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## **Factors influencing students' motivation to study at a university**

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**Abstract:** One of the main priorities of universities today is to determine the motivating factors influencing students' attitude towards their studies and whether they successfully graduate or not. The aim of the paper is to identify selected attributes influencing student motivation and evaluate their impact on the learning process. The results were obtained through a quantitative survey (n = 293) and were evaluated using descriptive and multi-dimensional statistics. The survey identified two main factors influencing the motivation to study (quality of teaching and teacher, personal aspirations), with variable strength ranging from 0.513 to 0.836. These findings may help in targeted preparation and optimisation of study programmes that would respect the key motivations of students, and as a direction for future research, particularly aimed at student performance and teaching results comparable in the national and international academic environment.

**Keywords:** higher education; learning process; motivational factors; personal aspirations; public university; quantitative survey; quality of teaching; satisfaction; students; teacher competences; teaching methods.

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## 1 Introduction

In today's world in which knowledge is the main resource for further development, education in general is facing a difficult task: it needs to educate and raise a generation that will be able to utilise various technologies and develop and modernise usable and desirable knowledge. This generation must be prepared for the need of continuous learning, independent development, creativity, innovation and critical thinking (Arsenijević and Maljković, 2016). In their studies, however, students are influenced by their immediate surroundings, their sociological and physical needs and their own emotionality, which all impacts their motivation profile and attitude towards their studies. By identifying student preferences in teaching and their motivating factors, we can achieve a higher efficiency of work with students, improve their study results, increase their motivation and improve their overall attitude towards learning (Sabardeen, 2013).

Because of the dropping demographic curve and subsequent reduction in the number of university students and increased competitiveness on the education market (Chui et al., 2016), it is important for higher learning institutions to be able to respond to the preferences, needs and wishes of their students and to adapt (Hilali et al., 2015).

Referring to the research of Cornish et al. (2009), Medallon and Martinez (2014) and Sulong (2014), we can summarise that the identification of motivating factors that influence university-level studies and their adequate assessment may help the university or tertiary school in question adopt corrective measures that would make the offered programmes more attractive, develop the quality of the teaching staff and build the institution's reputation. It should be noted that identifying student needs and wishes is not an end in itself; the findings on motivation must then be accordingly implemented into the teaching and the educational process as a whole.

The aim of the paper, therefore, is to identify selected attributes influencing student motivation and evaluate their impact on the learning process.

The paper first identifies gaps in current theoretical knowledge (introduction, theoretical background of the work), utilises them to identify the objective and then achieves this objective using obtained and interpreted results (results, discussion); the conclusion section identifies the paper's limitations and the opportunities for further research.

## 2 Theoretical background of the work

Stark-Wroblewski et al. (2007) claim that the motivation of students to study comes from the teaching itself: from the individual courses taught in the degree programme. The results of their research also indicate that the prospects of course or programme graduates in terms of their future working career are a positive factor for motivation, which was also confirmed by Lucas and Milford (2003). It is important to realise, however, that if the intended content of the course is not provided and the student does not apply the learned knowledge in practice, the end result may be very demotivating. In summary, the ability to combine theoretical knowledge and practice has an enormous impact on the perceived benefit of the course and increases student engagement and motivation. Remedios and Lieberman (2008) on the other hand claim that if a course in a study programme exceeds expectations, e.g., in teacher engagement or the teacher's

attitude towards teaching (Alauddin and Kifle, 2014), use of teaching aids, etc., the course and the programme are evaluated positively and provide benefits for practice.

The importance of correctly setting up study programmes and choosing a reasonable combination of courses was demonstrated by Tang et al. (2012) as well as Stankevičienė et al. (2007) who emphasise the importance of used teaching activities and methods; this is also confirmed by Ižová and Polčáková (2015). Because external stimuli have a different effect on each individual, it is important to use a varied scale of activities and methods in teaching, such as alternating between individual and group work, interactive teaching, work on projects and case studies where students learn from experience or self-study, all of which requires the essential support of high-quality and available learning resources (Sulong, 2014; Devlin and Samarawickrema, 2010). Because each student is unique and therefore has a different ability to respond to various stimuli, it is important to understand the personal development of individual students, as confirmed by, e.g., Sadker and Sadker (2005).

Gibbs and Simpson (2004) and Ahmad and Aziz (2009) also add that feedback and awareness of how students perceive teachers and their teaching styles may help improve the teaching of the given course. According to Sabardeen (2013), the best teaching style combines the professional, personal and formal authoritative approaches; the teacher acts as the conduit of expert knowledge, supervises, leads and direct students in their personal and professional development as well as organises the course and structure of the teaching. For this reason, it is important to assess teachers in various areas, including the ability to capture attention, use modern teaching methods, motivate students and involve them directly in the teaching process, enhancing their thought and learning capabilities (Peck et al., 2006; Hackathorn et al., 2010).

Based on the above and the recommendation by Devlin and Samarawickrema (2010), it is possible to formulate a summary of the basic principles of effective tertiary level teaching that significantly influence the learning process and the motivation to study:

- the study plan aims to satisfy the students' future needs with respect to the development of general skills such as teamwork, communication skills and critical thinking
- every class is carefully planned but sufficiently flexible to enable adjustments based on student feedback
- the teaching is based on real and current issues and the importance of the taught content grows with the importance of theoretical foundations for practice
- in class, teachers foster a positive and friendly environment that enables interaction; they establish empathetic relationships with the students and motivate and encourage the students to become actively involved in the learning process
- the teaching uses various methods, techniques and tasks that directly involve the students in the learning process
- the teaching process is regularly evaluated and corrective measures are implemented for any identified shortcomings.

In light of the above and based on previous research, we have identified ten factors that may influence students' motivation to study: the personality of the teacher, interactive

teaching, teamwork, modern teaching methods, the teachers' professional competences, combination of theoretical knowledge and practice, demanding tasks that pose a challenge, a positive and supportive environment, the desire to learn and develop and a financial reward in the form of a merit scholarship. The sample set on which the research was based is specified in the materials and methods section.

### 3 Materials and methods

Primary data was collected through quantitative research in the form of an online survey among the students of a selected tertiary school. The research focused on all students in the first year of the bachelor's full-time study programme at public university (the selected faculty with an economic focus) in the Czech Republic who enrolled in the academic year 2017/2018 ( $N = 1,423$ ). Each of the respondents received an automated e-mail invitation to participate in 11/2017 and a repeated call two weeks later. The total number of participating students was  $n = 293$  (response rate = 20.6%). The sample of 1st year students was authorised by dean of the faculty because 1st year students can bring a new information about the factors influencing students' motivation to study at a university. Based on the results the faculty can change the approaches to student's motivation. The questionnaire was designed to comply with ethical rules and the requirement for anonymity and contained ten questions: 4 serving for identification and 6 for research. The questions were closed-ended (allowing only one response); respondents were also asked to indicate their agreement with individual claims using the five-grade Likert scale (strongly agree, agree, neutral, disagree, strongly disagree).

Among the respondents, 174 (59.4%) were female and 119 (40.6%) were male. Most of the respondents (206, 70.3%) were aged 18–20 years, 64 (21.8%) were in the 21–23 years category and 23 (7.8%) students were over 24. In terms of their previous secondary education, the respondents were divided into the following categories: vocational school (102, 34.8%), gymnasium/lyceum (90, 30.7%), business academy (101, 34.5%).

The following null hypotheses were tested in the research:

- H01 There is no statistical dependence between what motivates students to study and the respondent's age.
- H02 There is no statistical dependence between what motivates students to study and the respondent's gender.
- H03 There is no statistical dependence between what motivates students to study and the respondent's secondary education.

The results were analysed using statistical tools – the dependence test ( $\chi^2$ ) and the power of dependence test (Cramer's V). In cases where the determined p-value was below the significance threshold of  $\alpha = 0.05$ , the null hypothesis was rejected because the research demonstrated statistical dependence between the qualitative variables. In such cases, the strength of the dependence was determined using Cramer's V coefficient. The results of the strength of the correlation were interpreted in accordance with the categories in De Vaus (2014). For the purposes of the dependence test, the responses in the questionnaire were merged into a simplified yes – neutral – no structure.

To identify the mutual relationships between variables, we followed up on the results of descriptive statistics with factor analysis (multivariate statistics). In the factor analysis (after correlation analysis and principal component analysis), we used the varimax method and the Kaiser-Guttman rule for the selection of substantial factors according to Anderson (2009). Data was processed only if the value of substantial factors was greater than 1; values exceeding 0.3 were considered significant.

The factors explain variability and dependence of the considered variables. Anderson (2009) states that the factor analysis applies more heuristic approach and requires understanding of the issues under consideration as well as considerable knowledge and experience with this method of data analysis.

The statistical software used to evaluate the data was IBM SPSS Statistics 24.

## 4 Results

The respondents identified as the main motivating factors influencing their attitude towards studying a *positive and supportive environment* (67.6%), *their own desire to learn and develop* (66.6%), *the use of modern teaching methods* (62.8%) and *combining theory and practice* (61.1%). Most respondents also consider the *professional competences of the teachers* to be important (56%).

Tests of the dependences listed in Table 1 confirmed that there is a statistical dependence between motivating factors and the respondents' gender, age as well as secondary education. All three null hypotheses were therefore rejected. The factors of a positive environment and an internal desire for learning are more positively rated and more statistically significant for women than men, and for graduates of gymnasia and business academies than of vocational secondary schools. The dependence tests also demonstrated that students, regardless of age category, rank most motivating factors influencing their attitude towards learning equally.

The financial reward in the form of a merit scholarship was among the least important factors (24.6%); more than half of male respondents consider it mostly or fully irrelevant while women are mainly neutral. This reward is also the only one that shows a dependence on age; as expected, it loses significance as age increases. It seems reasonable to assume that with increasing age, more students are employed, financially secure and therefore not dependent on financial assistance from their university.

Interesting results were obtained in the test of dependence between motivating factors and the respondents' secondary education; interactive teaching carries a significantly higher weight for graduates of business academies (50.5%) and gymnasia (45.6%) compared to graduates of vocational schools (24.5%). There are also significant differences in the factor of combining theory and practice, with gymnasium graduates at 75.6%, business academy graduates at 61.4% and vocational school graduates at 48%. For graduates of business academies and particularly gymnasia, which are generally known to prefer teaching theoretical principles to practical application, this factor was one of the strongest motivators. These students therefore expect that the next stage of their education will invert this proportion, or at least make theory and practice equally represented to better prepare the students for the labour market.

**Table 1** Students' motivation to study

	Absolute frequencies*	Relative frequencies*	Relationship (P-value/Cramer's V)		
			Dependency on gender	Dependency on age	Dependency on high school
Personality of the teacher	132	45.1	No	No	No
Interactive teaching, alternating individual and group work	117	39.9	No	No	Yes (0.001/0.173)
Open discussion, teamwork	120	41.0	No	No	No
Modern teaching methods	184	62.8	No	No	No
Professional competences of the teachers	164	56.0	No	No	No
Combining theory and practice	179	61.1	No	No	Yes (0.004/0.163)
Difficult tasks that pose a challenge	67	22.9	No	No	No
Positive and supportive environment	198	67.6	Yes (0.024/0.160)	No	Yes (0.003/0.166)
Desire to learn and develop	195	66.6	Yes (0.024/0.159)	No	Yes (0.047/0.128)
Financial reward in the form of a merit scholarship	72	24.6	Yes (0.000/0.234)	Yes (0.014/0.146)	No

Note: \*Merging the answers 'agree' and 'strongly agree'.

Source: Own survey

To examine the mutual relationships between variables in more detail, the data was also processed using multivariate statistics according to Anderson (2009); the factor analysis identified two important factors influencing the motivation to study (see Table 2).

**Table 2** Variance explained by factors

<i>Factor</i>	<i>Total variance</i>	<i>Total % of variance</i>	<i>Cumulative % of variance</i>
1	4.535	45.354	45.354
2	1.072	10.725	56.079

*Source:* Own survey

The factor analysis identified two significant factors combining the analysed variables. The first factor has a strength of approximately 45%, the other 11%. The first may be considered the key factor influencing students' motivation. Table 3 shows the results of the factor analysis in detail.

**Table 3** Resultant factors determined by the varimax method

<i>Variable</i>	<i>Factor 1</i>	<i>Factor 2</i>
Personality of the teacher	0.715	0.236
Interactive teaching, alternating individual and group work	0.836	0.188
Open discussion, teamwork	0.795	0.114
Modern teaching methods	0.653	0.400
Professional competences of the teachers	0.372	0.632
Combining theory and practice	0.513	0.511
Difficult tasks that pose a challenge	0.166	0.685
Positive and supportive environment	0.511	0.558
Desire to learn and develop	0.042	0.814
Financial reward in the form of a merit scholarship	0.232	0.476
<i>Total % of variance</i>	45.354	10.725
<i>Name of factor</i>	<i>Quality of teaching and teacher</i>	<i>Personal aspirations</i>

*Source:* Own survey

According to the results shown in Table 3, the respondents in the sample can be divided into two groups: the first group is motivated externally (external motivation) with variables that influence the educational process (the personality of the teacher, interactive teaching, alternating individual and group work, open discussion, teamwork). The second group is mainly motivated internally (internal motivation) through difficult tasks that pose a challenge, a positive and supporting environment, which is however also important for the quality of teaching and teacher, the internal desire to learn and develop, financial incentive in the form of a merit scholarship and the professional competences of teachers; these together create the supportive environment that these students desire. The variables in the 'quality of teaching and teacher' factor range from 0.513 to 0.836, representing a strong dependence. A similar situation was observed in the 'personal aspirations' factor, with variable values between 0.476 and 0.814.

## 5 Discussion

In today's highly competitive environment, building the reputation of an educational institution is crucial for its ability to attract future and retain current students. It can, therefore, be said that the selection of effective methods of communication is becoming an ever more important part of the concept and strategy of higher education, which is confirmed by Abbas (2014) and Pucciarelli and Kaplan (2016). The quality of services provided by educational institutions can mainly be measured by the satisfaction of their clients, i.e., the students, whose expressed satisfaction or dissatisfaction largely influences how the institution is perceived by the public and particularly potential students (Negricea et al., 2014; Orîndaru, 2015). It is therefore the objective of all educational institutions to regularly identify students' preferences and motivations in order to be able to respond to changing customer needs and to regularly monitor trends in education and use of modern technologies (Borges and Stiubiener, 2014).

The research also determined that the attitude towards study is strongly influenced both by the students' personal aspirations and the quality of teaching and teacher. These results correspond to the findings of Etuk et al. (2013), Alauddin and Kifle (2014) and Devlin and Samarawickrema (2010). In terms of factors of teaching style and teacher quality, we have confirmed the findings of Arsenijević and Maljković (2016) according to which students view their teachers as persons who have expert knowledge and therefore prefer professional competence and the ability to combine theory and practice over the teacher's personality and the combination of teaching methods and activities. The main motivating factor determining the students' approach to their studies and courses, however, is the teacher's ability to create a positive and supportive environment that enables interaction, discussion and feedback.

The research was carried out only among students in the first year of their bachelor's programme at a single public tertiary school, which can be considered the main limitation of this paper. It would be therefore advisable to carry out similar research also among students at other stages of their university studies and at different institutions to examine the differences in motivation and preferences over the course of a study programme. This research could also focus on the relationship between course evaluation, study performance and variables concerning teaching quality, teaching style and the characteristics of the teacher.

## 6 Conclusions

The identification of motivational factors influencing study at a tertiary school, their correct evaluation and subsequent implementation into the teaching process help educational institutions adopt corrective measures aiming to increase the attractiveness of offered programmes, develop the quality of teachers and build the institution's reputation. These activities are particularly important due to the increasing competitiveness on the education market and the need to satisfy the needs of current and prospective students better than the other institutions. Research has shown that there is a statistical dependence between factors influencing students' attitude towards studies and their gender, age and secondary education. As part of their marketing activities oriented toward attracting new students, institutions of higher learning should, therefore, evaluate the representation of



their majority students with regard to the secondary school attended, as well as age and other variables. Students rate most strongly the influence of a positive and supportive environment, internal desire for knowledge and personal development, use of modern teaching methods and combining theoretical knowledge and practice. As part of the research, factor analysis was carried out which identified two groups of respondents. The first is motivated mainly by the quality of teaching and teacher (0.513–0.836) and the second by personal aspirations (0.476–0.814), both of which are significant factors. The obtained results and knowledge of the statistical dependence between student characteristics facilitates a better understanding of the needs of selected groups and enables a more effective response in the formulation of the development strategies of tertiary education institutions.

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