Available online at www.sciencedirect.com

ScienceDirect

Procedia - Social and Behavioral Sciences 197 (2015) 175 – 183

Procedia
Social and Behavioral Sciences

7th World Conference on Educational Sciences, (WCES-2015), 05-07 February 2015, Novotel Athens Convention Center, Athens, Greece

Differences in Learning Styles: A comparison of Slovenian Universities

Miha Maric[a], Sandra Penger[b], Ivan Todorovic[c], Nina Djurica[c], Rok Pintar[a]*

[a]*University of Maribor, Faculty of Organizational Sciences, Kidriceva cesta 55a, 4000 Kranj, Slovenia*
[b]*University of Ljubljana, Faculty of Economics, Kardeljeva ploscad 17, 1000 Ljubljana, Slovenia*
[c]*University of Belgrade, Faculty of Organizational Sciences, Jove Ilica 154, 11000 Belgrade, Serbia*

Abstract

Students have various learning styles. Since we cannot adapt to each single student, we can still find differences across the students that attend different universities. To achieve better results when teaching, the educators should understand which learning style prevails in their students. Our research was conducted via questionnaire and included questions about the students and their learning styles. We used the Honey and Mumford's learning style questionnaire (LSQ) to measure the various learning styles (reflectors, theorists, activists, pragmatists) across three Slovenian universities, searched for the learning style that prevails in each university and present the differences among them. We found minor differences in the prevailing learning styles and propose to the educators to plan their teaching approaches on our findings. We propose further examination of students' learning styles to improve the learning experience and to generalize this approach when dealing with students learning style preferences.

Peer-review under responsibility of Academic World Education and Research Center.

Keywords: students; learning styles; teaching; university.

1. Introduction

A university only exists because of its students, which means that students' voice of how the university vision of teaching and learning development has to be established in the near future needs to be "up to date" has to be heard (Kahl, 2014). Instructors teach by lecturing, assigning homework, and assessing student performance through tests (Oh, Ishizaki, Gross, & Do, 2013). The teacher's choice of response style makes a difference to the students' subsequent actions and learning (Oh, et al., 2013). The inquiry into how students can unify their needs of studying

* Rok Pintar. Tel.: +386-4-2374-247
E-mail address: rok.pintar@fov.uni-mb.si

Peer-review under responsibility of Academic World Education and Research Center.
doi:10.1016/j.sbspro.2015.07.079

with the guidelines of the institution is one of the key points in today's Higher Education field (Kahl, 2014). In multiple cases, students perceived learning in school as fun, rewarding, or useful and thus their involvement was regulated by intrinsic or autonomous motivation accompanied by a sense of competence and purpose. Students reported excitement about and commitment to school work when learning was perceived as optimally challenging and the feedback received reinforced students' sense of competence (Westling, Pyhalto, Pietarinen, & Soini, 2013).

Conceptions of teaching and learning affect approaches to teaching, learning and learning outcomes, and they therefore need to be made explicit (Keskitalo, Ruokamo, Vaisanen, & Gaba, 2013). Standard economic factors, such as family income, financial aid and parental transfers, are not predictive of study behaviours (Delaney, Harmon, & Ryan, 2013). It is important for educators to have access to learning environments that accentuate the positive aspects of such collaborative learning and reduce the potentially negative aspects (Popov, Noroozi, Barrett, Harm, Biemans, Teasley, Slof, & Mulder, 2014). Teachers' feedback on students' written work is an important aspect of pedagogy (Li & Barnard, 2011).

2. Literature Review

2.1. Learning Styles

Semester by semester students are joining universities to become professional in their field (Kahl, 2014). The lack of instructional strategies seems to be the problem of the teachers (Termtachatipongsa, 2014). Programmes need to take account of the learning requirements of students to maximise the integration of theory and skill development (Milton-Wildey, Kenny, Parmenter, & Hall, 2014). Lectures are designed to deliver new information to a large group of students (Gehlen-Baum & Weinberger, 2014). Students' non-cognitive traits, in particular conscientiousness and future-orientation, are important determinants of lecture attendance and additional study hours (Delaney, Harmon, & Ryan, 2013). For many students the availability of contents in a general form might not be effective (de Melo, Flores, de Carvalho, de Teixeira, Batista Loja, & de Sousa Gomide, 2014).

Apart from actual lecturing, lecturers may also encourage elaboration of learning material with advanced instructions, like advance organizers, summaries and repetitions as well as questions (Gehlen-Baum, & Weinberger, 2014). In fact, there is very little that explains undergraduate study behaviour besides non-cognitive traits (Delaney, Harmon, & Ryan, 2013). Students who studied with the use of animated movies for instance developed higher motivation to learn, in terms of: self-efficacy, interest and enjoyment, connection to daily life, and importance to their future, compared to the control students (Barak, Ashkar, & Dori, 2011).

Prerequisite to learning from lectures is that students focus on the lecture and cognitively process what is being presented (Gehlen-Baum & Weinberger, 2014). Significant differences in flexibility and logic thinking are also between those with various levels research aptitude (Darinskaya & Rozum, 2014); those with high level of research potential showed a marked ability for situational analysis, knowledge implementation and consolidation, flexibility thinking and analytical style of thinking; others demonstrated rigid thinking and limited capacity for abstraction. On the way to profession, students realize that their needs of a learning environment are different in the university system (Kahl, 2014). Educationalists introduced the concept of learning style as a "description of the attitudes and behaviours that determine our preferred way of learning" (Honey & Mumford, 2000). Therefore, it is important for the teacher to be aware of different ways to communicate the same content (Oh, et al., 2013).

2.2. Honey and Mumford's Learning Style Questionnaire (LSQ) theory

Honey and Mumford's learning style questionnaire, known as Learning Style Questionnaire (LSQ) Theory has been widely used as an instrument of detecting students' learning style in higher education (Duff & Duffy, 2002; Coffield, Moseley, Hall, & Ecclestone, 2004) and management practices (Allinson & Hayes, 1990) by probing general behavioural tendencies rather than learning. Honey and Mumford's Learning Style Questionnaire (LSQ) has been proposed as an alternative for Kolb's Learning Style Inventory (LSI) and a later refined version (LSI-1985) (Duff & Duffy, 2002). The new instrument has been developed over four years of experimenting with different approaches to assessing individual differences in learning preferences before producing the Learning Styles

Questionnaire in 1982, which was designed to be used as a starting point for discussion and improvement (Coffield et al., 2004).

Honey and Mumford's learning style questionnaire (presented in Table 1) has been widely applied in the fields of management training and education. The LSQ measures how people learn (i.e. their preferred learning style) and the amount they are likely to learn (high scorers on each scale are better learners than low scorers). The Learning Style Questionnaire (LSQ; Honey & Mumford, 1992) contains 80 items on four scales to identify four types of learners and ensures that each participant gets a score on four scales: activist (sensation seeking, impulsive, extravert), reflector (introvert, cautious, methodological), theorist (intellectual, rational, objective) and pragmatist (expedient, realistic, practical) (Furnham, Jackson, & Miller, 1999). Activists are individuals who enjoy new experiences, tend to make decisions intuitively, but who dislike structured procedures. Theorists focus on ideas and systemic logic and are distrustful of intuition and emotional involvement. Pragmatists like practical, down to earth approaches and debate, but tend to avoid reflection and deep levels of understanding. Reflectors observe and describe processes, try to predict outcomes and try to understand meaning (Kappe, Boekholt, den Rooyen, & Van der Flier, 2009).

The figure of four is defended because they are easy to remember, they reinforce the stages people need to go through to become balanced learners and they are widely understood, accepted and used by learners (Honey & Mumford, 2000). The authors are keen to emphasise that 'no single style has an overwhelming advantage over any other. Each has strengths and weaknesses but the strengths may be especially important in one situation, but not in another. Honey and Mumford's intention is that learners should become proficient in all four stages of the learning cycle (Penger & Tekavcic, 2009).

The LSQ indicates the degree to which an individual's learning style leans toward abstraction or concreteness and is reflective or active (Huang, Lin, & Huang, 2012). Therefore, it has been useful to educators because it provides a valuable insight into student learning differences, which have resulted in teaching and learning strategies that encourage reflection (Lashley & Barron, 2006).

Table 1: Honey and Mumford's learning style questionnaire (LSQ)

Learning style	Description of Honey and Mumford's learning style theory	Characteristics
Reflectors	**Reflectors** like to stand back to ponder experiences and observe them from many different perspectives. They collect data, both first hand and from others, and prefer to think about it thoroughly before coming to any conclusion. The thorough collection and analysis of data about experiences and events is what counts so they tend to postpone reaching definitive conclusions for as long as possible. Their philosophy is to be cautious. They are thoughtful people who like to consider all possible angles and implications before making a move.	Careful, good listener, holds back from participation, methodical, does not jump to conclusions, slow to decide, thorough and thoughtful.
Theorists	**Theorists** adapt and integrate observations into complex but logically sound theories. They think problems through in vertical, step-by-step logical way. They assimilate disparate facts into coherent theories. They tend to be perfectionists who won't rest easy until things are tidy and fit into a rational scheme. They like to analyse and synthesize. They are keen on basic assumptions, principles, theories models and systems thinking. Their philosophy poses rationality and logic. "If it's logical it's good". Questions they frequently ask are: "Does it make sense?" "How does this fit with that?" "What are the basic assumptions?" They tend to be detached, analytical and dedicated to rational objectivity rather than anything subjective or ambiguous.	Disciplined, intolerant of subjective, intuitive ideas, logical, low tolerance of uncertainty, ambiguity, objective, parental in approach, probing when questioning, rational and restricted in lateral thought.
Activists	**Activists** involve themselves fully and without bias in new experiences. They enjoy the here and now and are happy to be dominated by immediate experiences. They are open-minded, not sceptical, and this tends to make them enthusiastic about anything new. Their philosophy is "I'll try anything once". They tend to act first and consider the consequences afterwards.	Flexible, gets bored with consolidation, happy to give things a try, open minded, optimistic about change, rushes into action without preparation,

	Their days are filled with activity. They tackle problems by brainstorming. As soon as the excitement from one activity has died down they are busy looking for the next. They tend to thrive on the challenge of new experiences but are bored with implementation and longer term consolidation.	takes immediate obvious action, takes unnecessary risks, unlikely to resist change.
Pragmatists	**Pragmatists** are keen on trying out ideas, theories and techniques to see if they work in practice. They positively search out new ideas and take the first opportunity to experiment with applications. They are the sort of people who return from management courses brimming with new ideas that they want to try out in practice. They like to get on with things and act quickly and confidently on ideas that attract them. They tend to be impatient with ruminating and open ended discussions. They are essentially practical, down-to-earth people who like making practical decisions and solving problems.	Business-like – gets to the point, does not like theory, impatient with waffle, keen to test things out in practice, practical, down to earth, realistic, rejects ideas without clear application, seizes first, often most obvious solution, task and technique focused.

Source: Penger & Tekavcic, 2009 (Adapted from Honey & Mumford, 1992; Coffield et al., 2004)

3. Research

3.1. Data collection, sample characteristics and variables description

The sample consists of 1042 students from three universities from Slovenia; University of Ljubljana (569 students), University of Maribor (458 students) and University of Primorska (15 students); 860 were full-time students and 144 were part-time students; 873 were graduate students and 91 were postgraduate students (78 did not provide an answer); 539 were men and 499 women (4 did not provide an answer); the average year of study is 1.93 and the average age of the students who participated in the survey was 22.25 years. Data were collected in 2012 all across Slovenia. Anonymous questionnaires were used. The questionnaires consisted of 20 questions, 13 of which were about the questioned and the rest about their learning styles according to the modified version of Honey and Mumford's learning style questionnaire (LSQ).

3.2. Research instrument

The research objective was to measure various learning styles across three Slovenian universities, search for the learning style that prevails in each university and to present the differences among them according to the modified version of Honey and Mumford's learning style questionnaire (LSQ) from 1992 which recognizes four learning styles. All variables were measured on a 5 – point ordinal Likert scale ranging from 1 to 5, where: 1 – strongly disagree, 2 – disagree, 3 – neutral, 4 – agree, 5 – strongly agree.

3.3. Analysis

Exploratory factor analysis using the Varimax rotation method – the most common rotation option (Coakes & Steed, 2003) – was used to extract the different learning styles based on the questionnaire. The applicability of factor analysis was tested using Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO measure) and Bartlett's Test of sphericity. Both tests confirmed the applicability of factor analysis. The applicability criteria was KMO measure being > 0.6 and Chi-Square test statistically significant (Miller et al., 2002). Our results indicate a KMO of 0.755 and Chi-Square of 2760.051. Another indicator of the strength of the relationship among variables is Bartlett's test of sphericity. Bartlett's test of sphericity is used to test the null hypothesis that the variables in the population correlation matrix are uncorrelated. The observed significance level is 0.000. It is concluded that the strength of the relationship among variables is strong. The factor numeric definition of individual variables is indicated in table below (Table 2). In factor analysis all factors have significant loadings (greater than ± 0.60) on all variables.

Table 2: Factor loadings after rotation - Honey and Mumford's learning style theory (LSQ)

	Component			
	Pragmatist	Reflector	Activist	Theorist
My attitude towards work / study is very "careful" - careful, because I put it in the first place.			.664	
Before deciding I want to get as much information and data as possible.			.812	
My attitude towards work is very methodological.			.770	
I would label myself as a theorist who strictly follows the principles of the procedure - I follow the "step by step" principle.				.700
Personally, I do not support a subjective approach to finding solutions based solely on intuition rather than on mathematical calculations.				.822
I love to analyze and then synthesize certain problems.				.651
I can say that like to jump into a new problem, an event without any major previous analyzes.		.702		
I love being the heart of the action and I love working in a group.		.816		
In the group, I immediately take over the main floor and am immediately in the spotlight.		.742		
I really do not like theory; I am interested only in practice, in the functioning of the real world.	.742			
I love running trials in practice - real world; for example in the business world.	.802			
When considering the rationality of a theory, I decide on the principle "if useful in practice."	.780			
I am highly tuned towards practice and the tasks that can be implemented in practice.	.765			

We analysed the data using the Statistical Package for the Social Sciences (IBM SPSS Statistics 22). Factor analysis was done with using Principal Factoring Rotation as an extraction method. Furthermore we used the Varimax method with Kaiser Normalization and rotation converged in five iterations. As a margin of statistical significance an alpha level of 0.05 was used. The rotated factor matrix contains the rotated factor loadings, which are the correlations between the variable and the factor. According to eigenvalues rule ("greater-than-one rule", Neal, 2010) four factors were extracted and labelled as pragmatists, reflectors, activists and theorists (Table 2) confirming our modified version of learning style theory the four factors explained 59.793 percent of the total variance.

3.4. Reliability of the compounded scales

In order to assess the reliability of compound scales (the extracted factors) measuring applied learning styles concepts the Cronbach Alpha Coefficient was calculated for the sample as a whole and for factor analyse for Honey and Mumford's learning style theory (Table 3).

Table 3: Reliability (Cronbach Alpha Coefficient)

Factor analysis	Factors	Cronbach Alpha
Honey and Mumford's learning style theory	Pragmatists	.786
	Reflectors	.637
	Activists	.661
	Theorists	.593

Cronbach's Alpha measures how well a set of variables measures a single unidimensional latent construct. Cronbach's Alpha is not a statistical test rather it is a coefficient of reliability, the reliability coefficient α of 0.7 or higher is considered "acceptable" in most social science research situations (Coakes & Steed, 2003). As indicated the results of factor analysis is close to satisfactory: Factors extracted from the first factor analysis have Cronbach Alpha values from 0.593 to 0.786. These results indicate that the extracted factors appropriately characterize the dimensionality of the data.

Table 4 shows the collected data of returned modified version of Honey and Mumford's learning style questionnaires for students of University of Ljubljana, University of Maribor and University of Primorska. At University of Ljubljana pragmatists and reflectors prevail, as on University of Maribor have the best results for reflectors and pragmatists. For University of Primorska results show that pragmatists and activists are dominant. All Slovenian Universities combined clearly have the most pragmatists and reflectors followed by theorists and activists. Differences in prevailing learning styles between Slovenian Universities exist and in the future the educators should plan their teaching approaches in the way that best suits their students.

Table 4: Factor's means and standard deviations

			Pragmatists	Reflectors	Theorists	Activists
All Slovenian Universities	N	Valid	1033	1036	1038	1036
		Missing	9	6	4	6
	Mean		3.4012	3.4661	3.2357	3.2127
	Std. Deviation		.64223	.66514	.66061	.72375
University of Ljubljana	N	Valid	564	565	567	564
		Missing	5	4	2	5
	Mean		3.4118	3.5262	3.2875	3.2175
	Std. Deviation		.62797	.68143	.67359	.7697
University of Maribor	N	Valid	455	456	456	457
		Missing	3	2	2	1
	Mean		3.394	3.3907	3.1725	3.2028
	Std. Deviation		.65594	.63683	.64087	.65837
University of Primorska	N	Valid	14	15	15	15
		Missing	1	0	0	0
	Mean		.2222	3.5	3.2	3.3333
	Std. Deviation		.7629	.70027	.62742	.87287

4. Discussion and implications

With the use of LSQ questionnaire at the three Slovenian universities we have found prevailing learning styles and the differences between them. Learning styles therefore should be in the future more connected with learner's potential and their educational skills. Learning strategies are also important as the students respond to various types of educational processes that are different on each university and faculty. Some students for instance may learn better with concrete, experiential type of educational experiences while others prefer reflective types of learning opportunities, such as discussion (debriefing) or case study (Shinnick & Woo, 2015).

Learning styles are not necessarily fixed, but can change over time and develop through experience (Penger & Tekavcic, 2009). Better knowledge of learning styles makes students better able to adapt to different situations. The application is the same for the professors and school administrators to adequately adapt the teaching approach. Nowadays a lot of research-energy is invested in attempting to understand the complex learning processes (Vanthournout, Coertjens, Gijbels, Donche, & Van Petegem, 2013). Although guidance in the lower grades often appeared to fade while the observed lessons progressed, lower grade students did not show stronger preferences for self-direction of meta-cognitive strategies. Perhaps students in this school demand the relatively strong, externally regulated guidance they received (Koopman, Bakx, & Beijaard, 2014).

Although we conducted the study at three Slovenian universities, there were only a few answers of the survey

questionnaire returned from University of Primorska. For complete research coverage of all Slovenian universities, we should include also in future the University of Nova Gorica. The survey includes only students from public state universities, and none from private higher education institutions in Slovenia. We also have to consider that bare numerical approaches give only a limited insight (Skraba, Kljajic, Papler, Kofjac, & Obed, 2011).

Each student is unique in its approach to learning, i.e. it can follow, with equal probability, any combination of learning styles explained by two applied theories and the choice of a learning style is not influenced by the gender and the level of knowledge (year of study). The teaching approach should consider the results of this analysis by mirroring the learning techniques of individual learning styles. The individual's choice of learning style is obviously based on personal/inner impulse rather than socio-demographic conditions. Further analysis should focus on determining those influences. The change process should focus on adjusting and modernizing the legislation and regulations, the introduction of new concepts and policies and initiating new organizational and managerial skills and techniques within state institutions (Vukovic, Zavrsnik, Rodic, & Miglic, 2008).

With the increasing use of the Internet by students especially at higher educational institutions worldwide, metacognitive strategy training should be recognized as a way to meet the current challenges and demands to propagate life-long reading among the students especially when reading online materials (Mesgar, Bakar, & Amir, 2014). Lifelong learning is becoming a necessity for the successful operation in an increasingly complex environment (Urh & Jereb, 2013). Moreover, nowadays lots of pedagogues, psychologists, teachers and politicians are worried about the level of knowledge of the young people and wonder if they can keep up their steps with the development of science and technology (Azizinezhad & Hashemi, 2011).

The changing profile of students, the expectations of business and the capabilities offered by Information and Communication Technologies (ICT) makes it necessary to change teaching practices, particularly in higher education (Warin, Kolski, & Sagar, 2011). Previous studies show empirical evidence on the positive effect on students' performance from the adoption of innovations in the technology of teaching and learning (Horvat, Dobrota, Krsmanovic, & Cudanov, 2014) - these innovations do not affect all teaching methods and learning styles equally (Castillo-Merino & Serradell-Lopez, 2014). It has become an important issue to develop methodologies or tools to assist the students to learn in a mobile learning environment (Hwang & Chang, 2011). Today teachers have lots of new technologies, electronic instructional and communicational technologies at hand that are deemed as basis for institutional reforms and powerful agents for the development of new teaching strategies and material (Azizinezhad & Hashemi, 2011). Currently, automated learning systems are widely used for educational and training purposes within various organisations including, schools, universities and further education centres (Okoye, Tawil, Naeem, Bashroush, & Lamine, 2014).

Students' comments can provide useful insight into aspects of teaching and courses that are important to students (Brockx, Van Roy, & Mortelmans, 2012). Learning is determined by the students' level of consciousness, students' personality or the classroom factor; students' ways of thinking about learning are strongly linked to personal involvement, purpose and personal achievement (Anghelache, 2013). Teachers who possess knowledge and skills in recognizing problems and creating positive relation and rapport with students are also regarded to be one of the most important sources in structuring students' personality development (Shahmohammadi, 2014).

References

Allinson, C. W., & Hayes, J. (1990). Validity of the Learning Styles Questionnaire. *Psychological Report*, 67, 859-866.

Anghelache, V. (2013). Determinant factors of students' attitudes toward learning. *Procedia - Social and Behavioral Sciences*, 93, 478 – 482.

Azizinezhad , M., & Hashemi, M. (2011). Teaching translation courses, back to basics, desirable or not? *Procedia - Social and Behavioral Sciences*, 28, 426 – 429.

Barak, M., Ashkar T., & Dori, Y. J. (2011). Learning science via animated movies: Its effect on students' thinking and motivation. *Computers & Education*, 56, 839–846.

Brockx, B., Van Roy, K., & Mortelmans, D. (2012). The student as a commentator: students' comments in student evaluations of teaching. *Procedia - Social and Behavioral Sciences*, 69, 1122 – 1133.

Castillo-Merino, D., & Serradell-Lopez, E. (2014). An analysis of the determinants of students' performance in e-learning. *Computers in Human Behavior,* 30, 476–484.

Coakes, S. J. & Steed, L. G. (2003). *SPSS Analysis without Anguish, Version 11.0 for Windows*. Milton: Wiley.

Coffield, F., Moseley, D., Hall, E., & Ecclestone, K. (2004). *Learning styles and pedagogy in post-16 learning: A systematic and critical review.* Retrieved November 10, 2014 from http:// /www.LSRC.ac.uk

Darinskaya, L., A., & Rozum, S., I. (2014). Role of Cognitive Processes in the Implementation of Research Activity by Students. *Procedia - Social and Behavioral Sciences,* 112, 235 – 241.

de Melo, F. R., Flores, E. L., de Carvalho, S. D., de Teixeira, R. A. G., Batista Loja, L. F., & de Sousa Gomide, R. (2014). Computational organization of didactic contents for personalized virtual learning environments. *Computers & Education*, 79, 126-137.

Delaney, L., Harmon, C., & Ryan, M. (2013).The role of noncognitive traits in undergraduate study behaviours. *Economics of Education Review*, 32, 181–195.

Duff, A., & Duffy, T. (2002). Psychometric properties of Honey & Mumford's Learning Styles Questionnaire (LSQ). *Personality and Individual Differences*, 33, 147–163.

Furnham A., Jackson, C. J., & Miller, T. (1999). Personality, learning style and work performance. *Personality and Individual Differences*, 27(6), 1113–1122.

Gehlen-Baum, V., & Weinberger, A. (2014). Teaching, learning and media use in today's lectures. *Computers in Human Behavior*, 37, 171–182.

Honey, P. & Mumford, A. (1992). *The Manual of Learning Styles*. Maidenhead: Peter Honey Publications.

Honey, P. & Mumford, A. (2000). *The learning styles helper's guide*. Maidenhead: Peter Honey Publications Ltd.

Horvat, A., Dobrota, M., Krsmanovic, M., & Cudanov, M. (2013). Student perception of Moodle learning management system: a satisfaction and significance analysis. *Interactive Learning Environments*, ahead-of-print, 1-13.

Huang E., Y., Lin S., W., & Huang, T. K. (2012). What type of learning style leads to online participation in the mixed-mode e-learning environment? A study of software usage instruction. *Computers & Education*, 58, 338–349.

Hwang, G. J., & Chang, H. F. (2011). A formative assessment-based mobile learning approach to improvingthe learning attitudes and achievements of students. *Computers & Education*, 56, 1023–1031.

Kahl, C. (2014). Students' dream of a "perfect" learning environment in private higher education in Malaysia: An exploratory study on "education in private university in Malaysia". *Procedia - Social and Behavioral Sciences*, 123, 325 – 332.

Kappe, F., R., Boekholt, L., den Rooyen, C., & Van der Flier, H. (2009). A predictive validity study of the Learning Style Questionnaire (LSQ) using multiple, specific learning criteria. *Learning and Individual Differences*, 19, 464–467.

Keskitalo, T., Ruokamo, H., Vaisanen, O., & Gaba, D. (2013). Healthcare facilitators' and students' conceptions of teaching and learning – An international case study. *International Journal of Educational Research*, 62, 175–186.

Koopman, M., Bakx, B., & Beijaard, D. (2014). Students' goal orientations and learning strategies in a powerful learning environment: A case study. *Studies in Educational Evaluation*, xxx xxx–xxx.

Lashley, C., & Barron, P. (2006). The learning style preferences of hospitality and tourism students: Observations from an international and cross-cultural study. *Hospitality Management*, 25, 552–569.

Li, J., & Barnard, R. (2011). Academic tutors' beliefs about and practices of giving feedback on students' written assignments: A New Zealand case study. *Assessing Writing*, 16, 137–148.

Mesgar, M., Bakar, N. A., & Amir, Z. (2014). Online Metacognitive and Interactional Strategy Use: Iranian Students' Internal Locus of Control. *Procedia - Social and Behavioral Sciences*, 118, 288 – 295.

Miller, R. L., Acton, C., Fullerton, D. A., & Maltby, J. (2002). *SPSS for Social Scientists*. Briston: Palgrave Macmillan.

Milton-Wildey, K., Kenny, P., Parmenter, G., & Hall, J. (2014). Educational preparation for clinical nursing: The satisfaction of students and new graduates from two Australian universities. *Nurse Education Today*, 34, 648–654.

Neal, W. D. (2010). *Factor analysis*. In N. K. Malhotra (Ed.), Marketing Research: An applied orientation (pp. 634-660). New Jersey, Pearson Education.

Oh, Y., Ishizaki, S., Gross, M. D., & Do, E. Y. (2013). A theoretical framework of design critiquing in architecture studios. *Design Studies, 34,* 302-325.

Okoye, K., Tawil, A. R. H., Naeem, U., Bashroush, R., & Lamine, E. (2014). A Semantic Rule-Based Approach Supported by Process Mining for Personalised Adaptive Learning. *Procedia - Computer Science*, 37, 203 – 210.

Penger, S., & Tekavcic, M. (2009). Testing Dunn & Dunn's and Honey & Mumford's learning style theories: the case of the Slovenian higher education system. *Management*, 14(2), 1-20.

Popov, V., Noroozi, O., Barrett, J. B., Harm, J. A., Biemans, H. J. A., Teasley, S. D., Slof, B., & Mulder, M. (2014). Perceptions and experiences of, and outcomes for, university students in culturally diversified dyads in a computer-supported collaborative learning environment. *Computers in Human Behavior*, 32, 186–200.

Shahmohammadi, N. (2014). Review on the Impact of Teachers' Behaviour on Students' Selfregulation. *Procedia - Social and Behavioral Sciences*, 114, 130 – 135.

Shinnick, M. A., & Woo, M. A. (2015). Learning style impact on knowledge gains in human patient simulation. *Nurse Education Today*, 35(1), 63–67.

Skraba, A., Kljajic, M., Papler, P., Kofjac, D., & Obed, M. (2011). Determination of recruitment and transition strategies. *Kybernetes*, 40(9/10), 1503-1522.

Termtachatipongsa, P. (2014). Instructional Context, Motivational beliefs, Attitude and Strategies in Teaching Genetics for Conceptual Change. *Procedia - Social and Behavioral Sciences*, 116, 2023 – 2029.

Urh, M., & Jereb, E. (2013). Learning habits in higher education. *Procedia - Social and behavioral sciences*, 116, 350-355.

Vanthournout, G., Coertjens, L., Gijbels, D,. Donche, V., & Van Petegem, P. (2013). Assessing studentsdevelopment in learning approaches according to initial learning profiles: A person-oriented perspective. *Studies in Educational Evaluation*, 39, 33 - 40.

Vukovic, G., Zavrsnik, B., Rodic, B., & Miglic, G. (2008). The training of civil servants in the Slovene state administration: issues introducing training evaluation. *International review of administrative sciences*, 74(4), 653-676.

Warin, B., Kolski, C., & Sagar, M. (2011). Framework for the evolution of acquiring knowledge modules to integrate the acquisition of high-level cognitive skills and professional competencies: Principles and case studies. *Computers & Education*, 57, 1595–1614.

Westling, S. K., Pyhalto, K., Pietarinen, J., & Soini, T. (2013). How do ninth-graders perceive their involvement in the most meaningful episodes of their school career. *International Journal of Educational Research*, 58, 25–35.