Student Motivation in the 21st Century – Slovak Experience

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Abstract: One of the five primary objectives of the European Union within the framework of Europe 2020 is to increase the proportion of the tertiary educated population. The research task titled "The motivation of the student in the 21st century" is intended to address the factors that have both an impact on the decision of students to pursue higher studies and affect the choice of a specific field of study and a preferred form of study. The stimulus to the exploration was sparked by the mentioned EU initiative, interesting statistical data, the growing number of students studying in the external form compared to the daily option, and an increase of students from abroad. Therefore, it is necessary to identify the causes of these trends. Motivation of students is not researched in a systematic way in Slovakia, even though it is an important factor in a student's decision-making process to study. Information was obtained by a questionnaire distributed to 105 students, evaluated using SPSS software and application of descriptive statistics.

Key words: student motivation, motivational aspects, level of aspiration, hierarchy of interests, information technology, forms of study, study programs, financial motives.

1 Introduction

The main objective is to determine and quantify the factors that motivate students to study in the 21st century in the first place and pinpoints the reasons for choosing a particular higher study course and a specific form of study. The findings shall assist universities in the modification of the existing study

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programs and the implementation of new directions of study. An emphasis will be placed on the preferred form of study. The primary aims are:

a) to find out the current incentive factors of students. In the following, we will analyse the needs of the market and the economic efficiency of education. We will try to identify the errors in the study programs offered (administration of a questionnaire loaded by three main areas of interest - interest in things, ideas, and people. It was focused on 17 special areas of interest and administered to the sample of 105 respondents),

b) to identify the level of motivation of students, their interest and level of aspiration, the strength and the direction of the motivation of an individual, to focus on financial benefits, grounds for selection of the reasons for raising their qualifications, preference for some form of study at the expense of another (external or daily), studying in another country,

c) to lay down the main aspects of student motivation and to propose a model that would assist universities in recruiting new students into study programs.

2   The current state of the subject

Individuals' needs to actively engage in learning stem from changes in social structure because they see the needs to be equipped with a better competitive advantage (Miller, 1967). Intrinsic motivation and extrinsic motivation are common motivation types used in the field of motivation research (Brief & Aldag, 1977; Deci & Ryan, 1985). Brief and Aldag (1977) pointed out that intrinsic motivation is formed due to and affected by the nature of work and intrinsic reward; extrinsic motivation, on the other hand, is formed due to and affected by self-expectation and external resources and has no reward associated to work. Deci and Ryan (1985) mentioned that intrinsic motivation is linked to individuals' emotions, instincts and desire and extrinsic motivation is stimulated by external stimuli and purposes and incentives of external incidents.

Lin and Lee (2008) categorized learning motivation into six phases - the desire to know, the desire to take part in an activity, the desire to comply with formal requirements, the desire to reach a social goal, the desire to escape, and the desire to reach a personal goal. Their study showed that "the desire to know" takes the first place, followed by "the desire to reach a personal goal" and "the desire to take part in an activity." Wang, Lin and Chen (2008) categorized learning motivation into five phases - the desire to know, the desire to take part in an activity, the desire to comply with formal requirements, the desire to reach a social goal, and the desire to escape. Their study found that "self-development, the desire to know" is the dominant reason for students' learning desire. They believed that in the fast changing and highly complex environment, they had to increase their professional knowledge and other skills to maintain competitive advantage. Shih (2010) categorized learning motivation into the following groups

- career advancement and learning interests. Afzal, Ali, Khan and Hamid (2010) came in search of answers to the question of motivating students to the conclusion that higher education leads to their professional growth.

The research by Chang and Chang (2012) confirmed that reasons that motivate students to finish a course are influenced by the content of the studying material and the quality of administrative services provided by the study department. Hasan and Khalid (2012) came to the conclusion that motivation is influenced by future student's targets. Veselsky (2010) classifies motivational factors as external - career satisfaction and skills, social reasons, social pressures and internal - internal satisfaction and personal growth. There are many factors that motivate students to select specific fields in order to ensure their financial stability in the future, therefore, one of the objectives of research will be to clarify the impact of these factors on the motivation of students.

The choice of a particular program is affiliated with the financial requirements associated with admission fees, the expenditure for a dormitory, travelling expenses; we are planning to research the effect of those as well. In our environment, the issue of student motivation has been discussed by several authors as Veselsky (2010), Zelina (1996), László (2004), and others. The power of incentives or motivations to perform is analyzed by Pašková (2008) and Sejčová (2007). Separate studies, which would have its validity, were not conducted in our surroundings, they were administrated at either a small sample or the validity of instruments was not proven. There are several foreign authors devoted to motivation study, for example Brophy (2010), (2001), Petri and Govern Stipek (2012). According to the latest surveys in the area of choice of future profession, students are mainly influenced by their families. Family members or close individuals forward behavior patterns, interests, aspirations and expectations, they carry their own unfulfilled fantasies. When deciding on the direction of study, students often do not find sufficient information about study programs and are not certain about what to study.

There are several (mainly Czech) Internet portals that offer opportunities to complete tests, e.g. www.mamenato.cz. The test of interest can be found at www.occupationsguide.cz, the test of skills at www.occupationsguide.cz. These tests contain about 30 questions, and after completing, the student gets information about the most suitable profession. The current discoveries in the field of information technology have an impact on the way students study, preferring non personal presence. The development of cognitive psychology and education focused on e-learning and Internet. Social networking is starting to provide interesting opportunities for acquiring knowledge about the motivation of individuals and their decision-making as for their studies. The issues of the comparison of the external online study programs and daily study programs can be found in the work of Fillion Limayem and Laferriere Mantha (2006) and Fillion with Ekionea (2012). It is clear that the research task is important and its solution is vital.

In the context of Europe 2020 strategy, one of the primary objectives of the European Union is to increase the proportion of the tertiary educated population of the European Union between the ages of 30-34 years, from the current 31% to 40%. The Slovak Republic is known to have a high proportion of graduates at tertiary level, but their percentage distribution is even more interesting. According to Eurostat data, graduates are divided into 4 areas - humanities and arts, social sciences, business and law, mathematical subjects and the last education and training. While in the first three areas our graduates are under the EU average, namely humanities and art 6.2% (the EU average is 11.5%), social sciences, business and law 31.9% (36%), math 7.9% (9.3%), and in education and training we are significantly above – 13.7% in Slovakia compared to 9.5% in the EU. It will be difficult to predict the further development.

The focus on the theory of motivation has been here for decades. Every person has a permanent tendency to be motivated to raise and maintain activity. This incentive does not have the same strength for different kinds of motifs. In connection to effective education, we can bring attention to the basic motivational factors, autogenous (enshrined in the individuals themselves) and heterogeneous (existing outside of the individual, such as the requirements of the society), biological (biological needs, innate disposition, emotions), societal (social needs, social roles), and in particular the personal motives of self-realization (interests, inclinations, feelings, aspirations, respectively ambitions, including life-planning ideals and customs).

The second alternative aims to investigate aspects of motivation, where the motive is understood as a vector which has its strength and direction. As for this area, the research of Asian authors should be followed and applied in Slovak conditions in order to pinpoint what motivates students for undergraduate studies at Slovak universities. The study of Wang Lin and Chen (2008) confirmed that the dominant reason for students to study is the desire to know. In addition, it is also possible to base further investigation on the findings of authors Fillion, Limayem, Laferrière and Mantha (2006) and Ekionea Fillion (2012), who focused on the linking of information technology with the selected study program. It is important to answer the question why students in Slovak conditions prefer certain programs to others and why the study of educational and teacher training programs significantly dominates when compared to the EU average. Is it possible to determine the most essential factors, resources of motives with the help of existing valid instruments such as hierarchy of interests test by Černý and Smékal (1992). That is a test of forced choice where the respondent is often indecisive and when one cannot single out between a pair of offered options, the less negative choice is selected. There are valid standards that are used to evaluate the results, such as quartiles and walls. The raw score reached by a respondent is looked up in the relevant tables and, at the same time, the strength of the selected motives can be evaluated.

The expected benefits rest especially in the knowledge of the actual aspects of motivation. Those factors will be the most appreciated that might overtake the decisive role in the choice of a study program. We are looking to answer the questions from the areas linked to:

- student's motivation and key factors in choosing a program of study, a form of study, greater or lesser awareness of the causes of one's action,
- the creation of educational environment in terms of market requirements,
- goal selections and means of achieving the objectives in the process,
- the possibility of the motivation survey with the help of the traditional testing (hierarchy of interest test) as well as on-line testing of motivational areas on the interactive portals.

We necessarily require:

- the comprehensive survey of the external and internal factors affecting the motivation of students when considering university study, choosing a specific study program and a particular form of study,
- to establish the reasons for the increased interest in higher education in the Slovak Republic compared to the EU average,
- to identify the reasons that motivate students to prefer educational training to other disciplines,
- to emphasize the importance of administrative support that helps students to orientate themselves and does not increase the risk of early school leaving,
- to analyze the factors, which in terms of motivation affect teachers themselves,
- the characteristics of the reasons behind the preference for part-time before full-time studies,
- the relevant application of statistical evaluation methods in order to determine the strength and direction of the motivational factors,
- to find a direct relationship between the planned motivation factors and other demographic indicators,
- to theoretically identify the possible clusters outcomes within the cluster analysis,
- to highlight the possible problems of students that can demotivate them during their studies,
- to seek ways of preventing imposter syndrome, burn out syndrome and workaholism that affect current students,
- to monitor the impact of emotional and stress factors on student motivation,
- to assist in prediction of the opening of new study programs,
- to measure the financial and non-financial indicators of the efficiency of a particular program of study, quantitative and qualitative indicators of its graduates productivity and to determine the input and output factors determining the current status of students in the Slovak Republic.

3 The pre-research outputs on a sample of students

In an effort to identify the reasons why some courses are preferred by students, we have chosen a hierarchy of interests test because it is a reliable tool that saturates the individual motivational areas. We pinpointed the motivation areas from the hierarchy of interests test's administration and used a sample of 105 respondents who were split into groups and used a paper-pen technique. Verification of the validity of the instrument is not necessary, as it has already been proven and the evaluation norms are processed. It may also be administered in small groups. We have selected our pre-research groups of 30 to 50 respondents who completed the pre-printed forms, worksheets designed for answers. The time allocation to reply was unlimited. All questionnaires were processed and evaluated by SPSS software and its tools: descriptive statistics, correlation, exploratory factor analysis, analysis of selected areas of interest, correlation analysis, we used the following methods: ANOVA, T-test, Varimax, Kaizer rotation with normalization.

Outputs

In our survey sample of 105 respondents we had 50 men and 55 women (Table 1), in the age range of 19-51 years (Figure 1). All participants took part in higher education, the specific schools are presented in Table 2, where the secondary vocational school of trade and services had the largest representation, followed by not otherwise specified secondary schools, high school and vocational secondary education.

Table1
Gender, sample THZ

Gender in sample (THZ 2015)

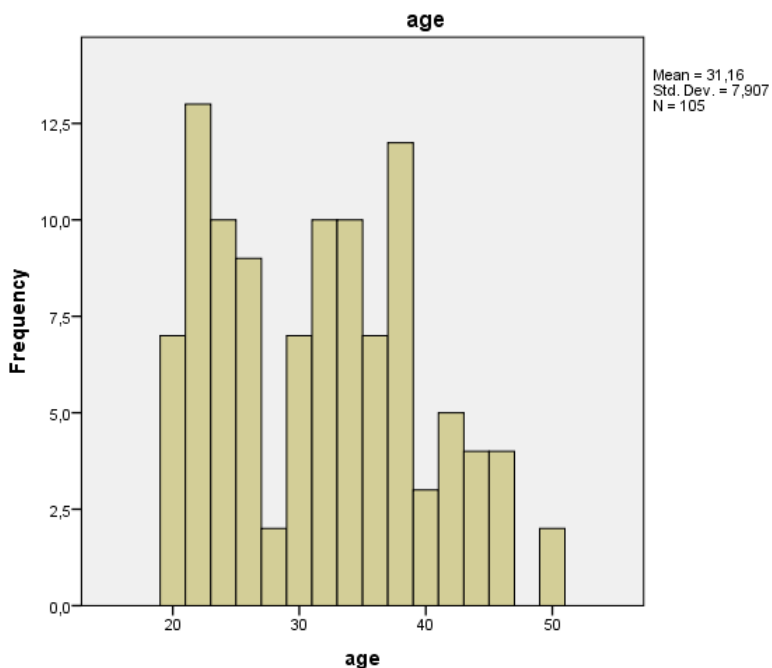|		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	man	50	47,6	47,6	47,6
	woman	55	52,4	52,4	100,0
	Total	105	100,0	100,0	

Figure 1. Age in sample THZ

Table 2
Schools in sample THZ

Schools in sample THZ

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	secondary school of trade and services	37	35,2	35,2	35,2
	high school of economy	2	1,9	1,9	37,1
	grammar school	14	13,3	13,3	50,5
	industrial high school	17	16,2	16,2	66,7
	high school of construction	2	1,9	1,9	68,6
	technical secondary school	1	1,0	1,0	69,5
	traffic high school	1	1,0	1,0	70,5
	high school-unspecified	27	25,7	25,7	96,2
	high school of trade and service	2	1,9	1,9	98,1
	railway high school	1	1,0	1,0	99,0
	high school of healthcare	1	1,0	1,0	100,0
	Total	105	100,0	100,0	

Descriptive statistics

The following tables show the frequency distribution of the selected areas of interest for all 105 respondents in the sample (Table 3). We pursued three main areas - science, things and people - that were aerated by individual factors from Table 3. Their percentile representation is presented in Table 4, where IV. Quartile (≥75%) represents the greatest area of concern.

Table 3
Monitored areas of interest - sample THZ

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Learn new things	105	14	5	19	12,76	2,356
Scientific work	105	17	0	17	5,90	4,143
Explore artworks	105	16	0	16	5,76	3,548
Make art	105	15	0	15	4,52	3,563
Work with languages	105	16	0	16	5,53	4,142
Collect and organize something	105	15	0	15	5,93	3,217
Work as a technician	105	15	0	15	5,13	4,494
Work with animals	105	15	0	15	7,72	4,311
Work with plants	105	16	0	16	6,12	3,973
Work in a store	105	16	0	16	6,32	3,864
Work in the traffic	105	16	0	16	6,70	3,954
Sport	105	17	0	17	9,88	5,129
Organize	105	16	0	16	9,92	3,887
Work with people	105	13	2	15	10,09	2,863
Influence people	105	16	0	16	9,46	3,932
Meet new people	105	15	1	16	11,16	2,650
Help people	105	17	0	17	12,39	3,963
Valid N (listwise)	105					

Table 4

Distribution of three observed areas of interest in percentile sample THZ

Statistics		science	things	people
N	Valid	105	105	105
	Missing	0	0	0
Percentiles	10	23,00	14,00	39,00
	20	26,00	18,00	45,00
	25	27,00	18,00	46,00
	30	28,00	20,00	48,00
	40	30,40	22,00	51,40
	50	33,00	23,00	55,00
	60	35,60	26,60	58,00
	70	39,20	29,00	60,00
	75	42,00	31,00	61,00
	80	44,00	32,80	62,00
	90	47,00	36,00	65,00

Correlations found

One of the main objects of our interest was to determine the existence of a relationship between a completed high school and the main selected area of motivation. We were influenced by a general assumption that adolescent and elderly individuals have a clear-cut area of their interests and follow a clearly defined vocationally oriented target. However, we did not find such a significant relationship between the selected area and high school graduation (Table 5a, b) in our sample. There was only correlation between the selected areas (Table 5a, b).

We found a negative correlation among the surveyed areas. If a respondent chose one area, we considered it as the singled out area. We did not find any correlation between a selected area and finished high school in the analyzed sample of 105 respondents.

However, in the sample of 105 respondents, 80 people had both a clear incentive and a unique area of interest, 25 objects had little interest in any area, and the outputs were in the I. and II. Quartile. Further findings are:

- 30 students were interested in the ideas in IV. Quartile of the ideas (the value 42 falls into IV. Quartile ≥ 0.75).
- 23 students were interested in the things in IV. Quartile of things (values from 31).
- 27 students were interested in the people in IV. Quartile of people (from the value of 61).
- 52 students were interested in the idea of I. and II. Quartile, which is a weak interest.
- 48 students were interested in the things of I and II. Quartile, which is a weak interest.
- 52 students were interested in the people of I and II. Quartile, representing little interest.

Alike results reached Kmeťová, M. (2008) who conducted a similar research. She indicated in her research that high school students were mostly interested in learning new things and science, active sport and helping people. High school respondents preferred people as the area of interest. In the sample of students from the Department of Chemistry Informatics the strongest preference was for active sports and organizational work. Interest in working in science was zero, yet the same position was achieved by things and people. It is a remarkable finding, since chemical computer science has very little to do with the interests in people. In another survey sample from the engineering department, the greatest strength was given to the interest in sports and organizing. From the three monitored areas - ideas, thing and people - things reached the highest preference. Again, they had zero interest in working in science. The last two monitored groups were cooks and salesmen. The chefs had no interest in science, art, language, technology, people, and the greatest preference was given to sports and learning new things again. Out of the three monitored factors cooks were most interested in the things. The future salesmen mostly indicated learning new things, helping people, and sports again. Out of the three monitored areas they were mostly interested in people, which seems to be in line with the chosen field. However, as the most important ability vendors selected to influence people, help them, but the ability to get to know them was completely ignored.

High interest in sports can be interpreted as hobby neutrality (favoring sports over others, evolutionary need for movement and change), as well as the need to avoid monotony or the need to have fun (age appropriate). The answers of our respondents were supported by arguments that they did not enjoy such work, which is broadly in line with Kmeťová (2008).

Table 5a
Correlations between selected areas of interest and graduation school, sample
THZ

Correlations

		School	Science	People	Things
School	Pearson Correlation	1	,035	-,027	,055
	Sig. (2-tailed)		,721	,785	,575
	N	105	105	105	105
Science	Pearson Correlation	,035	1	-,333**	-,264**
	Sig. (2-tailed)	,721		,001	,007
	N	105	105	105	105
People	Pearson Correlation	-,027	-,333**	1	-,567**
	Sig. (2-tailed)	,785	,001		,000
	N	105	105	105	105
Things	Pearson Correlation	,055	-,264**	-,567**	1
	Sig. (2-tailed)	,575	,007	,000	
	N	105	105	105	105

**. Correlation is significant at the 0.01 level (2-tailed).

Table 5b
Correlations between selected areas of interest and graduation school, sample
THZ

Correlations

			School	Science	People	Things
Spearman's rho	school	Correlation Coefficient	1,000	-,024	-,020	,043
		Sig. (2-tailed)	.	,812	,842	,660
		N	105	105	105	105
	science	Correlation Coefficient	-,024	1,000	-,280**	-,336**
		Sig. (2-tailed)	,812	.	,004	,000
		N	105	105	105	105
	people	Correlation Coefficient	-,020	-,280**	1,000	-,497**
		Sig. (2-tailed)	,842	,004	.	,000
		N	105	105	105	105
	things	Correlation Coefficient	,043	-,336**	-,497**	1,000
		Sig. (2-tailed)	,660	,000	,000	.
		N	105	105	105	105

**. Correlation is significant at the 0.01 level (2-tailed).

4   Conclusion

The issues of university pedagogy have not been systematically developed in the recent years, and, therefore, literature about the motivation of university students - interest in studying, attitudes to study, or their plans after graduation – is missing. We are of the opinion that it is necessary to deal with the proposed routes and procedures systematically. Our desire is to fill up the blank space in the educational community, where only recently (since 1989) we have seen continual experimentation without the support of a particular philosophy of learning and continuous systemic solutions. The application of the principle is seen in the direct interference with new study programs. We can expect greater flexibility in curricula based on this reflection. What is important, is the long-term ambition of incorporating current trends in marketing strategies of private and state universities. We see space to be free from conditions of the founder, since it follows the general pedagogical and psychological aspects of the study. One must be adequately motivated to take up one's profession, where not only the need but also the adequately developed interest play a role.

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