Thai EFL learners' learning style preferences in Thai university contexts
รูปแบบการเรียนรู้ของนักศึกษาไทยที่เรียนวิชาภาษาอังกฤษเป็นภาษาต่างประเทศในบริบทของมหาวิทยาลัยในประเทศไทย[1]

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Abstract

This study assessed EFL learners' learning style preferences. Altogether 177 freshmen undergraduate students who were studying in the Faculty of Liberal Arts and the Faculty of Education in two Thai universities participated in the study. Participants responded to a translated version of the Index of Learning Styles (ILS) questionnaire, which provided quantitative data. This questionnaire was developed by Felder and Soloman (1991). In addition, they reflected on their learning by writing responses to four additional open-ended questions. Litzinger, Lee, Wise, and Felder's (2007) ILS data analysis device and Strauss and Corbin's (1990) content analysis were used to analyze the data. The findings show that the majority of the participants preferred visual, sensory, active, and global learning styles. They also expressed balanced level of preference for all learning style dimensions. For the balanced level; means that these participants could be described as having a tendency to switch from their preferred learning styles to other styles in the same dimension in order to learn effectively in the classrooms. Moreover, an analysis of the participants' reflections shows that their preferred learning styles could help participants in learning, understanding, and memorizing information.

[1] This journal was written in order to identify the importance of learners' learning style preferences which had an impact on the teaching and learning process.

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บทคัดย่อ

งานวิจัยนี้ศึกษารูปแบบการเรียนรู้และความคิดเห็นของนักศึกษาในเรื่องรูปแบบการเรียนรู้ที่ชอบใช้ งานวิจัยนี้เป็นงานวิจัยเชิงปริมาณที่รวบรวมข้อมูลจากนักศึกษาระดับปริญญาตรี ชั้นปีที่ 1 จำนวน 177 คน ซึ่งศึกษาอยู่ในคณะศิลปศาสตร์และศึกษาศาสตร์จากมหาวิทยาลัย 2 แห่งในประเทศไทย เก็บข้อมูลโดยให้นักศึกษาตอบแบบสอบถามดัชนีชี้วัดรูปแบบการเรียนรู้ (Index of Learning Styles) ฉบับแปลเป็นภาษาไทยซึ่งผู้พัฒนาต้นฉบับคือ Felder และ Soloman (1991) และเขียนตอบคำถามเรื่องการรับรู้ การประมวล และการทำความเข้าใจข้อมูล วิเคราะห์ข้อมูลโดยใช้เครื่องมือวิเคราะห์ ILS (Litzinger, Lee, Wise, & Felder, 2007) และการวิเคราะห์เนื้อหา (Strauss & Corbin, 1990) ผลที่ได้จากการวิจัยชี้ให้เห็นว่านักศึกษาส่วนใหญ่ชอบรูปแบบการเรียนรู้แบบการมอง แบบประสาทสัมผัส แบบปฏิบัติ และแบบองค์รวม และยังพบอีกว่ารูปแบบที่ชอบนี้อยู่ในระดับสมดุลทั้ง 4 มิติ ซึ่งแสดงให้เห็นว่านักศึกษามีแนวโน้มในการปรับใช้รูปแบบการเรียนรู้จากรูปแบบที่ชอบไปใช้รูปแบบการเรียนรู้อีกรูปแบบหนึ่ง เพื่อเพิ่มประสิทธิภาพในการเรียนรู้ นอกจากนี้ยังพบอีกว่ารูปแบบการเรียนรู้ที่นักศึกษาชอบนั้นเอื้อต่อการเรียน การทำความเข้าใจ และการจดจำข้อมูลอีกด้วย

Introduction

Learning style preferences are one factor related to how one learns. The term learning style preferences can be defined as the preferred ways in which one learns. Different learners have different ways to perceive, process, remember, and recall information. For example, some learners understand a lesson easier by looking at visual materials; while others remember what teachers have taught by doing experiments. Learning style preferences have an impact on the teaching and learning process (Brown, 1994; Dunn & Griggs, 1988; Felder & Henriques, 1995). Learning style preferences also influence how much a learner can learn. With preferred learning styles, learners can better perceive and process the information (Felder & Silverman, 1988). They could also comprehend the lesson, complete tasks, and do classroom activities more easily (Oxford, 2003).

Learning styles are also related to teaching styles and influence the teaching and learning process as well. Teaching styles is a term that is used to describe teachers' learning style preferences (Oxford, Hollaway, & Horton-Murillo, 1992). If there is a mismatch between learners' learning styles and teachers' teaching styles in the classroom, some difficulties such as interaction breakdown between teachers and students, poor performance on the part of students, and anxiety can occur in the process of teaching and learning (Oxford, 2003). Students, for example, may ignore instruction or drop out, pay less attention to the lesson, or do poorly on tests (Felder & Henriques, 1995; Felder & Spurlin, 2005). Incompatibility in styles is one of many factors that has an impact on the teaching and learning process.

Knowledge about learning style preferences and related issues can help to improve the teaching and learning process. Thus, identifying learners' learning style preferences has many benefits; for example, teachers can better understand how students prefer to learn so that they can help them to learn by planning lessons and tasks appropriate to their learning styles, and thus avoid a mismatch between learners' learning styles and teachers' teaching styles.

Objectives of the study

Since knowledge about students' learning style preferences has many benefits, the present study assessed learning style preferences of EFL Liberal Arts and Education students in Thai university contexts. In order to achieve the aim, the following research question was posed: What are the learning style preferences of Thai EFL students at the Faculty of Liberal Arts, Hikari University and the Faculty of Education, Niji University (pseudonyms)

Literature review

Learning style models, concepts of reflection, the connection between learning styles and fields of study are reviewed in this part.

Learning style models

Scholars and researchers have developed different learning style models to assess learning styles in different contexts with different focuses. These models have been developed based on different psychological theories; therefore, different models have adopted different criteria for the classification of learning style preferences. This made each model have different learning style dimensions. (see Table 1). The learning style models found in some previous studies are the Myers-Briggs Type Indicator (MBTI); the Grasha-Reichmann Learning Style Scale (GRLSS); the Learning Style Inventory (LSI); the Visual, Aural, Read/Write, and Kinesthetic learning styles (VARK); and the Index of Learning Styles (ILS).

Table 1 Information about five learning style models

Model	Myers-Briggs Type Indicator (MBTI)	Grasha-Reichmann Learning Style Scale (GRLSS)	Learning Style Inventory (LSI)	Visual, Aural, Read/Write, and Kinesthetic Learning Styles (VARK)	Index of Learning Styles (ILS)
Developer	Isabel Briggs Myers	Anthony Grasha and Sheryl Hruska-Reichmann	David Kolb	Neil Fleming	Richard Felder and Barbara Soloman
Year	1940s	1974	1984	1987	1991
Criteria for classification of learning styles	Personality-related preferences	Interaction (with teacher and peers) preferences	Information processing preferences	Sensory learning preferences	Information processing preferences
Dimensions of learning styles	Extraverts/introverts Sensors/intuitors Thinkers/feelers Judgers/perceivers	Avoidance Participation Competitiveness Collaboration Dependence Independence	Diverging learners Assimilating learners Converging learners Accommodating learners	Visual Aural Read/Write Kinesthetic	Sensory/intuitive learners Visual/verbal learners Active/reflective learners Sequential/global learners
Instrument	Myers-Briggs Type Indicator (93 forced-choice items)	Grasha-Reichmann Learning Style Scale (60 items rated on a Likert scale)	Learning Style Inventory (12 items rated on a Likert scale)	Visual, Auditory, Read/Write. and Kinesthetic Learning Styles (13 multiple choice items)	Index of Learning Styles (44 multiple choice items)

From the different models of learning styles available, the present study employed the Index of Learning Styles or ILS developed by Felder and Soloman (1991) to guide the study. The justification for the use of the ILS model in this study was based on the fact that this model had a ready-made instrument to assess learners' learning style preferences, the ILS, had been used in a number of previous research studies and its reliability had been examined. In addition, based on the analysis in Table 2, the ILS model was found to cover the widest scope of learning style dimensions as compared to other learning style models (MBTI, GRLSS, LSI, and VARK).

Table 2 The overlapping aspects of learning style dimensions across models

Overlapping aspects of dimension across models					
Detailed description	**MBTI Dimensions**	**GRLSS Dimensions**	**LSI Dimensions**	**VARK Dimensions**	**ILS Dimensions**
1. Learners perceive information through physical senses	Sensors	-	-	Visual Aural Read/Write Kinesthetic learners	Sensory learners
2. Learners prefer facts, concrete data, tests, experiments	Sensors and thinkers	-	Converging learners and accommodating learners	-	Sensory learners
3. Careful but slow learners	Perceivers	-	-	-	Sensory learners
4. Quick but careless learners	Judgers	-	-	-	Intuitive learners
5. Learners remember best with charts, pictures, diagrams	-	-	-	Visual learners	Visual learners
6. Learners remember best with spoken and written words	-	-	-	Aural and Reading/ Writing learners	Verbal learners
7. Learners like to do, test, discuss	-	-	Converging and accommodating learners	Kinesthetic learners	Active learners
8. Learners like to work in groups	Extraverts	Collaborative learners	Diverging and accommodating learners	-	Active learners
9. Learners like to work individually	Introverts	Independent learners	-	-	Reflective learners
10. Learners like to observe and think	-	Independent learners	Diverging and assimilating learners	-	Reflective learners

Overlapping aspects of dimension across models

Detailed description	MBTI Dimensions	GRLSS Dimensions	LSI Dimensions	VARK Dimensions	ILS Dimensions
11. Learners tend to learn by the deductive method	-	-	Converging learners	-	Sequential learners
12. Learners tend to learn in sequence	Sensors	-	-	-	Sequential learners
13. Learners tend not to learn in order	Intuitors	-	-	-	Global learners
14. Learners' decision making is influenced by others'	Feelers	-	Accommodating learners	-	-
15. Learners not interested in people	Introverts	-	Assimilating learners	-	-

Felder and Soloman's learning style dimensions

Each dimension has two types of learning styles. The details can be found below.

1) A sensory or intuitive learning style indicates how a student perceives information. Sensory learners prefer facts, concrete data, and experiments but intuitive learners prefer principles, concepts, and theories. Information is also received differently by sensory and intuitive learners. Sensory learners feel comfortable perceiving information through the five physical senses. Intuitive learners use their memories and thoughts in learning. Sensory learners tend to be careful but slow whereas intuitive learners are quick but careless.

2) Visual or verbal learning style refers to the type of sensory information a student perceives best. Visual learners understand the lesson better with pictures, diagrams, flow charts, films, and demonstrations. Verbal learners remember best with spoken and written explanations.

3) Active or reflective learning style shows how a student processes information. Discussing, brain storming, experimenting, and testing are learning techniques that active learners prefer to employ. Active learners are more willing to do things than reflective learners. Physically, reflective learners prefer to observe and think about the information silently.

4) A sequential or global learning style describes how a student progresses toward understanding. Sequential learners learn best from easy to difficult sequencing, while global learners deal better with complicated issues. Sequential learners tend to understand information well when it is presented in small connected pieces. Global learners may not completely understand the lessons for weeks. They can only effectively apply their knowledge to various learning situations when they combine all pieces of information together in a big picture.

The present study also added some open-ended questions to the original ILS questionnaire so that participants could reflect on their learning styles. The concepts underlying the reflections are described in the next section.

Concepts of Reflection

Bormotova (2010) defined the concept of reflection as "simply giving a subject (a topic or a theme), a thoughtful consideration, an analysis, or a critique, coming to some positive or negative conclusion, or simply to better understanding, on the basis of one's thought process about some topic" (p.15). The use of reflection offers many benefits in that the reflections contain information about personal experience which can be used to improve the quality of learning (Moon, 1999), raises students' awareness about given topics and changes their behaviors in learning (Hinett, 2002), and gives an opportunity for students to express their emotional and mental issues (Bailie, 2004). In this study, the benefit of the reflection was to obtain more insightful information from individual participants about their learning styles, information which could be used to improve the quality of learning.

The connection between learning styles and fields of study

The findings of this study were also expected to provide insightful information about the learning process of students in the fields of Liberal Arts and Education. Felder and Silverman (1988) and Litzinger et al. (2005) posited that learners' learning style preference differed across fields of study. In addition, Wang (2007) found evidence in his research that participants with different majors have different learning styles. Previous studies on learners' learning style preferences have focused overtly on participants in the fields of Engineering and Applied Sciences. To add more evidence to the literature, participants from the fields of Liberal Arts and Education were selected to participate in this study.

Research methodology

The quantitative method was employed in this study. Creswell explains the characteristics of the quantitative method: "it involves a numeric description of trends, attitudes, or opinions of a population by studying a sample of that population" (Creswell,

2003, p.153). Because of the objectives of this study, the quantitative method was appropriate for gathering data on a large scale to find out about the trends and overall learning style preferences of students in the Faculty of Liberal Arts and the Faculty of Education.

Participants

Purposive sampling was used to select participants. Purposive sampling is the selection of research participants based on the qualifications that the researcher is interested in exploring (Levy & Lemeshow, 2008). The whole population of freshmen students who were studying English as a core course in the Faculty of Liberal Arts, Hikari University (pseudonym) and the Faculty of Education, Niji University (pseudonym) were invited to participate in this study. However, participation was voluntary. Of the total of 177 participants, 102 were from the Faculty of Liberal Arts and 75 were from the Faculty of Education.

Research instrument

A translated version of the ILS questionnaire with four additional open-ended questions for participants to reflect on their learning styles was used to collect data. Details of the research instrument are described as follows.

The Index of Learning Styles (ILS) is a questionnaire developed for assessing learners' learning style preferences by Richard Felder and Barbara Soloman in 1991. The ILS questionnaire contains 44 questions to assess four dimensions of Felder and Soloman's (1991) learning style model: sensory or intuitive, visual or verbal, active or reflective, and sequential or global. Each item in the ILS is related to one dimension of the learning styles, each of which is divided into two alternative types of learning styles for the participants to choose from.

Four open-ended questions for the participants' reflections were also included in the ILS questionnaire. The questions were developed in accordance with Felder and Soloman's (1991) learning style dimensions. The open-ended questions required the participants to choose the learning style that they preferred and write down their opinions, thoughts, or feelings about how their preferred learning styles helped them in learning.

The original ILS questionnaire was translated into Thai to help the participants clearly understand all the questions. The translated version was checked by three experts in translation for the accuracy of meaning and precision of the language prior to a pilot study in order to check for the participants' understanding of each item on the translated version of the ILS. For the reflections, participants were required to write responses in Thai.

Data analysis

To analyze the data from the questionnaire, descriptive statistics (frequency and percentage) were used to identify the overall learning style preferences of the participants. The results for learning style preferences from the translated version of the ILS questionnaire were calculated by using Litzinger, Lee, Wise, and Felder's (2007) ILS data analysis device. Moreover, Strauss and Corbin's (1990) content analysis was employed to analyze the written reflections of the participants.

Results

The findings are reported in two parts. The first part reports the overall learning style preferences of the participants, and the second part reports the learners' reflections on their learning styles.

Overall learning style preferences

The majority of participants were found to prefer sensory, visual, active, and global learning styles. Table 3 present the frequency and percentage of participants' learning style preferences based on the dimensions of perception. In addition, the table shows the levels of participants' learning style preferences. Most of the participants were found to be a balanced level of preferences for the different types of learning styles.

Table 3 The overall learners' learning style preferences

Dimensions	Level of learning style preference						Total	
	Balanced		Moderate		Strong		N = 177	
	Frq	%	Frq	%	Frq	%	Frq	%
1. type of information the student perceives								
1.1 sensory	79	59.4 70.5	48	36.1	6	4.5	133	**75.1**
1.2 intuitive	31		10	22.7	3	6.8	44	**24.9**
2. type of sensory information that is most perceived								
2.1 visual	67	46.8	57	39.9	19	13.3	143	**80.8**
2.2 verbal	28	82.3	4	11.8	2	5.9	34	**19.2**
3. how the student processes information								
3.1 actively	60	50.4	49	41.2	10	8.4	119	**67.2**
3.2 reflectively	43	74.1	14	24.1	1	1.8	58	**32.8**
4. how the student progresses toward understanding								
4.1 sequentially	63	75.9	18	21.7	2	2.4	83	**46.9**
4.2 globally	64	68.1	28	29.8	2	2.1	94	**53. 1**

The first dimension is related to the types of information the learners preferred to perceive. Information is also received differently by sensory and intuitive learners. Three-fourths, or approximately 75%, of all participants had a tendency to perceive information using sight, sound, and physical sensation. Only one-fourth, or approximately 25%, of all participants were found to be intuitive learners who better perceived information using their memories and thoughts. With regard to the second dimension, types of sensory information the learners preferred to perceive, approximately 80% of all participants were visual learners. They preferred visual information including pictures, charts, and demonstrations. The rest or approximately 20% of all participants were verbal learners. They learned better with written and spoken explanations. The third dimension concerns how learners process information. The statistics show that the percentage of active participants was exactly twice as high as that of reflective participants. To be precise, active participants prefer to discuss, examine, or do something with information. Participants who tend to be reflective learners prefer to sit silently, observe, and think carefully. The last dimension relates to how learners progress toward understanding. More than half of all participants tended to be global learners. They deal better with complicated lessons and look for the overall picture. The rest were sequential learners who prefer the information to be organized from simple to complex.

Table 3 also shows that the majority of the participants were found to be at a balanced level of learning style preferences for all four dimensions. Theoretically, learners at the balanced level perceive information well through both learning styles in each dimension. Those participants might have the ability to switch their learning styles in order to learn more effectively in class.

Turning to the question of learning style preferences, the verbal learning style was the least favored (19.2%). The majority of the participants (82.3%), however, were at a balanced level.

Learners' reflections on learning style preferences

The researcher employed Strauss and Corbin's (1990) content analysis to analyze participants' reflections. The participants wrote their answers in Thai. In order to provide direct quotations, the original responses were translated into English by the researcher and approved by her advisor and co-advisor. The findings regarding the reflections are presented according to the four learning style dimensions.

The written reflections provided by both sensory and intuitive participants were found to be related to the issues of consumption of time, mindfulness regarding details, concentration on the accuracy of information, information retention, and application of knowledge. Sensory participants preferred to spend time studying, exploring details, and

emphasizing the accuracy of information. They could retain information so as to apply it. In contrast, intuitive participants preferred to learn quickly. They wanted to catch the main points of the lessons. When they learned the information, they tried to apply it immediately. However, they were careless about details and easily forgot what they had learned.

Most of the participants preferred a visual rather than a verbal learning style. Visual participants cared about recalling information, the depth and rigidity of information, and the interpretation of information. They regarded visual information as helpful for them in recalling information. In contrast, verbal participants focused on the accuracy of the information. Therefore, they preferred to perceive rigid information such as spoken and written words rather than visual materials which could be interpreted in various meanings. Some of them felt unsure about the accuracy of their interpretation. They preferred to have certain and rigid information.

Participants who selected active or reflective learning styles were found to reflect differently. Active participants had different approaches for processing information, concentrating on information, and avoidance of failure compared to reflective participants. Two-thirds of all participants processed the information actively by experimenting and remembering through the experimental process. They preferred the trial and error process so that they could avoid failure in learning. On the contrary, reflective participants preferred to think and observe the information. They also tried to plan and prevent failure before applying the information.

Details on information presentation and emotion were found in the participants' reflections on the use of sequential or global learning styles. More than half of the participants preferred the global learning style to the sequential learning style. Sequential participants felt cheerful and comfortable in processing information in order to arrive at understanding with the easy to difficult sequence. This sequence helped them to have a better understanding of the lessons. However, global participants felt that information presentation in sequential order caused boredom and stress since they could expect more difficult piece of information in each class. This prevented learning.

The next section is the discussion of the findings.

Discussion

This study looked into not only learners' learning styles but also levels of learning style preferences. The levels of learning style preferences were useful in indicating how strictly participants adhered to their preferred learning styles. The majority of the participants in this study were found to be at a balanced level of learning style preferences for all

dimensions. According to Felder and Spurlin (2005), learners at the balanced level tend to have the ability to switch their learning styles. Thus, they might use more than one type of learning style and might switch from using one type of learning style to another within the same dimension.

Findings also suggest that the participants' ability to give an explanation on how their preferred learning styles could support their learning and how their less preferred learning styles could hinder their learning clearly indicate participants' awareness of not only their learning styles, but also their awareness of how to use different learning styles differently and appropriately. In addition, the participants also reflected on the negative results of a mismatch between the teachers' teaching style and their own preferred learning style. One of the results affects with their emotions. If the teachers, for example, presented information in a style that was consistent with the participants' learning styles, the participants would feel cheerful and enthusiastic about learning. In contrast, if the teachers presented information in a style that was not consistent with their preferred learning styles, the participants would feel exhausted, discouraged, and depressed while learning.

These findings do not support the thesis that learners' learning style preferences are related to their field of study. This might be because there were other variables that influence learners' learning style preferences. Reid (1987), for example, posits that language background, gender, level of education, age, and other variables are also related to differences in learners' learning style preferences. In addition, Felder and Spurlin (2005) maintain that educational experience also influences learners' learning style preferences. It should be noted that field of study was just one factor that has an impact on differences in learning style preferences.

Conclusion

Since learning style preferences have an impact on the teaching and learning process, identifying learning style preferences might help students, teachers, and educators understand more about how students learn. The results of this study show that Liberal Arts and Education participants preferred sensory, visual, active, and global learning styles at a balanced level. This information is useful for planning lessons, developing teaching approaches, motivating students to study, and providing a variety of teaching materials. For example, learning outcome is better if teachers use lectures and supplement materials like e-learning simultaneously in classrooms (Chatmaneerungchareon, 2012). In this case, learners could have an opportunity to work in group and review the lesson by themselves through e-learning (Seskumbong, 2012). Learners might develop both active learning style when they

work with peers and reflective learning styles when they revise the lesson individually. In addition, the present study found some benefits from collecting participants' reflections. Providing the participants with an opportunity to reflect on their learning experience helped to raise their awareness about their preferred learning styles. Participants' reflections were also useful in providing more details and a better understanding of how their preferred learning styles helped their learning. The importance of learning style preferences has been acknowledged and the knowledge of learning style preferences can be used to make the teaching and learning processes more effective and successful.

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