

## **IDENTIFICATION OF KEY MOTIVATION FACTORS “TEACHER VS. STUDENT” AS A TOOL OF QUALITY MANAGEMENT IN UNIVERSITY EDUCATION**

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**Abstract:** *This paper is focused on identification of key motivational factors of personality of a teacher in educational process as a tool of management quality in university environment. Attention is paid on research of teacher’s personality traits in relationship with student’s motivation, methods, and practices as so as activation and interaction used by teacher in process of education. Main source of primary data is obtained from the questionnaire survey. Hypotheses set at the beginning of the survey are verified using non parametric statistical tests. Identified results provide us with clear evidence about areas which needs to be educated and improved from the side of pedagogues and should become a basis parameters to evaluate continuous improvement of management quality on universities.*

**Keywords:** *teacher, motivation factors, quality of educational process, quality management*

**JEL Classification:** *M15, M21, M53*

### **1. INTRODUCTION**

Quality, its maintenance and continuous development – these terms appear in our everyday life activities more often as it was in past. Term “quality” is defined as ability of set of internal product, system or process characteristics to meet conditions of customers and other interested parties [16]. However, this is not only about products, but also about services and processes which serve to satisfy the needs of final customers (users). Increasing demands for quality from the side of customers leads to findings about sustainable ensurance of quality as a necessary tool for reaching the competitiveness, prosperity and survival on the market environment. In long term, successful become only those companies which focus on quality of their activities, not only on instant profits or short targets.

A quality management system is a set of interacting processes that companies use to ensure appropriate quality policies are implemented and quality objectives are identified and monitored for improvement. Processes use resources to change inputs into outputs. The output(s) of each process typically becomes an input to one or more other processes. While the term "Process Approach" has become popularized by the ISO 9001:2000 revision of ISO 9001, this is a very old concept which almost all companies use whether they realize it or not [4].

These days, above mentioned facts are not applicable only for environment of entrepreneurship. Current modern society pushes the system of quality to be applied also at public sphere including institutions providing educational activities.

Quality of education is an optimal process of lectors teaching and students study to meet the conditions of all participants which are objectively evaluated. This is influenced mostly by high educated, creative and human teacher with strong feeling for Self- management. Quality can be improved also by teachers and students self-assessment connected with external monitoring [3].

Development of quality of the education is considered to be one of the bases for making the educational institutions more competitive. Quality management represents continuous process not only in general, but also in educational point of view [9]. With no doubts, character of a teacher is one the basic elements of every educational process. To be able to meet requirements on modern teacher, general development of quality management in educational process was necessary. This discipline became the most actual innovation of teacher professionalism and his pedagogic education [3]. Innovation of the educational process can be a result of:

- Necessity
- Self - determination
- Generally respected value [10].

Problematic of innovations and transformations in educational system is becoming one of the most popular pedagogic problems and is a subject for discussions and polemics of whole society [15]. Innovations in educational process represent new pedagogical concepts and practical actions focused mostly on content and organization of schools, education, process of students evaluation and such „school clime“ friendly towards students and public including implementation of new educational technologies [2]. These educational innovations are important assumption of developing the quality of education on all levels of educational system with emphasis on university education. This is why it is important to develop quality management mostly on universities. It should include tools that would be able to take key factors and measure quality of the whole educational process into account.

### **2. TEACHER AS A MOTIVATION FACTOR**

Hostovecký, M. (2010) defines in his paper 2 basic determinant of students’ motivation:

1. Character and focus of the educational institution,
2. Teachers character [7].

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Teacher is the one with strong influence on creating the character and personality of his students. He is not only responsible for their education and personal development, but becomes their role model in the area of behaving. This fact is not related only to the pedagogical part of their job, there is much more complicated aspect hidden – psychology. Teacher is able to influence his students by his own personality as a kind of motivation factor.

Motivation is a perfect proof of human psyche which is influenced by specific not always realized internal driving forces – incentives and motives which orient human activities mobilize him and keep induced activity [13].

People are motivated by satisfying their own needs. From the manager point of view, motivation is a process of joining the opportunities of increase of employees' performance and satisfying their own needs. Probability of increase of employees' performance is significantly higher when the employees are motivated in comparison with those who are not [5]. This fact can be applied also on educational process as motivated students achieve in general much better results than non-motivated ones. In this case, first line manager is replaced by teacher who strongly influences motivation of his students. Good teacher is the one who is able to motivate his students using his own personality in such way that their thirst for knowledge moves them forward without the necessity of using any special kinds of punishments or special rewards or benefits.

Research of teacher vs. students' motivation combines lots of aspects of psychological and pedagogical process such as learning, motivation to study, students' personality, but also a teacher and their mutual relationship. After careful investigation and searching of dependencies, these aspects can provide an answer the question about mutual influencing of individual elements, how they react on different motivation forms and which factors have significant influence on teachers' ability to act as origin source of students' motivation. Identified key factors can also become evaluating indicators of education quality within internal or external system of quality management on universities.

### 3. SCIENTIFIC AIM, METHODOLOGY/METHODS

Well mastered pedagogical process led by teacher (pedagogue) is the basis of providing high quality school education where the teacher represents one of its most important elements. Teacher is not only a tool for transfer of theoretical and practical knowledge, but also a person motivating his pupils and students to active studying. The main aim of this paper is to analyze personality of teacher as a significant motivation factor of the educational process. Our research focuses on area of university education as a highest form of provided education in existing educational system in SR and in the European Union.

Purpose of the article is to identify key factors and tools of students' motivation by teacher in university environment. Our attention is paid mostly on research of personal traits of teacher in his relationship to student's motivation, methods and practices as so as activation and interaction in educational process. Partial targets of this scientific paper are:

- Identification of the most effective practices of increasing the students motivation by teacher
- Identification of appropriate tools supporting increase of internal activation of students
- Evaluation of significance of modern methods, tools and devices used in the process of students' motivation

Primary source of information comes from questionnaire research realized on a sample of 120 students of Slovak University of Agriculture (SUA) in Nitra. Sample was created both from students of bachelor and master degree of study of internal and external study form. The bulk of them (74,51%) were students of master's degree, the rest (25,49%) were students of bachelor's degree. Until deadline of data collection, 102 questionnaires were completed and submitted, which means 85% return.

Hypotheses of the realized research are:

- hypothesis A: We assume that students are motivated by similar personal traits of teacher so putting the traits into order has an explanatory meaning
- hypothesis B: We assume that students significantly prefer one of the motivation practices so it is possible use it to significant growth of students motivation
- Hypothesis C: We assume that there are significant differences in students' preferences when talking about using modern didactic devices in educational process

Realized questionnaire and hypotheses were assessed using following statistical methods and test:

- Graphical views – pie charts, bar charts;
- Statistical hypothesis testing (statistical inference) which is based on comparing the critical (table) value with test characteristics (calculated from our data)

Formulas below calculate test characteristic:

- Kruskal Wallis test – nonparametric version of ANOVA for testing whether samples originate from the same distribution. It is used for comparing more than two samples that are independent or not related.

$$H = \left( \frac{12}{N * (N + 1)} * \sum_{j=1}^k \frac{R_j^2}{n_j} \right) - 3 * (N + 1)$$

N = total sum of respondents

ng = partial numbers of respondents evaluating concrete sample

Tg = sum of scores that sample collected amplified by the 2/x where x is a number of respondents who evaluated concrete sample

tg = number of samples [11].

- Friedman Test – same as Kruskal Wallis test, but used when samples are dependent

$$F = \left[ \left( \frac{12}{n * k(k+1)} \right) * \sum_{j=1}^k R_j^2 \right] - 3n(k+1)$$

n = number of samples

k = number of respondents

Rj2 = square of the rank total for group j [14].

- Kolmogorov – Smirnov Test – non parametric test suitable for testing the ordinary data in 1 sample with aim of comparison of preferences of interviewed people with hypothetical or theoretical preferences (arrangement). It is designed to test the null hypothesis

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$H_0: F(x) = G(x)$  for  $x \in R$  with alternative hypothesis  $H_1: F(x) \neq G(x)$  for at least one  $x$ , where  $F$  and  $G$  are distributional functions of two independent samples. Testing characteristics  $D$  is calculated as  $D = \max|E_i - T_i|$ . This characteristics is compared to table value  $H$  whose calculation depends on our chosen level of significance and is characterized by functional relation

$$H = \sqrt{-\frac{\ln \alpha}{2n}} \frac{1,36}{\sqrt{n}} \text{ for } \alpha = 0,05 \text{ and } \frac{1,63}{\sqrt{n}} \text{ for } \alpha = 0$$

Software used for a statistical hypothesis testing is SAS Enterprise Guide product from software company SAS.

### 4. FINDINGS

#### Evaluation of teachers' personal traits in a process of students' motivation

As mentioned in previous parts, teacher as a person in process of education significantly influence his students. Teacher is the part of the educational process which determines students' attitude and relationship to the subject or discussed curriculum.

In the process of motivation, several teachers' personal traits are important as he is the one who manages the whole process and influence its development through his personality, including development of all students' opinions on the subject and actual problematic. Personality of the teacher consists of several different characteristics, respectively factors. Based on summarized findings from both national and international sources, we chose 11 most important personal traits of teachers and tried to find out which of them are those which can influence their own motivation the most using Likert scale (1-5). Evaluated traits were these:

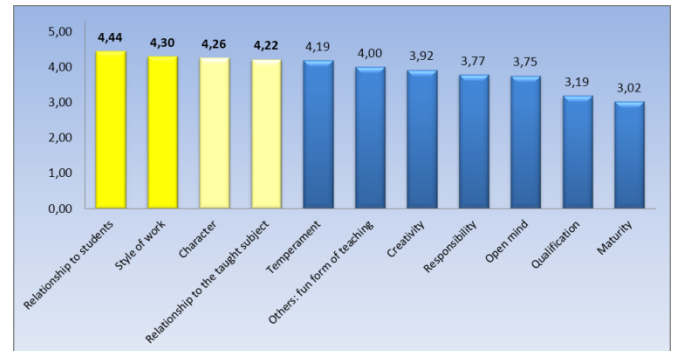
- Qualification
- Temperament
- Character
- Style of work
- Relationship to students
- Maturity
- Creativity
- Open mind
- Responsibility
- Relationship to the taught subject.

Respondents were also supposed to mention other personal traits or factors of teacher which determinate motivation process during educating.

As we can see from the Figure 1, the most important personal traits from the side of students are considered to be relationship to students (with highest average grade 4,44). The next significant factors are style of work (average grade 4,30), teachers character (average grade 4,26) and relationship to the taught subject (average grade 4,22). On the contrary, the fewest important traits are teachers maturity or qualification where the average grades are closely above the value 3.

Simultaneously, Kruskal-Wallis test was applied to verify the hypothesis A in which we assumed that students are motivated by similar personal traits of teacher, so putting the traits into order has an explanatory meaning. Conclusion

about the confirmation of the assumed hypothesis is proved by the statistics „Prob > Chi-square“ mentioned in the table below (Table 1) which states that in the case where the P value is less than our significance level (0,05), the null hypothesis about nonexistence of significant differences is rejected. After the rejection of the null hypothesis we accept the alternative one whose analytical version claims that mean values of samples are different, therefore significant differences exists.



**Figure 1** Importance of teachers' personal traits in the process of students' motivation

Source: own research, 2013

**Table 1** Kruskal-Wallis Test (teachers' personal traits)

<b>Chi-Square</b>	204,2663
<b>DF</b>	9
<b>Pr &gt; Chi-Square</b>	<.0001

Source: own research, 2013

Hanáčková, D. (2010) proved in her own research that lots of respondents chose the combination of offered characteristics, which can lead to creation of teachers' approach to their students: human and friendly [6]. From this finding, we can assess that teachers relationship to his students in combination with style of his work based on human and friendly approach, teachers character and his relationship to the taught subject are the most important determinants of motivation in the pedagogical process of students' education.

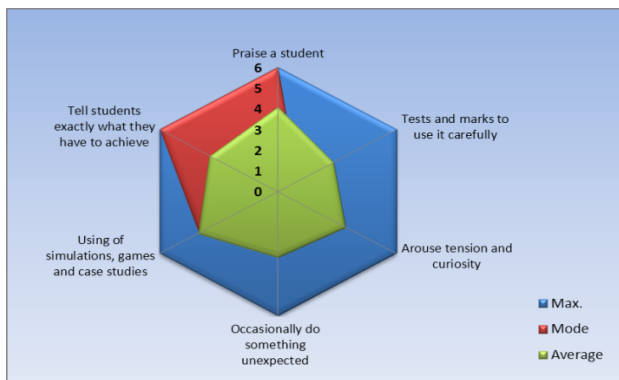
#### Identification of the most effective practices used in the process of the students' motivation by teachers

In the educational process, teacher can use a wide variety of available practices which can sustain total motivation of his students. According to available sources and other national and international researches, we have created a list of six practices which should not be missing in the educational process of modern teacher. Using the questionnaire, we have decided to verify students' preferences in relation to these practices.

Respondents were supposed to sort offered list into order from the standpoint of their subjective feeling of practices importance in the process of motivation by teacher. While the first place in the list should be assigned to the practice with the lowest priority, the last (sixth) place to the most effective practice. With this method, individual variables were influenced by each other as the respondent could assign each practice with one concrete position in his individual yarrow. Evaluation is represented in the Figure 2. From the Figure, we can see average achieved values (average order of individual practices) so as modus values

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(the most frequent marked value). Analyzing the Figure, preferences are clearly visible. We can see that the most preferred practice from the side of students is praise as it reached the highest average grade (4, 10) and was the assigned with most effective ranking value (6). Using of simulations, games and case studies is also considered to be very effective and innovative tool using experiential learning in concrete situations as it reached second highest average value (4,04) and was assigned with fifth ranking value. Telling students exact information about what they have to achieve (what they have to do to pass the subject successfully) also supposes to be very effective practice.



**Figure 2** Effectiveness of practices for growth of students' motivation by teacher  
Source: own research, 2013

Above described existence of preferences is proved by Friedman test used to verify hypothesis B in which we assumed that students significantly prefer one of the motivation practices so it is possible use it to significant growth of students motivation. Following mathematical summary presents results of test which compares table value and testing characteristics. As the testing characteristics (41,85) many times exceeds table value (11,07), we can definitely reject the null hypothesis and accept the alternative one which says that samples does not have same distribution – their distribution functions are different.

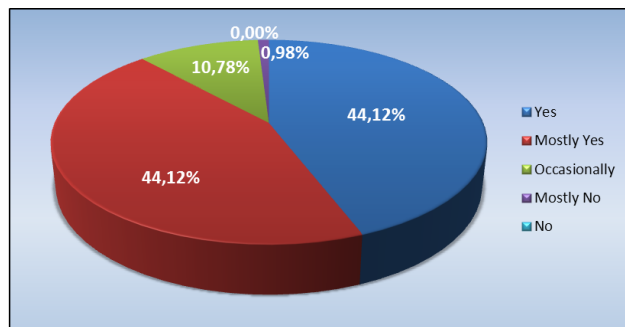
The research proved that praise is in the modern era still same important psychological motivation tool. However, modern unconventional ways of experiential learning based on simulations and games supporting memorability and higher students' motivation to get involved in problem solving processes which can positively affect student apathy is getting into forefront. Last, but not least, it is very important from the side of teacher to clearly define rules and conditions of what needs to be achieved to pass the subject.

**Evaluation of using the innovative aspects in the process of education**

Innovations are much discussed theme on European level. The European Union set development of innovative capacity of European market using investments into research and development as one of the priorities in the well – known strategy Europe 2020. Educational system is the area which should actively participate in the process towards using modern knowledge in practice as so as in educational process.

These days, modern tools are already in use. They support its attractiveness and contribute to increase of educational process in general. These might include modern didactic devices like using different forms of information and communication technologies (computers, multimedia devices, on – line connection to the internet etc.) or above standard of ICT supporting the highest forms of interactive learning (touch screen, tablets, interactive digital games, mobile application etc.) In addition to these, modern learning includes also other tools with the aim of raising the students' motivation to get closer with the taught subject, enlarge their knowledge, experiences and practical skills. Tools like this can be experiential learning based on practical simulations, games, interactive exercises and case studies which combine games, theory and experiences.

Results of our research shows that more than 90 % of respondents claim that using modern technologies, didactic devices, textbooks or media can positively motivate to better approach to the subject or learned lessons. Experiential learning represented by use of practical simulations, games and interactive exercises can be fully appreciated by almost half of all interviewed (44,12%), other 44,12% can appreciate it in most of cases when the teacher use it (see Figure 3).



**Figure 3** Appreciation of using practical games and interactivity in the educational process  
Source: own research, 2013

Significant preferences towards using practical games and interactive exercises are proved also by Kolmogorov – Smirnov test whose results are provided in the Table 2. After comparison of table value and testing characteristics whose calculations is described in the methodic, we are able to reject the null hypothesis H0 and accept the alternative one which means that our theory expressed in hypothesis C about students' different preferences of using practical games and interactivity in the educational process was right.

**Table 2** Kolmogorov-Smirnov test (using practical games and interactivity)

n	102	
alfa	0,05	
D vyp	0,382353	max. Value from abs (Fi-Gi)
D tab	0,13466	
<b>Dvyp &gt; D tab</b>		

Source: own research, 2013

In general, we can summarize that using innovative aspects of learning in the educational process has a positive influence on students' motivation to learn. Modern generation of students requires higher interactivity – active involve of students into educational process.

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**Table 3** Suggestion of indicator for measuring the quality of educational process and teacher

Category	Indicator	Measurement	Frequency of measurement
<i>Teachers personality</i>	Positive relationship to students	Questionnaire	Once after completing the subject Once a year (before the beginning of semesters)
	Positive relationship to the taught subject		
	Human attitude	Syllabus and Curriculum	
	Objectivity of evaluation process		
	Qualification		
<i>Students Motivation</i>	Praises	Visitation	at least once a semester
	Clear rules and requirements	Statistics of grades (evaluation)	Once a year (at the end of academic year)
	Actuality of lectured problematic		
<i>Interactivity of educational (experiential learning)</i>	Modern didactics instruments (ICT)	Statistics of grades (evaluation)	
	Games & Simulations		
	Case Studies		

Source: own research, 2014

Practical demonstrations, games and simulations of problem solving situations using modern didactic technologies help to improve positive attitude of students to the taught subject.

### Suggestion of indicator for measuring the quality of educational process and university teacher

Based on identified findings, we are able to suggest the system of several indicators to measure the quality of educational process within the quality management applied in university education. Their details are described in the following Table 3.

## 5. DISCUSSIONS

The highest value of each university lies in quality if its teachers. Teachers are the source of driving force which routes all the vigor and power of further development. In the educational process of modern education, teacher is the one who takes on the role of evaluator, facilitator, manager, strategy maker and partner [1].

Pedagogue for adults is not only teacher transferring knowledge and information, for the listeners he is also a person who they are able to discuss their opinions, experiences and taught curriculum with [8].

Mentioned facts are also proved by our identified results. After verification of all hypotheses created at the beginning of the research, we can sum up that most of the students are motivated by similar personal traits of teachers like relationship between teacher and student, style of work, teachers' character as so as relationship of the teacher to his subject. On the contrary, teachers maturity or qualification are not so decisive factors, more important is quality of the taught problematic and its actuality. Students

also highly prefer several selected practices to increase the motivation, mostly praise, using simulations and games and exact definition of the requirements of the teacher to the pupil is able to pass the subject successfully. We also confirmed the assumption that there are significant preferences in student opinions about using practical games and interactivity in the educational process in such way that most of the students can really appreciate it.

## 6. CONCLUSION

From the results of international researches as so as from our identified facts it is clear that teacher significantly participate on the quality of whole educational process in university environment. Decisive personal traits of teacher, using the most effective motivation tools in combination with systematic innovation of educational process should become a base for creation of indicators for quality management in university education with aim of its continual development. Only with the help of clearly stated criteria, process steps of evaluation and implementation of changes we will be able to ensure competitive quality of university environment reflecting actual requirements knowledge based economy in competitive environment of the European Union.

It is needed not to forget that quality is dynamic category and requirements of customers still change. If somebody wants to succeed in today's competitive environment he has to be able to react flexibly on changes and improve the processes. This is also about the universities and other institution providing educational activities so it is very important to evaluate the educational process and its indicators every time it is possible [12].

## REFERENCES

- [1] BÁLINTOVÁ, H. *Implementácia inováčných trendov a metód v edukačnom procese*. [cit. 2013-12-20]. Online document. Available: <[www.pf.ujep.cz/files/\\_konferencKPG/kolar/Balintova.pdf](http://www.pf.ujep.cz/files/_konferencKPG/kolar/Balintova.pdf)>.
- [2] BAGALOVÁ, L. 2011. *Pedagogické inovácie na Slovensku z pohľadu učiteľov a riaditeľov ZŠ*. Bratislava: ŠPÚ, 2011. 35 s. Podrobné znenie [cit. 2014-02-18]. Online document. Available: <[http://www.statpedu.sk/files/documents/vyskumne\\_ulohy/pedagogicke\\_inovacie.pdf](http://www.statpedu.sk/files/documents/vyskumne_ulohy/pedagogicke_inovacie.pdf)>
- [3] BLAŠKO, M. 2013. *Kvalita v systéme modernej výučby*. [cit. 2013-12-20]. Online document. Available: <<http://web.tuke.sk/kip/main.php?om=1300&res=low&menu=1310>>.
- [4] ELSMAR. 2011. *Quality Management System (QMS)*. [cit. 2014-01-20]. Online document. Available: <<http://elsmar.com/Forums/showthread.php?t=36420>>
- [5] GOZORA, V. 2005. *Podnikový manažment*. Nitra: SPU v Nitre, 2005. 193 p. ISBN 80-8069-462-1.
- [6] HANÁČKOVÁ, D. 2010. *Osobnosť učiteľa ako motivačný činiteľ k štúdiu* In: Zemědělská škola, vol. 73, no. 4 (2010-11), s. 13 - 15. ISSN 0044-3875.

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- [7] HOŠŤOVECKÝ, M. 2010. *Determinanty vplývajúce na motiváciu študentov*. [cit. 2014-01-20]. Online document. Available: <<http://kppnitra.tym.sk/zborniky/2010/clanky/Hostovecky.pdf>>.
- [8] HRAPKOVÁ, N. 2012. *Osobnosť učiteľa, lektora vo vzdelávaní seniorov*. Metodický seminár Asociácie UTV na Slovensku, Šachtičky, 26. apríl 2012.
- [9] KRPÁLKOVÁ KRELOVÁ, K. – KRIŠTOFIAKOVÁ, L. *Kvalita vyučovacieho procesu*. [cit. 2013-12-13]. Online document. Available: <[www.mtf.stuba.sk/docs//internetovy.../3/krpalkova\\_kristofiakova.pdf](http://www.mtf.stuba.sk/docs//internetovy.../3/krpalkova_kristofiakova.pdf)>
- [10] LAZAROVÁ, B. 2005. *Osobnosť učiteľa a rezistencia voči zmene*. [cit. 2013-12-20]. Online document. Available: <[www.phil.muni.cz/journals/index.php/studia.../571](http://www.phil.muni.cz/journals/index.php/studia.../571)>.
- [11] LOWRY, R. 2000. *“The Kruskal-Wallis Test for 3 or More Independent Sample” in Kruskal-Wallis Test*. VASSAR, 2000. [cit. 2014-04-10]. Online document. Available: <<http://faculty.vassar.edu/lowry/PDF/c14a.pdf>>
- [12] PAULOVÁ, I. 2009. *Prístupy k manažérstvu kvality vo vzdelávacích organizáciách/školách*. Bratislava: Metodicko-pedagogické centrum v Bratislave, 2009. [cit. 2014-04-10]. Online document. Available: <[http://www.mpc-edu.sk/library/files/paulova\\_pristupy\\_k\\_manazerstvu\\_kvality.pdf](http://www.mpc-edu.sk/library/files/paulova_pristupy_k_manazerstvu_kvality.pdf)>
- [13] VIŠŇOVSKÝ, J. et al. 2000. *Manažment ľudských zdrojov*. Nitra: SPU v Nitre, 2000. 154 p. ISBN 80-7137-798-8.
- [14] WCU Courses Server. *Friedman Rank Test for Differences in C Medians*. [cit. 2014-03-20]. Online document. Available: <[http://courses.wcupa.edu/rbove/Berenson/CD-ROM%20Topics/topicf-11\\_5.pdf](http://courses.wcupa.edu/rbove/Berenson/CD-ROM%20Topics/topicf-11_5.pdf)>
- [15] ZAŤKOVÁ, T. 2010. *Vyučovací štýl učiteľa – jeden z činiteľov vplývajúcich na prevenciu, vznik a riešenie neštandardných pedagogických situácií vo výchove*. In: Pedagogické situácie v stredných odborných školách a možnosti ich riešenia. Nitra: ES SPU, 2010. p. 68-79. ISBN 978-80-552-0663-9.
- [16] Standard EN ISO 9001:2008

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