
FIRST-YEAR TOURISM UNIVERSITY STUDENTS AND THEIR LEARNING MODALITIES

Ivan Obreshkov

University of Food Technologies – Plodvdiv, Bulgaria, obreshkov_ivan@yahoo.com

Abstract: The curriculum in Tourism at the University of Food Technologies in Plovdiv aims at providing high-quality educational service to its students who should be prepared enough for the challenges of circular economy. The interaction with information depends on students personal traits. Thus, student-centered learning requires individual approach to students based on data obtained for each student as well as the student's group at the university. The aim of the current study was to evaluate the visual-auditory-kinesthetic (VAK) profile, the learning style preferences (LSP), and the functional brain asymmetry (FBA) of students enrolled in tourism programs at the University of Food Technologies in Plovdiv. The current study generated data on FBA, LSP and VAK profiles of first-year bachelor students (2019/20) in Tourism field at the University of Food Technologies in Plovdiv, namely two specialties – Tourism as well as Hotel and restaurant management. Both full-time students and part-time students participated in the survey. The students were not only Bulgarian residents. Three hard-copy structured questionnaires were distributed among the students and some of them demonstrated creativity when answering the questions. Brain hemisphere characteristics reflect the way of student approach to the learning process. The knowledge about the learning style preferences allows effective teaching process and acquiring of new knowledge and skills. The personal visual-auditory-kinesthetic profile facilitates the better understanding how the information should be provided do the university students.

Keywords: brain hemisphere, VAK, LSP, FBA, quality of teaching, efficiency of teaching, tourism.

1. INTRODUCTION

The governments are aiming at providing environment for continuous process of improving the education quality (Sanzana, Garrido, & Poblete, 2015). The personal characteristics of students and trainer as well as the appropriate content of the curriculum are among the factors that have impact on the learning process efficiency and quality. The absolute and relative personality preferences of trainer are discussed by Kim and MacCann (2016). Nah, Lim, & Yih (2012) study the student-centered learning that is undoubtedly related to student motivation and success (Diehl et al., 2016).

The challenges of education comprise the new high-technology “smart” generation of students. We defined the “smart” generation as born in the years after 1995 and using intensively the new technologies including smart devices (including smartphones), either when they study or they are distracted from the learning process (Obreshkov, 2017).

The functional brain asymmetry is a factor that influences the students approach to learning. Many scientists study the brain dominance hemisphere (Schmeck and Geisler-Brenstein, 1989) of university managers (Amzat, 2011) and of university students (Iuşcă, 2014; Oflaz, 2011) in order to increase their efficiency (Piaw, 2011) as well as of high school students (Soyooft et al., 2014). Piaw (2014a; 2014b) link the learning abilities and differences based on the gender. The correlation between brain asymmetry and handedness (Nikolova, Stoyanov and Negrev, 1994), and personality differences between left- and right-brain individuals (Crossman and Polich, 1989) are also studied.

The learning style preferences of university students in Australia (James, D'Amore, & Thomas, 2011) including the international students who studied there (Hughes, Wang, & Shu, 2015), Iran (Mehrdad and Ahghar, 2013), Pakistan (Ullah et al., 2016), Slovakia (Simuth and Sarmany-Schuller, 2015), Sweden (Hallin, 2014), and United States (Swaggerty and Broemmell, 2017) have been discussed. Teaching recommendations are correlated to the students' learning preferences by Tevdovska (2016). Some scientists study particularly hospitality and tourism management students' study and their career preferences (Kim, Jung, & Wang, 2016).

The personal student's visual-auditory-kinesthetic profile has a great impact on absorption, retention and new information processing (Mahdjoubi and Akplotsyi, 2012). Having five senses people recognize at different extent the information around and react individually to the stimuli. Terzieva and Obreshkov (2014) discuss sensory issues from a nutritional point of view and stated that the sensory attributes of foods are the key for their quality (Obreshkov and Terzieva, 2013; Pruet, Ang, & Farzin, 2016). Klimova (2015) reveals the interaction of Erasmus students with foreign language classes – visual (seeing); auditory (hearing); kinesthetic (moving); or tactile (touching). Pruet, Ang, & Farzin (2016) state that female respondents demonstrated predominantly visual learning style preferences compared to male respondents. On the contrary, there are studies that female respondents tended to be more auditory-oriented compared to the male respondents who are more visually-concerned. Thus, there is not

specific learning modality (visual, auditory, or kinesthetic) based only on gender. Visual learners remember best what they see (Jahanbakhsh, 2012) – pictures, diagrams, flow charts, time-lines, demonstrations; auditory learners – what they hear – stories, anecdotes; kinesthetic learners are related to activities and move opportunities (Brainbox, 2017). Jahanbakhsh (2012) find significant correlations between sensing-intuitive learning styles and the academic achievement of students.

Ilieva and Kaludova (2013) evaluate the influence of kinesthetic approach, i.e. thematic practical courses for students in the hospitality field. They conclude that the practical courses contribute to the accumulation of managerial knowledge and the formation of managerial skills. Experiential learning or learning by doing is discussed by Leal-Rodríguez and Albort-Morant (2019). The kinesthetic approach as part of the obligatory training of bachelor tourism students is discussed by Nestorova (2013).

Undoubtedly, the students are facing problems related to the proper presentation of the knowledge and skills they should acquire at the university. The way how the students interact with new information is the key for promotion of high quality graduates (Obreshkov, 2017). Our previous studies include data for bachelor (Obreshkov, 2016a, 2016b, 2016c, 2017) and master (Obreshkov, 2017, 2018) students. The aim of the present study is to evaluate the learning modalities of first-year tourism university students (class of 2019/20).

2. MATERIALS AND METHODS

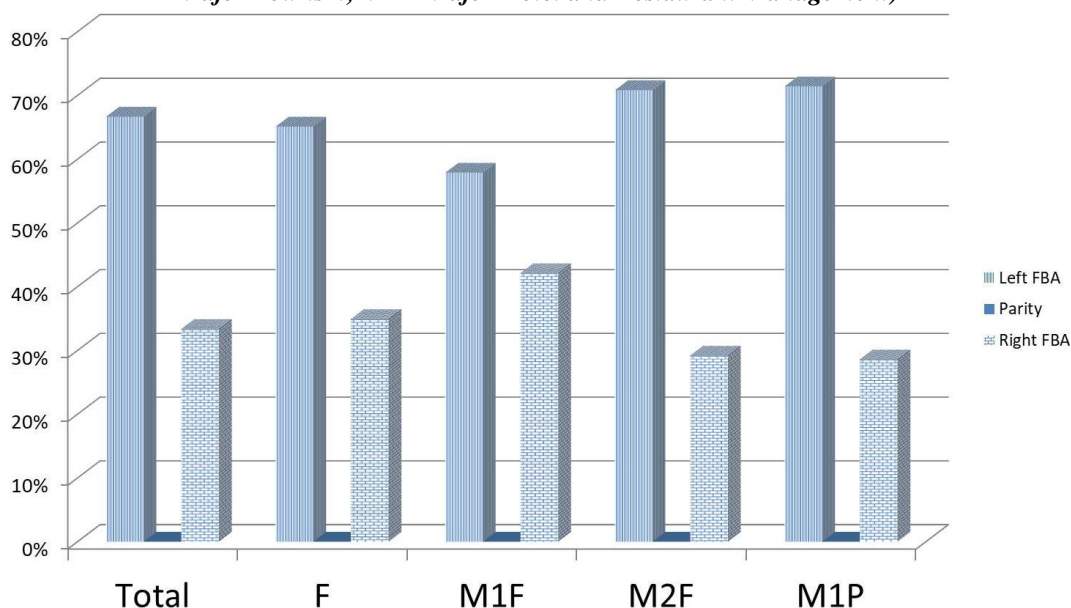
The study comprised the first-year full and part-time bachelor students majoring in Tourism field at the University of Food Technologies, Plovdiv, Bulgaria. The analyses were targeted at the thorough groups as well splitting them in subgroups based on variables such as gender and nationality. The survey was done in the first week of the first (winter) semester for the full and part-time students (2019/20) enrolled at the University of Food Technologies (Plovdiv, Bulgaria).

In order to define the functional brain asymmetry, learning style preferences, visual-auditory-kinesthetic profile of the students structured questionnaires, with nineteen, eight and twelve questions, respectively, were provided to all students. The data were processed with MS Excel and Origin.

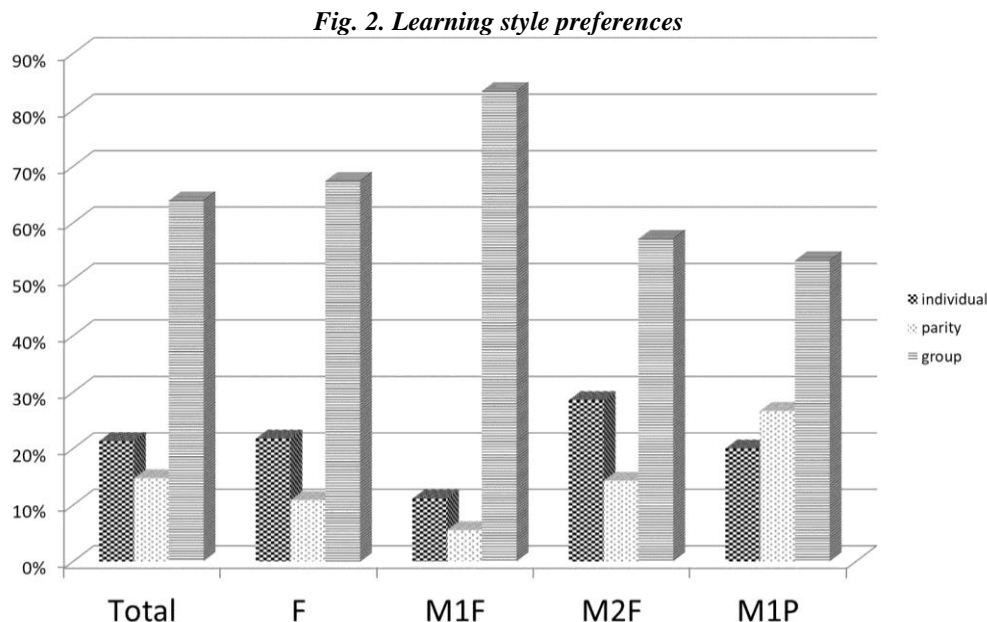
3. RESULTS AND DISCUSSIONS

The respondents male:female percent ratio was 40:60 for the academic year 2019/20. The response rate was 0.94. The group was predominated by Bulgarian residents. There were ten left-handers (five male and five female) in the class (Total). The full-time (F) male left-handers were four as well as the full-time female left-handers. The part-time left handers were two – one in each gender. Another female respondent was capable of writing with both hands. The ratio between the left-handers was 3:5:2 for major full-time (F) Tourism (M1F), major full-time Hotel and Restaurant Management (M2F), and major part-time Tourism (M1P). All other were right-handers.

Fig. 1. Left and right brain hemisphericity (Total – the class; F – full-time students; P – part-time students; M1 – Major Tourism; M2 – Major Hotel and Restaurant Management)



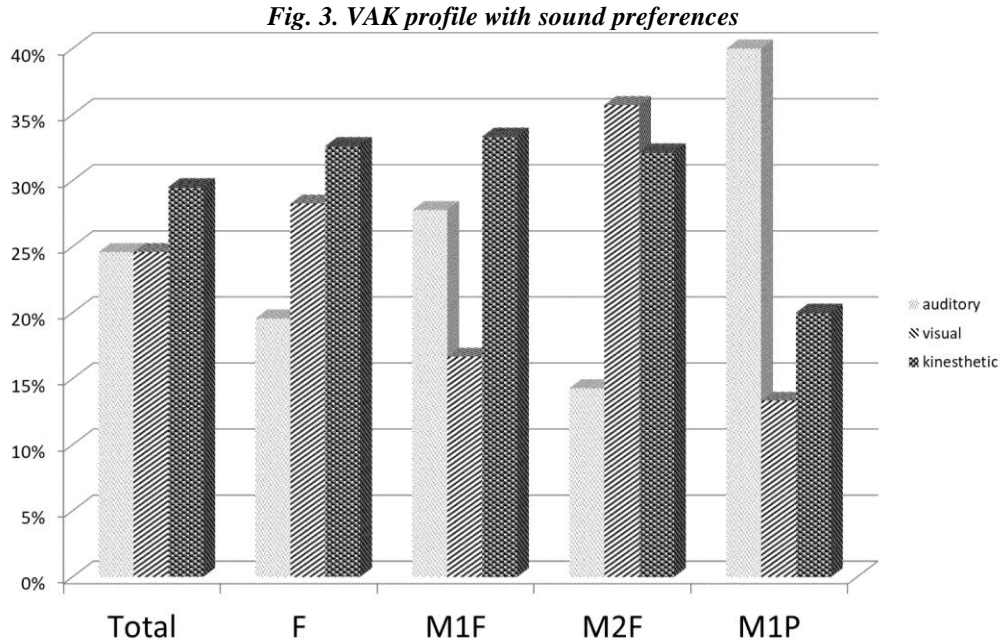
The data analyses showed that functional brain asymmetry was predominated by the left brain hemisphere (Fig. 1). Particularly, the left-to-right hemisphere ratio for male respondents was one to 0.28, and for the female respondents – one to 0.70 for the class. However, we must state that these ratios varied for the different majors reaching 1 to 0.11 for males in Hotel and Restaurant management major (M2F) and 1 to 0.20 in M1P.



The left hemisphericity of the students was outlined for M2F. Some respondents supplemented the answers by adding: “it is creative chaos”, “it rarely affects me emotionally”, “because I am not an engineer yet”. Respondent M2F-25310 answered a question related to mathematics that he achieves the correct answer and added “but my explanation does not work with others”. Respondent M2F-26109 could not judge the answer to the question and added, writing by hand that “it depends on what the change is”. The same respondent added by hand in another question that “he has no watch”, and to another question – modified the answer in the survey with “read and assemble at the same time”. This respondent had six hesitant answers. Respondent M2F-26412 replied in his own words: “I’ve been punctual lately, but I’ve been late before”. Interestingly, respondents M2F-25209 and M2F-83920 had predominant activity in the right cerebral hemisphere, but cannot explain the answers they receive to logical tasks. All other M2F respondents who were predominant in the right hemisphere indicated that they can give a logical explanation of the logical tasks. The same freedom in modifying the pre-determined multiple choice answers of survey was demonstrated by an M1F respondent who did not read magazines but “read only books” and wrote “I ask my mom for help” in another question.

Concerning the learning style preferences, the students learned more efficiently in a group or with a partner rather than learning alone (Fig. 2). This has been noticed in the academic year 2018/19 when students demonstrated stronger motivation to learn in a group (71%) compared to the 2017/18 students (57%). The current study revealed variability in individual-to-group LSP within the range 1 to 7.5 for M1F and 1 to 1.4 for male respondents in M2F. One of the respondents - M2F-25310 - was both right-handed and left-handed. Respondent M1F-27110 also allowed himself to supplement answers with “depends on the partner” and to specify suggested answers: to work alone, “if it is in a good place”.

The profiling of VAK preferences showed that when acquiring new information, the auditory preference was the predominant one only for M1P students followed by kinesthetic and visual preferences (Fig. 3) while for the full-time students the predominant was the kinesthetic preference. Probably, this could explain the fact that most of the part-time students prefer the distant learning in real time. This study outlined that there was a big part of students (22.58% out of all respondents) who demonstrated parity in their preferences. There were observed auditory-kinesthetic parity (6.45% out of all respondents) and visual-kinesthetic parity (9.68% out of all respondents) within all studied groups of students while auditory-visual parity (1.61% out of all respondents) – M1F and full parity (4.84% out of all respondents) – M1F and M2F.



The analysis of the data obtained for M2F for sensory activity showed an interesting profile of the group of students. There was no clear respondent who has indicated answers that were specific to only one of the senses (in previous studies we reported such). Respondent M2F-25411 answered in a way that gives parity between the most typical for him answer and the most atypical (3-3-6 for the most atypical, at the same time 3-3-5 for the most typical). The same respondent to question 10 what he likes to do in his free time answered that the most typical was “to create” and didn’t choose any of the indicated answer options as the most typical for him! Respondent M2F-25613 indicated only what was most typical for him, without ranking the answers. Only the most typical! Respondent M2F-25815 modified the answer to a question related to what is most typical for him in his free time. However, the respondent ranked and indicated the most typical and the most atypical among the choices. Respondent M2F-45110 answered question 7 with only the most typical answer, but did not indicate the less typical ones. All other questions were answered and ranked by the three mentioned options. Respondent M2F-45211 didn’t answer question 3 by writing “I’m not good:)”. Respondent M2F-25007 - question 3 - answered only with the most typical answer, but didn’t rank the other two nor indicate either of them. Respondent M2F-25512 didn’t answer question 6 at all, which concerns teachers. Respondent M1F-27110 ink underlined the words winner and dance in question 5! Respondent M1F-27413 marked only one correct answer in a different way - it encloses part of the answer “I play roles”. Respondent M1F-28212 - question 7 - to each answer indicated that it is most typical for him! And in question 10 he pointed out two of the options as the most typical - A and B.

4. CONCLUSIONS

The present study is important from the point of view of recording data for students, which differ sharply from the data of previous grades. Conducting a simultaneous analysis of students in full-time and part-time education, in the first year provided the teacher the opportunity to build the right approach to student education. As an example, it can be pointed out that in the first year of study - M2F students participated in student scientific international forums and were awarded prizes. These data are a starting point in the development of new learning materials related to increased interactivity and in response to the different characteristics of students in the group. Moreover, a different atmosphere can be felt in the hall with these students. The study will be able to be upgraded and the development of these students can be traced. The data are particularly important because they include data on students who started their university education just before the SARS-CoV-2 pandemic outbreak - the first semester was conducted entirely in person, while the second - began in person and ended with distance learning in real time. The research can be useful for trainers on how to more easily adapt their learning materials for face-to-face forms of learning with those for real-time distance learning.

ACKNOWLEDGEMENTS

We are indebted to the university students who participated in the survey – first-year Tourism, and Hotel and Restaurant Management students (2019/20) at the University of Food Technology - Plovdiv.

The current paper was printed with the financial aid of Study of the conditions for green transition and specialization of the food industry and tourism in Bulgaria project №10/20.03.2019 in the Green Economy and Alternative Tourism thematic area.

REFERENCES

- Илиева, К., & Калудова, Д. (2013). Комбинираните тематични занятия – възможност за повишаване на ефективността на практическото обучение на студентите в Колежа по туризъм – Бургас. *Управление и образование*, IX(2), 183-189.
- Илиева, К., Караджова, З., Недкова, А., & Михалева, Х. (2016). Маркетингово изследване на факторите за кризата с кадрите в отрасъл “Туризъм”. *Издателство Университет “проф. д-р Асен Златаров”, Бургас*, ISBN 978-619-7123-58-6.
- Караджова, З., Илиева, К., Недкова, А., & Михалева, Х. (2018). Притеглящи и отблъскващи фактори при реализация на кадрите в туристическата индустрия. *Издателство Университет “проф. д-р Асен Златаров”, Бургас*, ISBN 978-619-7123-78-4.
- Несторова, Д. (2013). Мястото на спортната анимация в обучението на студентите от Университета по хранителни технологии – Пловдив. *Научни трудове “Хранителна наука, техника и технологии”, УХТ, Пловдив*, Том LX, 1516-1521.
- Терзиева, В., & Обрешков, И. (2014). Сензорен анализ на храни и напитки. Академично издателство на УХТ – Пловдив, ISBN 978-954-24-0239-8.
- Amzat, I.H. (2011). Brain hemisphere characteristics of some Malaysian university managers in relation to their decision styles: a measurement model. *Procedia Social and Behavioral Sciences*, 15, 3971-3979.
- Crossman, D.L., & Polich, J. (1989). Hemispheric and personality differences between ‘left-’ and ‘right-brain’ individuals for tachistoscopic verbal and spatial tasks. *Personality and Individual Differences*, 10(7), 747-755.
- Diehl, A., Wolff, L., Fuhrmann, T., Niemetz, M., Mörtlbauer, S., & Dirnberger, S. (2016). *Procedia - Social and Behavioral Sciences*, 228, 45-52.
- Hallin, K. (2014). Nursing students at a university – A study about learning style preferences. *Nurse Education Today*, 34, 1443-1449.
- Hughes, K., Wang, J., & Shu M. (2015). Exploring the travel patterns, preferences and recommendations of Chinese university students living in Australia. *Journal of Hospitality and Tourism Management*, 23, 12-22.
- Iuşcă, D. (2014). Brain hemisphericity and music performance level in undergraduatemusic students and philharmonic musicians. *Procedia - Social and Behavioral Sciences*, 142, 59-63.
- Jahanbakhsh, R. (2012). Learning styles and academic achievement: a case study of Iranian high school girls’ students. *Procedia - Social and Behavioral Sciences*, 51, 1030-1034.
- James, S., D’Amore, A., & Thomas, T. (2011). Learning preferences of first year nursing and midwifery students: Utilising VARK. *Nurse Education Today*, 31, 417-423.
- Kim, L.E., & MacCann, C. (2016). What is students' ideal university instructor personality? An investigation of absolute and relative personality preferences. *Personality and Individual Differences*, 102, 190-203.
- Kim, S.S., Jung, J., & Wang, K-C. (2016). Hospitality and tourism management students' study and career preferences: Comparison of three Asian regional groups. *Journal of Hospitality, Leisure, Sport & Tourism Education*, 19, 66-84.
- Klimova, B.F. (2015). EAP needs of Czech ERASMUS students. *Procedia-Social and Behavioral Science*, 171, 294-298.
- Leal-Rodríguez A.L., & G. Albort-Morant. (2019). Promoting innovative experiential learning practices to improve academic performance: Empirical evidence from a Spanish Business School. *Journal of Innovation & Knowledge*, 4, 97-103.
- Mahdjoubi, L., & Akplotsyi, R. (2012). The impact of sensory learning modalities on children’s sensitivity to sensory cues in the perception of their school environment. *Journal of Environmental Psychology*, 32(3), 208-215.
- Mehrdad, A.G., & Ahghar, M.R. (2013). EFL Students’ Language Learning Preferences at Islamic Azad University-Hamedan Branch. *Procedia - Social and Behavioral Sciences*, 93, 102-106.
- Nah, E.A., Lim, T.H., & Yih, M.B. (2012). Enhancing Student-Centered Learning through Usage of Television Commercials via Wiki. *Procedia - Social and Behavioral Sciences*, 67, 144-155.

- Nikolova, P., Stoyanov, Z., & Negrev, N. (1994). Functional brain asymmetry, handedness and menarcheal age. *International Journal of Psychophysiology*, 18(3), 213-215.
- Obreshkov, I., & Terzieva, V. (2013). Quality control of Food and Beverages. *University of Food Technologies Academic Publishing House, Plovdiv*, ISBN 978-954-24-0219-0.
- Obreshkov, I.O. (2016a). Functional brain asymmetry of engineering students in catering. Материалы III Международной научно-технической конференции “Инновационные технологии в пищевой промышленности: наука, образование и производство”, ФГБОУ ВО “Воронежский государственный университет инженерных технологий”, ISSN 2500-0683, 759-761.
- Obreshkov, I.O. (2016b). Learning style preferences of engineering catering Bulgarian students in tourism field. Материалы III Международной научно-технической конференции “Инновационные технологии в пищевой промышленности: наука, образование и производство”, ФГБОУ ВО “Воронежский государственный университет инженерных технологий”, ISSN 2500-0683, 766-769.
- Obreshkov, I.O. (2016c). VAK profile of catering engineering students in Bulgaria. Материалы III Международной научно-технической конференции “Инновационные технологии в пищевой промышленности: наука, образование и производство”, ФГБОУ ВО “Воронежский государственный университет инженерных технологий”, ISSN 2500-0683, 773-777.
- Obreshkov, I. (2017). Learning modalities of students enrolled in tourism programs. *Yearbook of Varna University of management*, vol. X, 56-65, ISSN 2367-7368.
- Oflaz, M. (2011). The effect of right and left brain dominance in language learning. *Procedia Social and Behavioral Sciences*, 15, 1507-1513.
- Piaw, C.Y. (2011). Establishing a Brain Styles Test: The YBRAINS Test. *Procedia Social and Behavioral Sciences*, 15, 4019–4027.
- Piaw, C.Y. (2014a). Effects of gender and thinking style on students’ creative thinking ability. *Procedia - Social and Behavioral Sciences*, 116, 5135-5139.
- Piaw, C.Y. (2014b). Relationship between thinking styles and ability to pay attention of Malaysian male and female student teachers. *Procedia - Social and Behavioral Sciences*, 116, 4839-4843.
- Pruet, P., Ang, C.S., & Farzin, D. (2016). Understanding tablet computer usage among primary school students in underdeveloped areas: Students’ technology experience, learning styles and attitudes. *Computers in Human Behavior*, 55, 1131-1144.
- Sanzana, M.B., Garrido, S.S., & Poblete, C.M. (2015). Profiles of Chilean students according to academic performance in mathematics: An exploratory study using classification trees and random forests. *Studies in Educational Evaluation*, 44, 50-59.
- Schmeck, R.R., & Geisler-Brenstein, E. (1989). Individual differences that affect the way students approach learning. *Learning and Individual Differences*, 1(1), 85-124.
- Simuth Jr, J., & Sarmany-Schuller, I. (2015). The Preferences Of Cognitive Style Among University Students From Various Study Fields. *Procedia - Social and Behavioral Sciences*, 191, 2537-2540.
- Soyoof, A., Jokar, M., Razavizadegan, M.A., & Morovat, E. (2014). The Effects of Learners’ Brain Hemisphericity on their Degree of Vocabulary Retention: A Case Study of Iranian High School Students. *Procedia - Social and Behavioral Sciences*, 98, 1844-1849.
- Swaggerty, E.A., & Broemmell, A.D. (2017). Authenticity, relevance, and connectedness: Graduate students’ learning preferences and experiences in an online reading education course. *Internet and Higher Education*, 32, 80-86.
- Tevdovska, E.S. (2016). Literature in ELT Setting: Students’ Attitudes and Preferences towards Literary Texts. *Procedia - Social and Behavioral Sciences*, 232, 161-169.
- Ullah, P., Richardson, J.T.E., Malik, R.A., & Farooq, S. (2016). Perceptions of the learning environment, learning preferences, and approaches to studying among medical students in Pakistan. *Studies in Educational Evaluation*, 50, 62-70.