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Relationship between Learning Style and Learning Strategies of Mandarin Learners in Universiti Tun Hussein Onn Malaysia (UTHM)

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ABSTRACT

Reseachers have indicated that learning style and learning strategies are important aspects in the learning process. Studies on learning style and learning strategies can give educators new directions for making changes in teaching methods to improve students' performance. This study was conducted to identify the predominant perceptual learning styles and language learning strategies of Chinese as foreign language (CFL) learners at Universiti Tun Hussein Onn Malaysia (UTHM). The Perceptual Learning Style Preference Questionnaire (PLSPQ) and the Strategy Inventory Languange Learning (SILL) was used and administered to 148 students. The results also show a statistically significant relationship between CFL learners' memory strategy with individual, visual and kinesthetic style, compensation strategy and tactile, kinesthetic and individual style. Implications of the study are presented and discussed.

1. Introduction

In the present era, the idea of student-centered learning is widely advocated. Student-centered learning emphasizes each student's interest, abilities and the ways they learn [20]. At this core, learning does not mean "one size fits all." Every person's learning experience is not the same. Different people may have different learning preference due to their biological and psychological disparities.

A number of studies showed that students' individual differences play an important role in second or foreign language learning [11,13,32,34,45,46] Learners' individual differences include age, gender, culture, motivation, learning style, learning strategy and learning aptitude. According to

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Oxford [30], "language learning styles and strategies appear to be among the most important variables influencing performance in a second language". Researchers have found that successful learning is determined by the usage of suitable learning styles and strategies [2,35,38, 39]. Therefore, it is important for both educators and students to understand these individual differences to enhance teaching and learning.

2. Language Learning Style

Learning style is defined as the learners' preferred ways in the process of acquiring knowledge and skills [17,19]. The concept of learning styles was developed from psychology to classify psychological types originally [3,14,15,19,48,49]. In the mid to late 1970s, paradigms began to be developed to identify the more external, applied modes of learning styles [8,40].

Keefe [18] defines learning style as "cognitive, affective, and physiological traits that are relatively stable indicators of hoe learners perceive, interact with, and respond to the environment". Kolb [19] defined that, learning is a process whereby knowledge is created through the transformation of experience. According to Reid [42], learning styles "refer to an individual's natural, habitual, and preferred way(s) of absorbing, processing, and retaining new information and skills. Learning styles vary from one individual to another, and each learner has a unique learning style. Being aware of students' learning styles is essential for teachers so that they can help their students recognize how they learn best.

Various learning styles models and instruments have been constructed to assess students' preferred learning styles. Dunn and Dunn [9] have created the Learning Style Inventory to recognize the learning style preferences of English native speakers. The Dunn and Dunn Learning Style Inventory is based on the theory that each person has his/her strengths when it comes to learning. Learning Style Inventory is focused on five domains which are environmental, emotional, sociological, physiological, and psychological and there are 21 elements across those domains [23].

Another learning style model was constructed by Kolb [19]. This model works on two levels, which are, a four-stage learning cycle and a four-type definition of learning styles. The four-stage learning cycle included concrete experience or "feeling", reflective observation or "watching", abstract conceptualization or "thinking", and active experimentation or "doing". Kolb used the terms diverging, assimilating, converging and accommodating to categorize learning styles, which each representing the combination of two preferred styles of the four-stage cycle styles [19]. Honey and Mumford [17] identified four separate learning styles: activist, pragmatist, reflector and theorist, based on the four stages of David Kolb's learning cycle.

Gregorc [16] focused his research on measuring how learners perceive and order new information. His model is a modified version of Kolb's learning dimensions, focusing on random and sequential processing of information. The Gregorc's model describes four learning style categories which are abstract random, concrete random, abstract sequential and concrete sequential. Felder and Silverman's [12] model creates four dimensions of learning styles. These dimensions are active-reflective, sensing-intuitive, visual-verbal, and sequential-global.

Reid [40] used the term "perceptual learning styles" to describe the variations among learners in using one or more senses to understand, organize, and retain experience. Reid has developed learning style instrument called Perceptual Learning Style Preferences Questionnaire (PLSPQ) specifically for foreign language students based on how students learn best using their perceptions. The perceptual channels are visual, auditory, kinesthetic and tactile preferences, and the two social aspect of learning is group and individual preferences. Reid's PLSPQ is widely accepted in the research of non-native speakers of English, with reliability and validity established on high intermediate or

advanced ESL classes [40]. Brown [4] said that Reid's classification is "very salient in a formal classroom setting", so it is used in this study to identify students' learning style in Mandarin classroom.

In CFL context, PLSPQ has been used in Yi Hong and Fu Dongmei's [53] research which investigated the learning style preferences of CFL learners in China. Yi and Fu investigate the perceptual learning style preferences of foreign students from central Asia that study Mandarin as foreign language in China. Besides that, Moe Moe Thew's [24] also conducted a research on Myanmar middle school students' Mandarin learning style preferences using PLSPQ.

According to Reid, visual students learn well from visual stimulation such as seeing words in books or workbooks. Auditory students prefer hearing words spoken and oral explanations. They are benefited from lectures and class discussion. Kinesthetic students learn best by experiences, by being involved physically in classroom experiences. Tactile students like lots of hands on materials and enjoy writing notes. Students that prefer group learning style learn more easily in group interaction and class work. In contrast with group learning style, students who prefer individual learning style learn best when they work alone, and they prefer to be a self-reader.

3. Language Learning Strategies

Learning styles can be defined as general approaches to language learning, while learning strategies are specific behaviors or thought processes that learners used in language task to gain knowledge [7,33]. According to Chamot [5], language strategies are the specific mental and communicative procedures that learners apply in order to learn and use language. These strategies can be learned, and consciously applied in different learning situation.

Learning strategies are specific actions, behaviors, steps, or techniques that learners apply to enhance their own learning [45]. Learning strategies can help learners improve their own perception, reception, storage, retention and retrieval of language information [33]. Weinstein and Mayer [50] stated that the goal of learning strategies is to "affect the learner's motivational or affective state, or the way which the learner select, acquires, organizes, or integrates new knowledge" (p.315). Learners used learning strategies intentionally and consciously to enhance the effectiveness of their own learning. In other words, learning strategies enable learners to take more responsibilities of their own language learning and develop their learning skills.

In classifying language learning strategies, Oxford [31] proposed a strategy system which consist of both direct and indirect strategies. Direct strategies require mental processing of the target language, and learners can use those specific procedures to improve their language skills. There are three main groups of direct strategies: memory strategies, cognitive strategies and compensation strategies. Indirect strategies, on the other hand, support and manage language learning often without involving the target language directly. These strategies include factors such as planning and evaluating one's learning, self-encouragement and cooperating with others. There are also three groups of indirect strategies: metacognitive strategies, affective strategies and social strategies.

4. Language Learning Styles and Language Learning Strategies

Obviously, learning styles and learning strategies are different. However, these two terms are often closely related to each other. Wen and Johnson [51] have reported in their studies that learner's style preference generally has a wide influence on their strategy use. The result of Oxford and Nyikos [35] research showed that language learners tend to use those strategies which reflect

their learning styles. Brown [4] also found that learning strategies do not operate by themselves, but rather are directly linked to learner's learning styles.

Ehrman and Oxford [11] explored the relationship between learning styles and learning strategies through semi-structured interviews. The research points out that learners' learning styles may significantly influence their choice of language strategies. Li and Qin [21] investigated the relationship between language learning styles and strategies of tertiary-level learners in China. Their findings also indicated that learners' learning styles have a significant influence on learners' strategy choices. The learners' learning styles may also influence learning outcomes. Based on the research results, the researcher also concluded that helping learners to identify their strength and weakness can improve their learning outcomes.

Al-Hebaishi [1] investigated Taibah University's female EFL majors learning styles and learning strategies. The study showed that most of the respondents preferred a visual learning style and their major preference for learning strategies were memory and affective strategies. Rossi-Le [43] conducted a study on learners' dominant perceptual learning styles and learning strategies in learning ESL based on the learners' backgrounds. The PLSPQ and SILL questionnaire was administered to 147 adult immigrants in the United States. She found that most learners prefer tactile and kinesthetic learning styles. A significant correlation between ESL learners' learning styles and strategies was also found in this study. Most visual students used the visualization strategy whereas those who preferred learning in a group prefer to use the social strategy in their learning process.

Shi [47] investigated the relationship between cognitive styles and learning strategies of 184 English majors in China. The study indicated that cognitive style has significant influence on learners' choices of learning strategies. Wong and Nunan [52] conducted a comparative investigation into the learning styles and strategies of effective and ineffective language learners in Hongkong. The study reveals a significant relationship between learning styles and strategies of those learners and concluded that attitudes towards language and learning are the key differentiating factor between more effective and less effective learners.

Nosratinia *et al*., [28] explored the relationship between EFL learners' language learning styles and strategies and found a statistically significant relationship between EFL learners' affective strategy with visual style and auditory style, metacognitive strategy and visual style.

In Malaysia, Nor Aniza Ahmad, Zalizan Mohd Jelas and Manisah Mohd Ali [27] examined the match of learning styles, learning strategies and academic performance of secondary school students. The result of this study showed a positive influence of learning styles toward the males' learning strategies. Jayanthi Muniandy and Munir Shuib [26] also conducted a study of learning styles, language learning strategies and fields of study among ESL learners. A significant match was discovered between auditory learning style and social strategies.

The investigation on the interrelationship between language learning styles and language learning strategies in a foreign language environment in Malaysia are quite rare, so, in this study, it is aimed to shed more light on the relationship between language learning styles and language learning strategies of students.

5. Objectives and Research Questions

This research is to study UTHM CFL learners' preferred learning style in learning Mandarin as foreign language. The following are the research questions of this study:

1. What is the predominant perceptual learning style preference of CFL learners at UTHM?
2. What are the strategies most frequently used by these CFL learners at UTHM?

3. Are there any significant correlations between UTHM CFL learners' preferred perceptual learning style and language learning strategies?

6. Methodology

6.1 Participants

The participants of this research included 148 undergraduate students from several faculties that studying Mandarin Chinese as foreign language at Universiti Tun Hussein Onn Malaysia. These students took Mandarin (Mandarin Level 1, UWB10902) as an elective. The group represented eight faculties, which are: Faculty of Civil and Environmental Engineering (FKAAS), Faculty of Electrical and Electronic Engineering (FKEE), Faculty of Mechanical and Manufacturing Engineering (FKMP), Faculty of Technology Management and Business (FPTP), Faculty of Technical and Vocational Education (FPTV), Faculty of Computer Science and Information Technology (FSKTM), Faculty of Science, Technology and Human Development (FSTPi) and Faculty of Technical Engineering (FTK). Table 1 shows the respondents' demographic background.

Table 1
Distribution of Sample

No.	Demographic Variable		N	Percentage
1.	Gender	Male	54	36.49 %
		Female	94	63.51 %
2.	Faculty	FKAAS	23	15.54 %
		FKEE	4	2.70 %
		FKMP	16	10.81 %
		FPTP	39	26.35 %
		FPTV	6	4.05 %
		FSKTM	41	27.70 %
		FSTPi	11	7.43 %
		FTK	8	5.41 %

6.2 Instruments

In this research, two research instruments were used for this study. Firstly, the perceptual learning style preference of the students was assessed using the Perceptual Learning Style Questionnaire (PLSPQ), which was designed by Reid [41]. Peacock [37] reported that this questionnaire is valid and reliable to be used for research purpose. The questionnaire consists of 30 self-assess items and each five items are related to visual, auditory, kinesthetic, group and individual learning style preferences. Participants are asked to indicate how much they agree with those statements as it applied to their study of Mandarin with a 5-point scale: strongly agree (5), agree (4), undecided (3), disagree (2), strongly disagree (1).

The second instrument was the SILL (Strategy Inventory for Language Learning) designed by Oxford [31]. This questionnaire surveys the participant's preferred language learning strategies (LLSs). The SILL instrument contains 50 short statements, which is categorized into six strategies: memory, cognitive, compensation, metacognitive, affective and social. The participants are required to respond to each statement on 5-point Likert scale ranging from 1 ("Never or almost true of me") to 5("Always or almost always true of me").

6.3 Data Analysis

The data obtained from PLSPQ and SILL was analysed using percentage and descriptive statistics. Pearson correlation were used to identify the relationship between learning styles and language learning strategy.

7. Results

Table 2
Perceptual Learning Style Preferences of Students

Learning Style	N	Percentage (%)
Kinesthetic	52	35.14
Group	31	20.95
Auditory	27	18.24
Tactile	16	10.81
Visual	14	9.46
Individual	8	5.41
Total	**148**	**100**

Table 2 shows the result of students' preference of perceptual learning styles. Based on the percentage analysis score for each learning style, the kinesthetic learning style is ranked first among all the learning styles. 52 students in this research preferred kinesthetic learning style (35.14 %) and followed by secondary learning style preference of 31 students as group learning style (20.95%). Next to group learning style there are 27 students preferred auditory learning style (18.24%) and tactile learning style is 16 students (10.81%). There are 14 students (9.46%) preferred visual learning style. The individual style becomes the least preferred learning style which is only 5.41%.

This result is quite different with the results of Yi Hong and Fu Dongmei's [53] research on learning style preferences of CFL learners in China. Yi and Fu investigate the perceptual learning style preferences of foreign students from central Asia that study Mandarin as foreign language in China. The result of the research showed that CFL learners preferred tactile and visual learning style. Besides that, this result also different with Moe Moe Thew's [24] research on Myanmar middle school students' Mandarin learning style preferences. In Moe Moe Thew's research, Myanmar middle school's Mandarin learner preferred group learning style. However, this result support the results of Reid's [40] research on learning style preferences of English as a second language (ESL) learners which showed that ESL students strongly preferred kinesthetic learning style. This is also consistent with Peacock [37] findings which showed that kinesthetic learning style was the most popular style of English as second language learners. Similar findings were reported by some Malaysian research that learners prefer the kinesthetic style the most in language learning [29,25,22].

Table 3 shows the descriptive statistics results of the general tendency of language learning strategy preferences of the participants. Social strategies scored the highest value of 3.76 and the affective strategies scored the least value of 3.33. Metacognitive strategies ranked the second with a mean score of 3.70. The third place in the ranking was taken by memory strategies with a mean score 3.66 followed by compensation and cognitive strategies with the mean score 3.42 and 3.40 respectively. These findings of this study are similar with the results provided by Al-Hebaishi [1], Chand [6].

Table 3
Mean Scores and Standard Deviation of Learning Strategies Used of Students

Language Learning Strategies	N	Mean	Standard Deviation	Rank
Memory	148	3.6629	0.9237	3
Cognitive	148	3.4025	1.0484	5
Compensation	148	3.4223	0.9804	4
Metacognitive	148	3.7072	0.9049	2
Affective	148	3.3367	1.0746	6
Social	148	3.7613	0.9912	1

Table 4

Pearson Correlations: Components of Perceptual Learning Styles and Language Learning Strategies

		Memory	Cognitive	Compensation	Metacognition	Affective	Social
Visual	Pearson Correlation	.158*	0.068	0.084	-0.003	-0.029	-0.002
	Sig. (1-tailed)	0.028	0.207	0.154	0.487	0.364	0.489
	N	148	148	148	148	148	148
Tactile	Pearson Correlation	0.078	0.05	.141*	-0.001	0.015	-0.05
	Sig. (1-tailed)	0.174	0.271	0.044	0.493	0.427	0.273
	N	148	148	148	148	148	148
Kinesthetic	Pearson Correlation	.144*	0.106	.167*	0.016	0.093	0.034
	Sig. (1-tailed)	0.04	0.099	0.021	0.421	0.129	0.341
	N	148	148	148	148	148	148
Auditory	Pearson Correlation	0.127	0.063	0.104	-0.006	-0.011	-0.014
	Sig. (1-tailed)	0.063	0.222	0.104	0.471	0.447	0.432
	N	148	148	148	148	148	148
Group	Pearson Correlation	-0.005	-0.028	0.057	-0.084	-0.039	-.138*
	Sig. (1-tailed)	0.476	0.369	0.247	0.154	0.318	0.047
	N	148	148	148	148	148	148
Individual	Pearson Correlation	.192**	0.126	.154*	0.1	0.09	.137*
	Sig. (1-tailed)	0.01	0.063	0.031	0.113	0.138	0.049
	N	148	148	148	148	148	148

**. Correlation is significant at the 0.01 level (1-tailed). *. Correlation is significant at the 0.05 level (1-tailed).

The result also showed that the affective learning strategy is rated the least preferred strategy (M=3.34) by the participants in this study. This finding is in line with those of previous studies [1, 26,6] which indicated that affective strategies are the least favoured strategies among ESL learners.

Table 4 shows the analysis of the Pearson correlation between perceptual learning styles and language learning strategies. The results revealed that individual learning style significantly correlated with memory and compensation (r =.192, .154 respectively, p <.05). The results also show that visual and kinesthetic learning styles had significant relations with memory strategies (r = .158, .144 respectively, p= .05). This result is in line with Al-Hebaishi's (2012) study which reported that visual learners preferred to use memory strategies in learning language.

The current study also found that the tactile and kinesthetic learning style had significantly correlated with compensation strategy (r = .141, .167 respectively, p= <.05). Tactile and kinesthetic learners who enjoy hands-on activities and experience learning prefer to use guessing approaches and using gestures in the process of learning.

8. Discussion and Conclusions

The purpose of this study was to find out CFL learners' predominant language learning styles and language learning strategies. The current study also examined the relationships between learners' preference learning styles and language learning strategies. The results show that the predominant learning style of CFL learners at UTHM are kinesthetic learning style. The students remember the information well when they engaged in activities or role-playing in the classroom. The findings that the kinesthetic style is the most preferred learning style is aligned with past findings [40,37,29,25]. The secondary learning style of students while learning Mandarin is group learning style. These students learn more easily when they study with at least one other student. Group interaction and class work with other students stimulate them to learn and understand new information well and more successful in completing work. Next to group learning style students preferred auditory, tactile and visual learning style. Students' least preferred learning style is individual learning style.

With regard to language learning strategies, it was found that social, metacognitive and memory strategies were the most frequently used strategies, while affective was the least used strategies among the participants of this study.

With respect to the third research question, the results of the study revealed significant positive relationships between students' learning style preference and language strategies use. When the results are examined in detail, it indicated that individual learners have significant correlations with memory and compensation strategies. In addition, visual learning style revealed a significant relationship with the use of memory strategies. The analysis also showed a significant correlation between kinesthetic learning style and the use of memory strategies.

The learners in this study tend to create mental linkage to learn and retrieve information, arranging information in an orderly string, making associations and reviewing. The learners also preferred to guess and rephrase in acquiring new information and skills.

The result of this study supported the result of Rossi-Le [43] research which investigated the relationship between perceptual learning style preferences and language learning strategies in learning a second language. The researcher found significant relationship between perceptual learning styles and language learning strategies and reported that visual learning style and visualization strategies related to each other the most. This study also lend support to the study of Sahragard and Abbasian [44] which found significant relationship between language learning strategies and perceptual learning styles.

The findings of this study support the importance of recognizing learners' learning style preferences and learning strategies. Teaching style is closely related to students' learning styles and learning strategies. Teachers should be aware of students different learning style and language learning strategies so that the suitable teaching strategies can be adopted to increase students' academic performance.

Since the results highlight that students learn well in using kinesthetic, group and auditory learning styles, activities like role-play, language games, group activities and audio presentation should be conducted in the classroom. More experiences of practicing speaking and listening Mandarin in the class will help the students remember and master the skill. Besides, language game on grammar and vocabulary will engage students in learning process. The teacher should be aware of these differences to make sure the learning materials are suitable, and the classroom activities are relevant to meet learners' needs. Along with this, students should know their leaning styles as well to maximize their learning potential and lead academic success. Besides that, seems language learning styles and learning strategies are closely linked, it is important to take language learning strategies training into consideration during Mandarin classes.

As a conclusion, the findings of the current research discussed the are significant relationship between perceptual learning styles and language learning strategies in CFL context. In other words, perceptual learning styles show an important role and closely related to the language learning strategies use. Future research is required to focus on other variables that could affect learners' choices of learning styles and strategies such as gender, field of study, age, academic performance, motivation, ethnicity and language proficiency. Moreover, interviews can be conducted to better understand the influence of language learning styles and learning strategies.

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References

[1] Al-Hebaishi, Safaa Mohmmed. "Investigating the relationships between learning styles, strategies and the academic performance of Saudi English majors." *International Interdisciplinary Journal of Education* 1, no. 1028 (2012): 1-11.

[2] Bialystok, Ellen. "The role of conscious strategies in second language proficiency." *The Modern Language Journal* 65, no. 1 (1981): 24-35.

[3] Bloom, F., Lazerson, A. (1988). Brain, Mind and Behavior. NY: W.H. Freeman and Company.

[4] Brown, H. (1994). Principles of Language Learning and Teaching. New Jersey: Pearson Hall Regents.

[5] Chamot, Anna Uhl. "Language learning strategy instruction: Current issues and research." *Annual review of applied linguistics* 25 (2005): 112-130.

[6] Chand, Zakia Ali. "Language learning strategy use and its impact on proficiency in academic writing of tertiary students." *Procedia-Social and Behavioral Sciences* 118 (2014): 511-521.

[7] Cohen, Andrew D. "The learner's side of foreign language learning: Where do styles, strategies, and tasks meet?." *IRAL* 41, no. 4 (2003): 279-292.

[8] Dunn, Rita S., and Kenneth J. Dunn. "Learning Styles/Teaching Styles: Should They... Can They... Be Matched?." *Educational leadership* 36, no. 4 (1979): 238-44.

[9] Dunn, R., Dunn, K., Price, G. (1975). The Learning Style Inventory. Lawrence, KS: Price Systems.

[10] Dunn, Rita, and Kenneth Dunn. "Learning style inventory. Lawrence, KS: Price Systems." *Inc.(Original work published 1975)* (1989).

[11] Ehrman, Madeline, and Rebecca Oxford. "Adult language learning styles and strategies in an intensive training setting." *The modern language journal* 74, no. 3 (1990): 311-327.

[12] Felder, Richard M., and Linda K. Silverman. "Learning and teaching styles in engineering education." *Engineering education* 78, no. 7 (1988): 674-681.

[13] Galbraith, Vicki, and Robert C. Gardner. *Individual difference correlates of second-language achievement: An annotated bibliography*. Department of Psychology, University of Western Ontario, 1988.
[14] Gardner, H. (1983). Frames of Mind: The Theory of Multiple Intelligences. NY: Basic Books.
[15] Gardner, H. (1993). Multiple Intelligences: The Theory in Practice. NY: Basic Books.
[16] Gregorc, Anthony F. "Inside style: Beyond the Basics. Columbia, CT: Gregorc Associates." (1985).
[17] Honey, P. & Mumford, A. (1986). The Manual of Learning Styles. Maidenhead: Peter Honey.
[18] Keefe, James W. "Learning style: An overview." *Student learning styles: Diagnosing and prescribing programs* 1 (1979): 1-17.
[19] Kolb D.A. (1984). Experiential learning: Experience as the source of learning and development. Englewood Cliffs, NJ: Prentice Hall.
[20] Lathika, K. (2016). Student Centered Learning. *International Journal of Current Research and Modern Education* (IJCRME). 1(1): 677-680.
[21] Jie, Li, and Qin Xiaoqing. "Language learning styles and learning strategies of tertiary-level English learners in China." *RELC journal* 37, no. 1 (2006): 67-90.
[22] Mohamad, Mimi Mohaffyza, and Muhammad Rashid Rajuddin. "Perceptual Learning Styles of Pre-Service Teachers in Engineering Education." In *The 3rd Regional Conference in Engineering Education 2010*. 2010.
[23] Mitchell, Christina. *Effect of preferred learning styles on motivation and achievement in kindergarten students*. Walden University, 2009.
[24] Moe Moe Thew. (2016). Myanmar Middle School Students Chinese Learning Style Investigation and Analysis (master's thesis). Minzu University of China, China.
[25] Mulalic, Almasa, Parilah Mohd Shah, and Fauziah Ahmad. "Perceptual learning styles of ESL students." *European journal of social sciences* 7, no. 3 (2009): 101-113.
[26] Muniandy, Jayanthi, and Munir Shuib. "Learning styles, language learning strategies and fields of study among ESL learners." *Malaysian Journal of ELT Research* 12, no. 1 (2016).
[27] Ahmad, Nor Aniza, Zalizan Mohd Jelas, and Manisah Mohd Ali. "Understanding students performance based on gender and types of schooling using SEM." *Procedia-Social and Behavioral Sciences* 7 (2010): 425-429.
[28] Nosratinia, Mania, Zahra Mojri, and Elnaz Sarabchian. "Exploring the relationship between efl learners' language learning styles and strategies." *International Journal of Language Learning and Applied Linguistics World* 5, no. 2 (2014): 253-264.
[29] Ong, W. A., S. Rajendram, and M. Yusof. "Learning style preferences and English Proficiency among Cohort 3 students in IPBA." In *Educational Research Seminar For Students IPBA*. 2006.
[30] Oxford, Rebecca. "The Role of Styles and Strategies in Second Language Learning. ERIC Digest." (1989).
[31] Oxford, Rebecca L. "Language learning strategies and beyond: A look at strategies in the context of styles." *Shifting the instructional focus to the learner* (1990): 35-55.
[32] Oxford, Rebecca. "Who are our students? A synthesis of foreign and second language research on individual differences with implications for instructional practice." *TESL Canada Journal* (1992): 30-49.
[33] Oxford, Rebecca L. "Language learning styles and strategies: Concepts and relationships." *Iral* 41, no. 4 (2003): 271-278.
[34] Oxford, Rebecca L., and Madeline Ehrman. "Second language research on individual differences." *Annual review of applied linguistics* 13 (1992): 188-205.
[35] Oxford, Rebecca, and Martha Nyikos. "Variables affecting choice of language learning strategies by university students." *The modern language journal* 73, no. 3 (1989): 291-300.
[36] Balci, Özgül. "An Investigation of the Relationship between Language Learning Strategies and Learning Styles in Turkish Freshman Students." *English Language Teaching* 10, no. 4 (2017): 53-61.
[37] Peacock, Matthew. "Match or mismatch? Learning styles and teaching styles in EFL." *International Journal of Applied Linguistics* 11, no. 1 (2001): 1-20.
[38] Peacock, Matthew, and Belinda Ho. "Student language learning strategies across eight disciplines." *International Journal of Applied Linguistics* 13, no. 2 (2003): 179-200.
[39] Phillips, Victoria. "A look at learner strategy use and ESL proficiency." *Catesol Journal* 4, no. 1 (1991): 57-67.
[40] Reid, J., (1987). The Learning Style Preferences of ESL Students. *Tesol Quarterly*, 21(1), 87-110.
[41] Reid, Joy M. "The learning style preferences of ESL students." *TESOL quarterly* 21, no. 1 (1987): 87-111. [42]Reid, J., (1995). Learning Styles in the ESL/EFL Classroom. Boston: Heinle & Heinle.
[43] Rossi-Le, Laura. "Perceptual learning style preferences and their relationship to language learning strategies in adult students of English as a second language." PhD diss., Drake University, 1989.
[44] Sahragard, Rahman, Yaser Khajavi, and Reza Abbasian. "Field of study, learning styles, and language learning strategies of university students: are there any relations?." *Innovation in Language Learning and Teaching* 10, no. 3 (2016): 255-271.

[45] Scarcella, Robin C., and Rebecca L. Oxford. *The tapestry of language learning: The individual in the communicative classroom*. Boston: Heinle & Heinle, 1992.
[46] Skehan, Peter. "Individual differences in second language learning." *Studies in second language acquisition* 13, no. 2 (1991): 275-298.
[47] Shi, Changju. "A Study of the Relationship between Cognitive Styles and Learning Strategies." *Higher Education Studies* 1, no. 1 (2011): 20-26.
[48] Tallmadge, G. Kasten, and James W. Shearer. "Relationships among learning styles, instructional methods, and the nature of learning experiences." *Journal of Educational Psychology* 60, no. 3 (1969): 222.
[49] Tennant, M. (1988). Psychology and Adult Learning. NY: Routledge.
[50] Weinstein, C., & Mayer, R. (1986). The teaching of learning strategies. In M.C. Wittrock, (Ed.), Handbook of Research on Teaching, (3rd ed.) (pp. 315-327). New York, Macmillan.
[51] Wen, Qiufang, and Robert Keith Johnson. "L2 learner variables and English achievement: A study of tertiary-level English majors in China." *Applied linguistics* 18, no. 1 (1997): 27-48.
[52] Wong, Lillian LC, and David Nunan. "The learning styles and strategies of effective language learners." *System* 39, no. 2 (2011): 144-163.
[53] Yi Hong, & Fu Dong-mei. "Investigation and Analysis of Perceptual Learning Style of Oversea Students from Central Asia." *Journal of Reasearch on Education for Ethnic Minorities* 23 (2012): 98-102.