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Variations and frequencies in learning styles in a group of Czech English as foreign language learners

Dagmar El-Hmoudova\textsuperscript{a*}, Eva Milková\textsuperscript{b}

\textsuperscript{a} University of Hradec Kralove, Rokitanskeho 62, Hradec Kralove 500 03, Czech Republic
\textsuperscript{b} University of Hradec Kralove, Rokitanskeho 62, Hradec Kralove 500 03, Czech Republic

Abstract

In this paper are the authors presenting the results of the Specific Research Project in the frame of which the Felder’s learning styles inventory was administered to students who were non-English native speakers. This research is part of one of the author’s dissertation which deals with dichotomous learning style preferences and their reflection in teaching professional English at bachelor studies of Tourism Management at Faculty of Informatics and Management, University of Hradec Kralove. Descriptive statistics identified that participants do vary in their preference for particular learning style with a great variety of learning style preferences. The Index of learning styles (ILS) was installed in BB Professional English language on-line courses and it was distributed among the sample group of 223 students of Tourism Management. The results were used to improve the instructions in the e-course of professional English language in Blackboard learning environment.

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Keywords: Learning style (LS); Index of learning style (ILS); preferences; LS variations and frequencies; LS scale; learning environment.

1. Introduction

Many English as a Foreign Language (EFL) learners encounter the frustration that their teachers’ teaching does not appeal to their own learning preferences because most teachers teach the way they learn (Litzinger at al., 2007). The unfavourable learning condition consequently undermines students’ motivation and diminishes their learning

\* Dagmar El-Hmoudova. Tel.: +420-493-332-314.
E-mail address: dagmar.elhmoudova@uhk.cz
potential. As a result, some students show a tendency to be inattentive in class and get bored with English learning even though teachers have made great efforts preparing for the class. This inefficient situation can be attributed to problems involving both teachers and students. Some researchers attributed the reasons for such a problem to a lack of motivation and self-efficacy from the students and others to individual difference (Milkova, Hercík, 2014).

Although there are many approaches and styles in the literature about learning, the main theme amongst all the academics is the importance and impact of knowledge of how we learn has on students, educators, and in the fields of education and communication. Learning style models are one of the concepts that are suggested by researchers and educational scientists to depict learners’ differences and varied needs (Kolb & Kolb, 2005). The aim of LS models implementation into teaching and learning strategies is not only to enhance students’ ability to learn a foreign/second language through styles but it also enables students to become more effective and efficient foreign language learners by helping them understand and make the most of their own learning styles and strategies. Therefore, the present study aims to depict learning style variations and frequencies among a group of Czech university students, whose LS preferences were analyzed based on a model of learning styles generally referred to as the Felder-Silverman model. The model was originally formulated by professor Felder in collaboration with Dr. Linda K. Silverman, an educational psychologist, for use by college instructors and students in engineering and the sciences, although it has subsequently been applied in a broad range of disciplines, including languages.

1.1. Methods

Learning styles serve as a good indicator of how learners perceive, interact with, and respond to the learning environment. Learners do not exclusively have one way to learn, but they usually have a preference. (Dunn et al., 2009) It is important to keep in mind that different learning styles should not be judged as being better or worse; they are simply different. By understanding their particular learning style, the learners can identify their strengths and limitations in learning process.

Felder and Silverman (1988) propose that a student’s learning style may be defined by the answers to five questions (p. 675):

1. What type of information does the student preferentially perceive: sensory (external) – sights, sounds, physical sensations, or intuitively (internal) – possibilities, insights, hunches?
2. Through which sensory channel is external information most effectively perceived: visual – pictures, diagrams, graphs, demonstrations, or auditory – through words or sounds?
3. With which organization of information is the student most comfortable: inductive – where facts and observations are given, and underlying principles are inferred, or deductive – where principles are given, and consequences and applications are deduced?
4. How does the student prefer to process information: actively – through engagement in physical activity or discussion, or reflectively – through introspection?
5. How does the student progress toward understanding: sequentially – in continual steps, or globally – in large jumps, holistically?

The Felder-Silverman Model creates four dimensions of learning styles. These dimensions can be viewed as a continuum with one preference on the far left and the other on the far right. Thus the learners are categorized as falling into four dichotomous learning style dimensions, namely SENSING or INTUITIVE, this spectrum determines how we perceive or take in information, VISUAL or VERBAL, this spectrum determines how we prefer the information to be presented, ACTIVE or REFLECTIVE, this spectrum determines how we prefer to process the information and GLOBAL or SEQUENTIAL, this spectrum determines how we prefer to organize and progress understanding information. See Fig.1.
The following is a brief summary of each of the four learning style dimensions.

Sensing learners are concrete and methodical; they are good at memorizing facts and doing hands-on work and are more comfortable with following rules and standard procedures. Intuitive learners tend to be abstract and imaginative; they like innovation and dislike repetition. See Fig. 2.

Visual learners are those who prefer information to be presented in the form of pictures, diagrams, films and demonstrations. Verbal learners, on the contrary, prefer information presented in the form of words.

An active learner, as suggested by the name, is someone who prefers to be actively involved in examining and employing knowledge with others, such as in group discussion. Reflective learners tend to examine and employ knowledge introspectively. Active learners benefit the most in dialogue, role-play and team work learning activities. Reflective learners are more inclined to ponder on perceived information.

Compared with Sequential learners, who tend to process and organize knowledge in a piecemeal fashion, Global learners are good at dealing with seemingly unconnected fragments of information and achieve understanding in a holistic way. In language learning practice, Global learners prefer holistic understanding of the broad context.
of knowledge and ignore trivial details, while sequential learners feel comfortable when the teacher divides passages and sentences into parts dealing with lexicon, grammar and structure, respectively.

Since learners differ in their preferences to certain learning styles, it is important for teachers to examine the variations in their students on the features of their learning styles, because the information about learner’s preference can help teachers become more sensitive to the differences students bring to the classroom (Felder & Spurlin, 2005). Adjustments can then be made to accommodate the students’ varied needs (See Fig. 3.) that should be reflected in relevant teaching styles or strategies. Felder and Silverman (1988) propose that teaching style may be defined by the answers to five questions (p. 675):

1. What type of information does the instructor emphasize: concrete – factual, or abstract – conceptual or theoretical?
2. What mode of presentation is stressed: visual – pictures, diagrams, films, demonstrations, or verbal – lectures, readings, and discussions?
3. How does the instructor organize the presentation: inductively – phenomena leading to principles, or deductively – principles leading to phenomena?
4. What mode of student participation is facilitated by the presentation: active – students talk, move, reflect, or passive – students watch and listen?
5. What type of perspective does the instructor provide on the information presented: sequential – step-by-step progression (the trees), or, global – context and relevance (the forest)?

With respect to above listed questions we can see the importance of teaching style and how it affects and relates to learning styles.

The instrument used in this study to assess our students’ learning style preference was the Index of Learning Styles questionnaire (ILS) devised by Felder and Soloman (Felder & Soloman, nd). It is an online instrument consisting of forty-four multiple choice questions that reflect the psychological and behavioral characteristics of four dichotomous dimensions of learning styles described above. Students were required to indicate their preference to either of two provided answers with compliance to their normal practice. An uneven number of questions evaluating each dichotomous dimension of learning styles guarantees that there is no chance a learner can get an even number of answers for two poles of the learning style continuum. Learning style preferences may be strong, weak, or nearly non-existent and we can imagine the LS result as the four scales of the LS preferences, with two opposite (dichotomous) categories of each scale. See Fig.3.
In relation to variations of LS preferences we used A to identify the minus (-5 or -7 = moderate preference, -9 to -11 = strong preference) side of the scale, representing active, sensing, visual and sequential preferences; B to identify the middle (-3 or -1 = mild or balanced preference for active, sensing, visual or sequential mode; +1 or +3 mild or balanced preference for reflective, intuitive, verbal or global preference) part of the scale representing both modes of the dichotomous LS preferences; and C to identify the plus side of the scale (+5 or +7 = moderate preference, +9 or +11 = strong preference) representing reflective, intuitive, verbal or global mode. This division was used to identify the frequencies. See Fig. 4.

![Fig. 4. LS preferences scale.](image)

2. Results and discussions

The participants in this study were 223 first and third-year college students who majored in two disciplines including Management of Tourism (n=172), and Applied Informatics (n=51). Among the participants, 83 were males and 140 were females. The study was conducted during the first semester of the 2013/14 academic year.

Students who participated in professional English language courses were asked to take part in the survey and fill out the Index of Learning Styles questionnaire which was uploaded to the on-line English language course in Blackboard LMS. It took the participants an average of 50 minutes to complete the questionnaire. All students had at least certified B2 level command of English language (according to The Common European Framework of Reference for Languages), which means that they had no reading comprehension problems. Relevant English language competences were essential to ensure that all participants understand the ILS questions perfectly and were able to answer accordingly.
Figure 5 shows the percentages of participants displaying their preference to Active-Reflective, Sensing-Intuitive, Visual-Verbal, and Global-Sequential dichotomous learning style dimensions. A large number of students share preference to Sensing (185 students – 83%) and Visual (172 students – 80%) dimensions of learning style. There are, however, considerably large groups of students displaying preference to Sequential (131 students – 59%) and Active (125 students – 56%) dimensions of learning style (LS). Another relatively large group is the one containing students with Reflective (98 – 44%) and Global (92 – 41%) preferences. Verbal (44 - 20%) and Intuitive (38 – 17%) students belong to a minority.

In the attempt to reveal the most commonly repeated patterns (frequencies) of our students’ preferences we used the ILS scale. The results clearly proved that the majority of students belong to a BBAB or BBBB pattern, which means that a large number of students (86%) displayed mild or balanced preferences for the left and right sides of the LS Results scale (there were 84 frequencies which involved variations of the B and A sides of the scale). Only 24% of the students were identified as having moderate or strong preference for the right side of the LS Result scale, representing reflective, intuitive, verbal or global preference mode. In other words, only 24% of the students show a clear preference for only one learning style pole of a reflective, intuitive, verbal or global dimension and could achieve optimal learning results if only the opposite learning environment were provided.

Having identified the students’ frequencies and variations of LS preferences, we started to modify the professional English language course in the Faculty of Informatics and Management LMS - Blackboard learning environment (BB) so that it reflects the data we collected. Majority of verbal instructions have been accompanied by visual instructions (videos, YouTube, graphs, pictures cartoons, diagrams) so that 80% of visual students (see Fig: 5) could use this advantage and improve their language competency. Nevertheless, we are positive about the fact that however strong the preference is for a particular learning style, we can develop our ability to learn via the "opposite" learning style (Felder, 2012).
3. Conclusion

The authors conclude with recommendations for further research in the field of variations and frequencies of LS preferences. The data given above prove that a mild preference to the four dimensions of learning styles is representative of the majority of bachelor English language course students (86%). This indicates that they cannot be strictly classified as having preference for a single learning style, since they share a great variety of learning style preferences and are well balanced in the environment featuring both styles of a particular dimension.

On the other hand, there is a small group of students (24%) who are moderately or strongly limited to one of the right side preferences of the LS scale, which can affect their flexibility in the learning environment.

The most frequently repeated variations of LS preferences are the BBAB or BBBB patterns, which means that a large number of students (86%) displayed mild or balanced preferences for the left (active, sensing, visual, sequential) and right (reflective, intuitive, verbal, and global) sides of the LS Results scale.

Further research, within the Specific Research Project in the summer and winter terms of 2015, in the area of assessment of learning styles will continue as there are some more questions to be answered. First, we need to know why so few students belong to the reflective, intuitive, verbal or global modes, which belong to the C side of the scale. (see Fig.6.) Second, we must address the question of how to create synergy between effective teaching and learning strategies.

The authors are convinced that continuous research in the area of LS and preferences is worthy as new technology and corresponding teaching styles will consequently result in a higher standard of teaching and learning environment. By understanding that other people (students) can have quite different learning preferences, we can learn to communicate effectively in a transparent way. This is fundamentally important for students for whom communication is an important part of their learning environment. Moreover, developing the skills that help students learn in a variety of ways, we make the most of students learning potential.

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References


