FACTORS AFFECTING THE CHOICE OF SECONDARY SCHOOL IN SLOVAK REPUBLIC

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Abstract

In Slovak Republic there is a long-term perceived lack of interest of primary school graduates in secondary vocational schools. After the school reform in 2008, the time allocation for the subject technics, which is focused on general technical education. While in the previous period the subject of technics was taught from 5th to 9th grade of primary school with time allocation of 1 hour per week, after the reform the subject technics was taught only in 7th and 8th grade with time allocation of 0.5 hour per week. The school reform had major impact on the content and time allocation of the subject technics, nowadays is subject technics compulsory taught with time allocation of 33 hours per the entire studies. This number of hours cannot be sufficient to support education of technics, on the contrary, it will make significant contribution to increasing the lack of interest in technical education. As a result of the fact graduates of primary school didn’t have opportunity to get to know the basics of technics, the properties of technical materials and to gain basic technical skills. This fact is confirmed by statistics published by the School Statistical Office of the Slovak Republic, which point out that pupils prefer humanitarian secondary schools. Same facts are shown by independent researches made in recent years.

From the results of researches is clear that the least interest is for school focused of technics. In society, the issue is given increased attention, as in the industrial practice there is a lack of qualified workers. We assumed that the issue is, because of insufficient awareness among pupils and their parents about opportunities to find employment in practice. We conducted a research on sample of pupils graduating at primary school aimed for the factors influencing their choice of secondary school. We present in the paper obtained results showing the most important factors for choice of secondary school.

Keywords: the choice of secondary school, technical education, technical skill, motivation.

1 INTRODUCTION

Rise of modern technology is bringing changes to all areas of society’s life. We are witnessing creation of new worldwide phenomenon. Despite of the fact, that young people interest in technological products got ascending tendencies, their stance toward education and career in the technological field is not that positive ([1], [2]). In many countries given state is manifested in disinterest of pupils/students in building career in scientific and technological fields, what can be seen in their choice of secondary school of university. Also, in Slovakia can be observed long term lack of interest of pupils finishing elementary school in technical specialization.

Pupil’s choice of secondary school is influenced by many subjective and objective factors, including pupil’s motives and interests in education. Many developed countries are aware that disinterest of pupils in technically oriented secondary schools and universities can be linked with their disinterest of young people in science and technology ([1], [2], [3], [4]). In many countries, the recruitment to S&T studies is falling – or at least not developing as fast as expected of planned for this lack of interest in science often manifests itself at school level at the age where curricular choices are made [4].

In 2007, the Council of the European Union stressed the need to equip people with “new skills for new jobs” and to increase overall level of skills by providing initial and continuing education and vocational training in order to acquire skills and abilities of high of even the highest quality to maintain and strengthen their innovative capabilities, which are needed for greater competitiveness, growth and employment [5]. Following a statement by the Council of the European Union, the European Commission issued recommendation that school curricula should be oriented to help pupils and students to acquire knowledge, skills and attitudes needed to address real life situations and to contribute to innovation in curriculum content in school. Based on the European framework of key competences, pupils should master knowledge, skills and habits necessary for successful life in knowledge society trough education in school. They point to the need for coherent and consistent
approach to development of competences in school and in vocational training of pupils/students. The EU recommendation on basic skills that individuals should acquire in lifelong learning are, besides mathematics and science, namely mentioned technical skills that are necessary for successful studies at school focused on science or technology [6].

2 THEORETICAL BACKGROUND

In life of young person, the transition from primary school to secondary school in crucial step that significantly determines his future personal, study and work achievements and it is a milestone in pupil's socialization [7], [8].

The choice of suitable secondary schools is long term process that involves not only pupils, but also parents, relatives, educational consultants, acquaintances and friends. Pupil should choose educational direction that will satisfy him/her, bring him/her joy, prepare him/her for future studies or work and allow him/her to experience feeling of success. Work is essential to build any personal values and so this choice will influence also his/her future social level and family life.

According to the Act of the National Council of the Slovak Republic no. 245/2008 Coll. on Education (Education Act) by secondary schools in the Slovak Republic are grammar schools, secondary vocational schools and conservatories [9]. The above-mentioned types of secondary schools show a long-term decreasing interest on the part of primary school graduates at secondary vocational schools ([1], [2], [6], [10], [11], [12], [13], [14]).

In Slovakia, there is recorded gap between the number of enrolled pupils in secondary general schools and secondary vocational schools [15]. We were interested in what is the development between the number of places offered at certain types of secondary schools and the number of pupils that enrolled. Data in TBL No. 1 shows the difference between the planed number of enrolled pupils and actual number of enrolled pupils, it expresses the number of vacant places in school. The input data we obtained from the information provided on the School Computing Centers website [15]. In individual years there is a clear decrease in the number of pupils admitted on certain schools, which is also related to the demographic development in Slovakia. However, as seen from "Tbl. 1", during the monitored period the highest number of vacant places was at secondary vocational schools.

Table 1. Number of vacant places in secondary schools.

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<tbody>
<tr>
<td>Grammar school</td>
<td>6 610</td>
<td>5 976</td>
<td>6 375</td>
<td>4 768</td>
<td>5 396</td>
<td>5 454</td>
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<tr>
<td>Conservatorium</td>
<td>622</td>
<td>426</td>
<td>304</td>
<td>363</td>
<td>414</td>
<td>397</td>
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<tr>
<td>Practical school</td>
<td>648</td>
<td>358</td>
<td>497</td>
<td>413</td>
<td>567</td>
<td>346</td>
</tr>
<tr>
<td>Vocational school</td>
<td>1 677</td>
<td>1 639</td>
<td>1 737</td>
<td>1 391</td>
<td>1 720</td>
<td>1 780</td>
</tr>
<tr>
<td>Secondary vocational school</td>
<td>28 904</td>
<td>23 621</td>
<td>21 039</td>
<td>16 217</td>
<td>17 110</td>
<td>16 508</td>
</tr>
<tr>
<td>Specialized secondary school</td>
<td>6 160</td>
<td>5 753</td>
<td>4 852</td>
<td>3 212</td>
<td>3 633</td>
<td>3 612</td>
</tr>
<tr>
<td>Overall</td>
<td>44 621</td>
<td>37 773</td>
<td>34 804</td>
<td>26 364</td>
<td>28 840</td>
<td>28 097</td>
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Low interest of 5th and 9th grade pupils in technical jobs are confirmed also by results of research performed in Slovakia in 2013. In this research 6000 respondents took part. The result of this research revealed that pupils' disinterest in secondary vocational schools is directly linked with their answers in self-evaluating questions. In technical skills, pupils do not perceive themselves as skillful, they underestimate themselves and have no option for adequate self-reflection based on their own experience of success in this area [14]. From all respondents only 2.7 % reported that they feel successful in technical skills [1]. This fact confirms the importance of EU recommendations for the need to develop technical skills at all levels of education.

The choice of secondary school also depends on the attitudes and interests of the pupils towards the individual subjects. It can be assumed that the relationship with science subjects affects the interest of primary school pupils in the secondary vocational school [10]. Pupils reported difficulty and unimportance of science subjects in their future job as reasons for their disinterest [4]. It has been found that with increasing age the interest in science subjects decreases. In Slovakia, the greatest
decline in interest in science subjects has been found in pupils during the transition from primary school to secondary school [10]. This trend can already be seen in tertiary education [4].

Due to the low interest of pupils in the study of technical fields, graduates of secondary vocational schools with the necessary technical skills are missing in the labor market. This fact is also confirmed by the statement of the Association of the Automotive Industry of the Slovak Republic, which states in its 2016 press release that despite the fact that Slovakia produces the most cars per capita, there is no interest in technical education and there is a lack of skilled workers in all car companies [16].

Automobile factories and businesses complain not only about the shortage, but also about the unsatisfactory quality of graduates looking for practice [17]. They point out the existing mismatch between education and the needs of labor market and the need to take necessary measures to transform educational system for the needs of practice at all educational levels, including primary schools [18].

The Lack of qualified workers is also reflected in other areas of society, not just in industry. Industrial leaders are worried about the recruitment of qualified work force; universities and research institutions are worried about the recruitment of new researchers; educational authorities are worried about the already visible lack of qualified S&T teachers [4]. The alarming lack of specialized workers for jobs required secondary education is also due the fact that more and more secondary school graduates are planning to continue their studies at university [14].

3 METHODOLOGY OF RESEARCH OF FACTORS INFLUENCING THE CHOICE OF SECONDARY SCHOOL

Nowadays in Slovakia there are multiple activities to support the rise of interest of primary school pupils in science subjects. National projects have been implemented to support polytechnic education and to develop vocational classrooms for subject Technics. ("Podpora profesijné orientácie žiakov základnej školy na odborné vzdelenie a pripravu prostredníctvom rozvoja polytechnickej výchovy zameranej na rozvoj pracovných zručností a práca s talentami – Dielne 1", "Podpora polytechnickej výchovy na základných školách – Dielne 2").

Teachers participating in the solution on both national projects evaluated their additions to technical education of pupils as positive. They said that the project's impact increased pupils' activity, pupils gained practical skills, and pupils' critical thinking was developed during their lessons. They considered as the most important contribution the fact that the acquired knowledge, experience and skills gained by pupils were more lasting and the fixation of the curriculum was natural [19].

Although both national programs have been positively evaluated, their impact on pupils' interest to study at secondary vocational schools has not been proven.

Many studies point to the fact that the possible causes of pupils' lack of interest in science and technology, in addition to the lack of technical equipment in schools, are outdated curriculum and lack of qualified teachers (mathematics, physics, chemistry and technics) (1), [4], [6], [9]).

The school reforms implemented in Slovakia in the period from 1997 to 2008 brought major curricular changes in the education of pupils / students. The aim of curricular change was to promote science and technology education in all types of schools and to encourage science and technology education for pupils. However, the practice has shown that the changes introduced in the education system have not brought the expected results and the pupils are still not interested in the technical studies.

The negative phenomenon is also the fact that there is a deficit of qualified science teachers in the Slovak Republic, especially for the subject Technique at primary school.

In 2013, a survey was conducted in Slovakia aimed at identifying the number of qualified teachers of the subject of technology at primary schools. As reported by the researchers Dovalová and Hašková [20], in a survey conducted at a primary school, they found that out of the 84 teachers involved in the teaching of technology, 47 were qualified to teach it. Up to 37 teachers have taught this subject as unskilled teachers, representing 44 % of teachers.

Obviously, a non-technical teacher who is not interested in science and technology alone can hardly arouse pupils' interest in science, technology, and technical disciplines and thus influence their pro-orientation [4].
The reason for the large number of unskilled teachers of technics at primary schools in Slovakia was the already mentioned reforms in education between 1997 and 2015 [6]. Technical education found itself at the edge of interest in society, vocational classrooms were canceled, and hours granted for subject technics were lowered or even taken away completely in certain grades of primary school. Those actions manifest in the disinterest of secondary school graduates to study technically oriented teaching at university, i.e. qualified science teachers retired, and schools are lacking qualified replacements.

For pupils graduating a primary school it is difficult to understand complex work processes, individual occupational areas and specific occupations [21]. It’s also difficult for them to evaluate their skills and other abilities for certain professions. Their interest in a given field at secondary school is therefore easily influenced by numerous factors ([2], [6], [7], [12], [13]). For this reason, we decided to examine which factors have the greatest impact on their final decision.

The issue of factors or determinants affecting the choice of the school is dealt with by experts around the world, to clarify the disinterest of pupils in technical disciplines. They note that the different factors influence each other. This system is very complicated and difficult to investigate ([1], [2], [6], [7], [12], [13], [14]). A model of action of choosing upper secondary school based on the theory of planned behavior was developed [22].

![Figure 1. Model of the action of choosing upper secondary school based on the theory of planned behavior [22.]](image)

The model shows that person’s intention to perform a behavior also depends on different determinants which are attitudes toward the behavior, subjective norm and perceived behavioral control. The strength of the determinants is different from one person to another but also from one action to another. The determinants are in turn built up as the sum of different variables with different strength. These variables can be age, sex, values, and so on [22]. When guiding the professional orientation of the pupil, it is important to know also the characteristics of his personality, such as extroversion - introversion, dominance - submissivity, self-sufficiency - dependence on others, activity - passivity, self-confidence - inferiority [23]. The exact definition of the individual factors is very difficult.

The aim of our research was to find out which factors influence the choice of secondary school pupils at the 8th and 9th grades of primary school. For this reason, we have defined, analyzed and evaluated the factors influencing the pupil’s decision. Based on the research objective, it is necessary to realize that it is not possible to define precisely all the factors influencing the pupil’s decision.

The research tool was a questionnaire for pupils of the 8th and 9th grade of primary school. The questionnaire consisted of 22 items. When creating the questionnaire, we decided to monitor the impact of several factors on the pupil’s decision. Question were differentiated in terms of content so that the most significant factor influencing the pupil’s decision could be unambiguously determined. In addition to factual data (type of school, its location, pupil’s gender, grade), we focused on following these factors: pupil’s interests, activities that he/she does in his/her free time, popularity of subjects, pupil’s social environment (parents, friends, siblings, relatives, living environment), social networks, media and marks in school.

Questionnaires were distributed by classical mail to selected primary schools in Slovakia. 490 primary school pupils (268 pupils of the 8th year and 222 pupils of the 9th year) participated in the research. The questionnaire distribution was carried out in December 2018 to January 2019. Data collection was carried out in February 2019.

In the paper we present and interpret the results of the selected questionnaire items.
4 RESULTS

With the first question we examined reasons influencing the school selection by the pupil himself. Pupils had the following choices: a) family tradition, b) interest in field of study, c) good career, d) closeness of school, e) recruitment of secondary school, f) environmental impact, g) attractiveness of the studying field, h) good salary, i) application in practice, j) another reason.

Results of first question are summarized in “Fig. 2”.

As shown at “Fig. 2” during the selection of secondary school for the respondents there are three equally important reasons: interest in field of study (18 %), good career (18 %) and good salary (17 %). Significant difference was not found in following reasons in school selection: closeness of school (8 %), environmental impact (10 %), attractiveness of the studying field (9 %), application in practice (7 %). We were surprised to find out that only 4 % of respondents are influenced by family tradition.

Respondents’ responses show that recruiting pupils to study at certain secondary school seems ineffective (1 %). The above mentioned acts as a demotivational factor for many secondary schools in Slovakia carrying out events, competitions and other activities aimed at graduates of elementary schools and their parents in order to increase pupils’ interest in certain school.
We were interested which person have the greatest impact on pupil’s choice of secondary school (“Fig. 3”). In this question pupils had opportunity to choose from multiple alternatives: a) parents, b) siblings, c) grand parents, d) other relatives, e) family’s acquaintance, f) neighbors, g) classmate, h) teacher, i) educational advisor at school, j) noone - I decice on my own.

In Slovakia, in last century there was realized research to confirm parents influence on choice of occupation [24]. Same results were confirmed in researches in past few years (researches ([1], [10], [11], [14])). Based on the above, we assumed that the most common reason for choosing a secondary school will be the influence of parents.

Evaluation of this question confirmed severity of parents’ influence on the pupil’s decision (31 %). The fact that parents have the most influence on the pupil’s choice of secondary school suggests that if we want to direct pupils to secondary vocational schools, we must focus our attention and activity on parents.

The second most common choosen answer was influence of classmates on pupil’s decision (16 %). The least amount of respondents choose influence of educational advisor (2 %) and neighbors (1 %).

Despite the results obtained in the previous question, where the pupils stated that the traditions are not essential to them, i.e. they are not interested in continuing to call their parents, grandparents or siblings, the influence of grandparents on their decisions (12 %) and siblings (9 %) has been proven.

Developmental psychology experts argue that pupils graduating at primary school do not yet have clear idea of their future occupation, i.e. the choice of school is conditioned by the pupil’s environment ([8], [19]). Our survey revealed that 11 % of respondents make their own choices.

The following pupils’ responses share similar numbers: family’s acquaintance (7 %), other relatives (6 %) and teacher (5 %).

We were surprised how low influence teacher has on the choice of secondary school. We assume that this fact reflects present condition of educational system in Slovakia. As we mentioned in previous part, in Slovakia there is lack of qualified teachers. In our researches we aim to study levels of technical education at primary schools that is provided by the subject Technics. Unqualified teachers cannot excite their pupils to learn about technical materials, machines, and principles of technical equipment. The result of this is the pupil’s lack of interest in secondary schools of technical focus.

5 CONCLUSIONS

The emerging lack of interest to study and work in technical and scientific disciplines is becoming a global problem. In Slovakia, this phenomenon has also been observed for a long time. The Ministry of Education has elaborated two nationwide projects aimed at supporting technical education at primary schools (projects Dielne 1 and Dielne 2), aiming to support the teaching of technology and to contribute to increasing the interest of primary school graduates in technical and science disciplines. Despite the positive response of primary school teachers, there was no increased interest of pupils in technical secondary schools ([1], [10], [11], [12], [13]).

The impact of working education and polytechnical teaching at elementary school on student pro-orientation has been studied in Slovakia in the last century [24], [25]. Working education and polytechnic teaching were seen as key factors in the context of educational influences in professional and school orientation. Their importance was perceived in the context of the preparation of a young individual for work [25].

In the paper we pointed out the main reasons for choosing school by pupils. The results showed that pupils choose secondary school according to the attractiveness of the department, the possibility to have a good career and a good income. We can say that it is important for them to choose a school that will provide them with good social recognition and assessment.

We have also shown the continuing influence of parents on the choice of secondary school for pupils. At present, secondary schools carry out various activities towards primary school pupils. The influence of parents on the choice of school has been proven and therefore it is necessary to involve the pupils’ parents in these activities.

If society fail to change parents’ mind and attitudes towards study of technical and science fields, in a few years the lack of the necessary technical experts will manifest in both technical and non-technical areas of society.
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REFERENCES


