

Hollander (1971) research findings implied that with growing intellectual skills there is a increase of decision-making ability. However experts seem to agree with the opinion that the difficulties in vocational choice exist at any age. Marr states that the number of „undecided” in the age of 21 is even more than 50%.

Langmeier and Krejčířová (2006) emphasize that there are always two aspects which associate with the choice of occupation. The first aspect includes the individual himself, specifically the fact that the person will chose a profession which will satisfy him the most and in which he will apply his specific abilities and personal inclinations and interests. The second aspect includes the company, for which is the most important thing to employ a person who would best con-

tribute to the fulfillment of social tasks. A sign of a good vocational choice is the combination of both aspects, individual and companies interests.

In the process of vocational choice, Gati and Tal (2008) find important cognitive components, such as emotions, personality, or intuition, especially from the satisfaction of making right decision and confidence in its accuracy.

Germeijs and Verschueren (2007) advised to examine this decision making process is its dividing into separate stages, or tasks which will help to distinguish the review and selection alone.

The above-mentioned theoretical approaches solve particular individual choice of profession. Research team TBU FME needed to use the appropriate classification of professions for the purposes of research of occupational choice of students.

There are many occupational classifications used for theoretical and statistical purpose, which differ mainly in the aim of use. Statistical office and Bureau of Labor Statistics use usually the 2000 Standard Occupational Classification (SOC) in many countries, for instance for the census purpose. This classification is updated periodically to meet changing requirements for monitoring labor costs and other needs – for instance Fehmida Sleemi (2006) writes about the white-collar and blue-collar system changes in 2007 to be suitable for the Employment Cost Index (ECI). Simon and Owen (2005) use the Standard Industrial Classification (SIC92) for the care workforce (social work industry) and compare the results with numbers defined by SOC2000. The results are similar but not the same - each classification has its specific, advantages and disadvantages. Clark (2009) complains that two-digit Standard Occupational Classification (SOC) level with occupational figures for the United Kingdom do not able to determine creative occupation employment. The International Labour Office (ILO) updates the International Standard Classification of Occupations (ISCO). Catherine Barham (2008) writes that although the conceptual model underpinning ISCO-08 remains essentially the same as that used in ISCO-88, there have been some changes in the way the model is used to design the classification. The most notable change is that, since the nature of the work performed has been given more emphasis than the formal education and training required in determining the skill level of an occupation. Dumont (2006) did some regressions and suggests that International Standard Classification of Occupation (ISCO) data on skills, which in principle are to be preferred to more often used proxy data, are not very reliable for EU countries. The Czech Statistical Office uses Classification of occupation CZ-ISCO (<http://www.czso.cz/eng/redakce.nsf/i/classifications>) for the purpose of statistical monitoring of phenomena associated with the labor market. Classification CZ-ISCO puts emphasis on the vertical structure of occupations and is much less representative for the horizontal branch structure.

Group of secondary school students proved this classification as a little transparent in the pre-test, so research team sought a more appropriate classification of jobs that would fit high school students who do not yet have experience with the labor market.

Pre-test with group of secondary school students proved, that classification according to Roe was more suitable for this purpose, especially her vertical axis of the matrix identifying 8 groups of occupations.

Roe (1956, 1957), who trained as a clinical psychologist as an extension of occupational psychology, undertook research that was heavily influenced by psychodynamic theory. Her occupational classification forms basis for the current research presented in this paper. Psychodynamic theories try to understand, make meaning of, and utilize individual motives, purposes and drives to support career development.

Roe (1954) created a theory based on individual differences between people. She is also focused on prediction of the selection of employment. Concretely she was concentrated on the prediction of the profession choice based on some psychological necessities which are created from the former interaction between children and their parents. These necessities are also results of genetic impacts and live experiences.

Although genetics play a big part in human evolution, a diversity of forms and individual differences in career behaviour cannot be simply explained by the action of heredity. According to Roe, genetics is only a presumption of which fulfilment depends on adequate environmental effects, the selection of the individual activities and opportunities. Roe (1956) believes that a crucial influence on career behaviour and decision-making has a place of child in the emotional structure of the family. Family environment, a climate of an interpersonal relationships in a family, parental attitudes, preferred styles of education and early childhood experiences satisfaction or frustration of needs are reflected in the formation of interests, attitudes and values of the child which in turn influences career decisions.

An important contribution of Roe's work is the development of the dimensional classification system of professions (Roe & Klos, 1972) which is based on the nature of interpersonal relationships in the professions and their intensity.

Under this system, Roe identified eight groups of employments that represent the vertical axis of the matrix. They are:

1. Services
2. Trade,
3. Organization,
4. Technique and Technology,
5. Outdoor Activities,
6. Science,
7. General Culture,
8. Arts and Entertainment.

The horizontal axis is consisted of six levels of employment according to their degree of functionality, responsibility and intellectual strenuousness:

1. Professional and Managerial (higher level)
2. Professional and Managerial (lower level)
3. Semi-professional,
4. Qualified,
5. Semi-skilled,
6. Unskilled.

The entire occupational group Roe (1956) classified into two major categories:

1. through personnel department,
2. Impersonally oriented professions.

Examples of people-oriented jobs are in services (services provided to other people), trade (personal contact with a customer, primarily in business), the organization (management in business, industry and administration), the general culture (teaching and journalism), arts and entertainment (creative arts).

Examples of not people-oriented jobs are in the areas of technology (production, service and transport), outdoor activities (agriculture, forestry and mining) and science (research and application of scientific theories). Roe claimed that the selection of employment categories primary depends on function of the structure of individual needs and level of achievement within the category depends more on individual ability and socioeconomic status.

### 3. RESEARCH QUESTIONS AND METHODS

The research was focused on the supply side of the partial labour market for school graduates, both from secondary and the tertiary education. The numbers of unemployed school leavers from all types of secondary schools show that there are the highest rates of unemployed graduates of administration, gastronomy and general specializations (<http://www.nuov.cz/nezamestnanost-absolventu-skol>). The numbers of unemployed graduates in engineering and technology are much smaller, though they exist.

*Research question 1*

Do students choose their profession according to the labour market demand?

*Research question 2*

Do the secondary students differ in their ideas about future career from the University students?

The students' ideas about future career were tested by questionnaire though this method has significant limitations. Finally the results were compared with the demand of employers in the Czech Republic.

The scale of the research was planned 1000 respondents (900 secondary school students and 100 University students for comparative analyses purpose) to be representative for the Czech Republic. The number of students in the final year of the secondary school with maturity leave is about 90 thousands and the sample of 900 students represents 1% of this target population. The research survey got data not only from the students in final year of their study but also from lower classes to compare the evolution of the carrier planning of students.

To achieve nationwide cover the questionnaire was prepared in the internet form. The questionnaire used only verbal questions with nominal scale (I am interested x I am not interested). Most of the questions were designed according to the Roe occupational classification – offered occupations were divided into 8 occupational groups and in each group occupations with different degree of skill and responsibility were offered. Each student could choose one or more professions to be interested in. The final number was not limited. The number of offered professions (typical in each group of professions in the Czech Republic) was 62. First the

research team did the pre-test with 98 students of one secondary school, and then the internet questionnaire was open to all secondary school students.

The questionnaire for the comparative research with University students was prepared in the printed form, because the sample was smaller and readily available at the TBU FME.

The secondary school students' research via internet took place in the second half of the 2010 and the comparative research with University students came true at the beginning of 2011.

#### 4. RESEARCH RESULTS AND DISCUSSION

The data for the research were collected from responses of 952 students of all types of secondary schools in the Czech Republic (163 students from secondary grammar schools, 143 students from business academies, 421 students from all types of colleges); 661 students from the last classes before the maturity leave; 75 towns from the whole Czech Republic. 98 questionnaires were filled by students during pre-test in one secondary school and 854 responses were collected by internet questionnaires.

Statistics on file PRE-TEST:

98 students of one secondary school in Zlín: 35 student from the last year before maturity leave and 53 students two years before maturity leave.

Statistics on the file from internet questionnaire:

854 students of all types of secondary schools; 75 towns: 626 students from the last year before maturity leave; 167 students two years before maturity leave; 61 other students.

The students' ideas about their future profession were compared with the structure of Czech Republic employment in all sectors of economic activity. This data were designed according to statistical revue of the Czech economy in 2010 prepared by Czech Statistical Office, but it was necessary to make some adjustments as the Roe's classification of occupations is not normally used in these statistics.

The Figure 1 presents Czech students' preferences for occupations according to Roe's classification (8 groups of occupations) compared with the actual structure of employment in the Czech Republic.

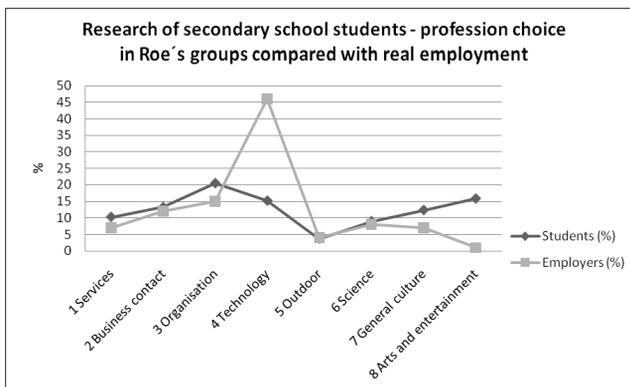


Fig.1 – Comparison of Czech students' occupational choice with the actual structure of employment in Czech Republic. Source: Own research

The figure shows significant discrepancy in the Group 4 Technology of Roe's classification. Real employment in this group in the Czech economy is very high but the students' choice of these professions is rather low.

The research has shown that numerous secondary school leavers from secondary schools do not want to continue in their carrier in the Group 4 Technology. The more research in the specific segment of students from technical secondary schools has show that 23 % of specialists leaving technical oriented secondary schools do not want to work in these occupations at all, though the range of offered occupations was widest of all offered groups of occupations. It is very significant problem both for the Czech educational system and the demand side of the Czech labour market. But the problem seems to be wider – secondary school leavers do not have complex information from the whole labor market and they do not understand the other occupational groups' conditions enough. Errington (2010) recommends preparing graduates for the professions using the Near-world Scenarios in such conditions.

The other problem is that most of Czech teenagers have no focus in their occupation planning. Roe's theory says that most of people choose occupations from one group of occupations. Research team calculated how many respondents met the criterion for the focus of selected professions in one or two groups according to Roe: respondents from the internet questionnaire research chose in average 15 occupations in 5, 3 groups of occupations. Only 9 % of respondents had focus to one ore two groups of occupations. Respondents from the first research (pre-test) chose 3, 7 groups of occupations and 35 % of respondents had focus to one ore two groups of occupations – the students of secondary grammar school seems to be better focused, but it needs more research. What are the causes of such small focus of Czech teenagers on a specific occupation or one group of occupations?

The other research has followed at the beginning of 2011 with University students to compare their ideas of dream professions with the results of secondary school students.

The research collected data from 171 University students from the first year of their study; students were offered 48 professions structured in Roe's groups and each student could choose as much of professions as he wished.

Table 1 presents results of students' choice in structure of eight Roe's groups.

Tab. 1 – Students' options in structure of eight Roe's groups. Source: Own research

Groups of occupation	Students (%)
1. Services	24
2. Business contact	9
3. Organisation	19
4. Technology	14
5. Outdoor	1
6. Science	8
7. General culture	10
8. Arts and entertainment	15

Figure 2 compares the option of university students' to secondary school students. Significant differences can be seen only in the group 1 Services. These differences were caused by non proportional offer of professions in this group in comparison with other groups (there were twice more professions offered in the group 1). If we abstract from this methodological differences we can describe the results of the two groups of students as very similar.

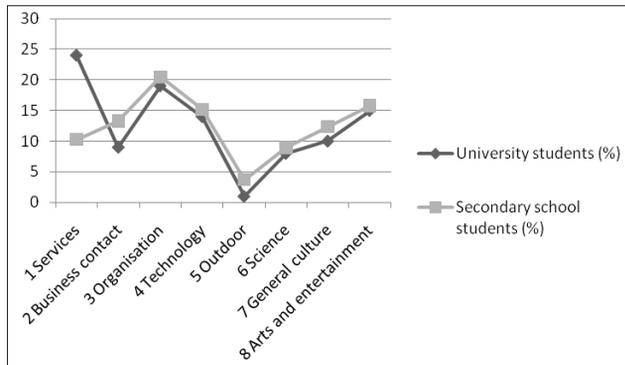


Fig. 2 – Comparison of Czech university students' options with students of secondary schools. Source: Own research

It is evident that University students are not focused and well oriented in the labour market demand as well as secondary school students. It is the major contribution of this research to demonstrate low level of interest and poor orientation of our young people in real economy and their future economic position

Tomas Bata University Faculty of Management and Economics prepares e-learning support for such occupational choice processes. This decision is supported by former research of Švarcová (2009) when university supported the best practices transfer among enterprises. Students took part in these processes and their occupational orientation was better than.

## 5. CONCLUSIONS

This paper presents results of wide representative primary research among secondary school students in the Czech Republic, especially the students in the last year before the maturity leave. 854 responses were collected by internet questionnaires.

This research was focused on the occupational planning in comparison with the labour market demand and the impact of information from this market for student's vocational choice. The results of the research show that there is important gap between demand of the Czech labour market in the Roe's occupation group 4 technologies and the preferred occupations of secondary school leavers. The research shows that secondary school leavers do not have complex information from the whole labor market and they do not understand all occupational groups' conditions enough.

Most of the Czech teenagers have no focus in their occupation planning. Roe's theory says that most of people choose occupations from one group of occupations. Respondents from the secondary schools chose in average 15 occupations in 5, 3 groups of occupations. Only 9 % of respondents had focus to one or two groups of occupations.

From the methodological point of view research proved to be appropriate to use the structure of occupations according to Roe, which was well-arranged and easier for students than the standard classification of occupations of the Czech Statistical Office (Classification of Occupations CZ – ISCO; former KZAM). Classification by Roe is suitable for further work with the target group, but authors did not confirm the Roe's findings of the focus in one of eight groups. Today's selection mechanisms will be required to undergo a deeper research.

The authors worked with a large set of primary data. This paper presents the initial analysis that identifies problem and verifies the appropriateness of the classifications. The results of this research are alarming and need more research and methodological considerations to reverse the adverse developments. Following are the detailed statistical analysis which will look for depending variables. The results of follow-up surveys will be published in the next period.

The other research has followed at the beginning of 2011 with University students to compare their ideas of dream professions with the results of secondary school students. The research collected data from 171 University students from the first year of their study; students were offered 48 professions structured in Roe's groups. Comparative research with University students confirmed that University students in the first year of their study are not focused and well oriented in the labour market demand as well as secondary school students. It is the major contribution of this research to demonstrate low level of interest and poor orientation of our young people in real economy and their future economic position

Taking into account changing circumstances, we search for a new paradigm for reconciling the needs of the labor market and the needs and aspirations of the rising generation. The first scientific analysis shows the need for efficient awareness of young generation on economic affairs and professional needs of the labour market and we should link this information with motivation of young people to engage them in creating their own future.

## References

1. Barham, C. (2008). Updating the International Standard Classification of Occupations. *Economic & Labour Market Review*, Vol. 2 Issue 2, 3-4, 2p.
2. Clark, D. (2009). *Creative Industries Journal*, Vol. 2 Issue 3, 217-230, 14 p.
3. Dumont, M. (2006). The Reliability--or Lack Thereof--of Data on Skills. *Economics Letters*, vol. 93, is. 3, 348-53.
4. Errington, E., P. (2010). Preparing Graduates for the Professions: Achieving Employability through the Exploration of Near-world Scenarios. *The International Journal of Interdisciplinary Social Sciences*, 5(5), 1-10.
5. Gati, I. & Tal, S. (2008). Decision-Making Models and Career Guidance. In Athanasou J. A., Esbroeck R. van (Eds.) *International Handbook of Career Guidance*. Sydney: Springer.
6. Germeijs, V. & Verschueren, K. (2007). Educational Choices in Adolescence: The Decision-Making Process, Antecedents, and Consequences. In Skorikov V. B. & Patton W. (Eds.) *Career Development in Childhood and Adolescence*. Rotterdam: Sense Publishers, 203-219.
7. Hollander, J., W. (1971). Development of Vocational Decisions during Adolescence. *Journal of Counseling Psychology*, 18(3), 244-248.

8. Klímová, M. & kol. (1987). *Teorie a praxe výchovného poradenství*. Praha: Státní pedagogické nakladatelství.
9. Langmeier, J. & Krejčířová, D. (2006). *Vývojová psychologie*. Praha: GradaPublishing.
10. Roe, A. (1956). *The Psychology of Occupation*. New York: Wiley.
11. Roe, A. & Klos, D. (1972). Classification of Occupations. In Whiteley, J. M. & Resnikoff, A. (eds.). *Perspectives on Vocational Development*. Washington: American Personnel and Guidance Association, 199–221.
12. Roe, A. & Lunneborg, P. (1990). Personality Development and Career Choice. In Brown, D., Brooks, L. & al. *Career Choice and Development: Applying Contemporary Theories to Practice*, San Francisco, Oxford : Jossey-Bass, 68–101.
13. Roe, A. & Siegelman, M. (1964). *The Origin of Interests*. Washington: American Personnel and Guidance Association, 98.
14. Roe, A. (1954). A New Classification of Occupations. *Journal of Counseling Psychology*, 1(4), 215-220.
15. Roe, A. (1957). Early Determinants of Vocational Choice. *Journal of Counseling Psychology*, 4(3), 212-217.
16. Simon, A. & Owen, Ch. (2005). *Labour Market Trends, Vol. 113 Issue 5*, 201-208, 8p.
17. Sleemi, F. (2006). The Employment Cost Index (ECI). *Monthly Labor Review, Vol. 129 Issue 4*, 6-11, 6p.
18. Super, D., E. (1960). The Critical Ninth Grade: Vocational Choice or Vocational Exploration. *Personnel & Guidance Journal*, 39(2), 106-109.
19. Švarcová, J. (2009). SMEs' Sharing of Relevant Best Practices. *The International Journal of Interdisciplinary Social Sciences*. Melbourne: Common Ground Publishing.
20. Czech Statistical Office: Classification of occupation CZ-ISCO. URL: <<http://www.czso.cz/eng/redakce.nsf/i/classifications>> [cit. 2011-03-03].
21. Národní ústav odborného vzdělávání: Numbers of unemployed school leavers from all types of secondary schools. URL: <<http://www.nuov.cz/nezamestnanost-absolventu-skol>> [cit. 2011-03-03].

### **Contact information**

*doc. Ing. Jena Švarcová, Ph.D.*  
*Tomas Bata University in Zlín,*  
*Faculty of Management and Economics*  
*Mostní 5139, 76001 Zlín*  
*Tel: +420 576 032 092*  
*Email: svarcova@fame.utb.cz*

*Ing. Anna Chochoňáková*  
*Tomas Bata University in Zlín,*  
*Faculty of Management and Economics*  
*Mostní 5139, 76001 Zlín*  
*Tel: +420 576 032 092*  
*Email: chocholakova@fame.utb.cz*

*Ing. Kamil Dobeš, Ph.D.*  
*Tomas Bata University in Zlín,*  
*Faculty of Management and Economics*  
*Mostní 5139, 76001 Zlín*  
*Tel: +420 576 032 092*  
*Email: dobes@fame.utb.cz*

JEL Classification: E24, J23

