The Relationship among Autonomy, Thinking Styles and Language Learning Strategy Use in Iranian EFL Learners

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Abstract

The present paper aims at investigating the relationship among Iranian EFL learners' attitudes to autonomous learning, thinking styles, and their language learning strategy use. The instruments were Cotterall's (1995) Attitudes to Autonomous Language Learning Inventory (AALLI), Sternberg's (1997) Thinking Styles Inventory (TSI) and Oxford's (1990) Strategy Inventory for Language Learning (SILL). The participants were 92 Iranian EFL upper-intermediate and advanced learners of Hormozgan province. The results of the Pearson Product Moment Correlation indicated that a) there is a significant relationship between self-attitude to autonomy and all the subcategories of strategy use, but there is no significant relationship between beliefs about teacher's role and strategy use except the social strategy b) a significant relationship exists between self-attitude to autonomy and most of the subcategories of thinking styles i.e. legislative, judicial, hierarchic, global, local, internal, external and liberal thinking styles and   c) there is no significant difference between males and females in the preferences for strategy use and autonomy, however significant

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differences were found in the preferences for legislative, judicial and internal thinking styles.

Keywords: Autonomous language learning, Thinking styles, Language learning strategies, EFL learners

1. Introduction

New teaching methods will emerge in the field of language teaching, but most of them consider learners as having passive roles or as the ones who cannot control and assess their own progress (Rivers, 1992; Holden & Usuki, 1999; cited in Ustunluoglu, 2009). In the field of language learning, this can be felt strongly, because, in spite of the efforts of instructors and students, the English proficiency levels are not sufficient for learners. Curriculum designers and teachers have not considered fully "the aim of learning to learn to encourage students to develop the life-long learning skills of being able to deal with the unexpected, making informed choices, developing sharp observational skills and constructing useful knowledge in one's interactions with the world while guided by their internal values, convictions, and reasons" (van Lier, 1996, p.91). A lot of researches have been done to investigate the reasons for this failure; many suggestions have of course been made. Some of the related areas that have been studied so far are learner's autonomy, thinking styles, and learning strategies.

Autonomy in language learning has been used under different titles by different writers. Gremmo and Riley (1995) call it "self-directed learning", Littlewood (1999) refers to autonomy as "self-regulated learning", Celement (2001) used the term "self-management", Regan (2005) names it as "autonomous learning", Dufeu (1994) calls it as "independent learning", and Hess (2006, cited in Fahim & Sheykhy, 2011) names it as "student initiated learning".

Holec (1981, p.3) stated that "autonomy is the ability to take charge of one's own learning where to take charge of one's learning is to have and to hold the responsibility for all the decisions concerning all aspects of this learning. He sees ability and responsibility as operating in five main areas: determining objectives, defining contents and progressions, selecting methods and techniques to be used, monitoring the procedure of acquisition, and evaluating what has happened".

Holec (1995, cited in Dickinson, 1995) believes that autonomy refers to one's capacity and one's experience to feel responsible for his own learning. According to Little (1991) autonomy helps learners to set their aims, decide on the content and process of their own learning, and assess their improvement and success. Both definitions in a way focus on the transfer of responsibility from the teacher to the learner. In this way the learner achieve a greater amount of involvement hence better learning will occur.

According to Sternberg (1997) thinking styles are preferred ways of using one's capacities. Sternberg established the theory of mental self-government (MSG). The concept of mental self-government represents the fact that people use thinking styles to control and manage their daily activities. Each person has his own patterns of thinking styles. Sternberg called these various methods of information processing as thinking styles. He stated that these styles vary during the life period and people acquire them through social interactions (Razavi and Shiri, 2005 cited in Nemati, 2012). Thinking styles are preferred methods of information processing that is specialized for each person (Zhang and Postiglion, 2001 cited in Nemati, 2012). In Sternberg's theory (1988 cited in Zhang, 2002) self- government represents the way

human mind works. Sternberg (1997 cited in Zhang, 2009) categorized thinking styles as13 groups; each group includes five dimensions of functions, forms, levels, scopes and leanings. Sternberg also stated that methods of governing over societies are different as people use different thinking styles (Kao, Lio & Sun, 2008).

All definitions of strategies, according to Oxford (1990, 1996), involve a conscious effort to a language goal. A set of strategies which are related and support one another are called a strategy chain (Oxford, 1996). Strategies are special ways to solve a problem or task, implemented methods for achieving a particular goal and manipulating certain information (Brown, 2007). Oxford and Ehrman (1998, p. 8, cited in Brown, 2007) defined language strategies as "specific actions, behaviors, steps, or techniques…used by students to enhance their own learning". They are plans that might change in any moment or from one situation to another or even from one culture to another. Strategies vary within an individual. Each person facing a problem finds several solutions for solving a problem, among which we may choose one or several.

Among the strategies, O'Malley and Chamot's (1990, 1985) strategies, that are based on cognitive theory (Liu, 2008, cited in Serri, Jafarpour & Hesabi, 2012), seems to be the fundamental and main categories of strategies. Terminology for different strategies is vast although they do not differ thoroughly in nature. The learners' choice of the strategy and their second language learning are affected by the individual differences (Azumi, 2008).

The main purpose of this paper is to investigate the relationships among Iranian EFL learners' autonomy, thinking styles and their language learning strategies.

These following questions were the motivation for the present study:

1) Is there any significant relationship between Iranian's EFL learner's autonomy and their language learning strategy use?

2) Is there any significant relationship between Iranian's EFL learner's autonomy and their different styles of thinking?

3) Is there any significant difference between Iranian EFL male and female students regarding their autonomy, thinking styles and their language learning strategy use?

2. Literature Review

A large body of research has been done on learners' autonomy, thinking styles, and language learning strategies. Some of the literature of these studies is stated here.

2.1 Autonomy

The concept of learner autonomy entered the language teaching debate at the end of the 1970s, only a few years after the communicative revolution had been launched. Thanks partly to the variety of contexts in which it was pursued, it quickly assumed a variety of meanings and emphases, at the same time becoming a common curriculum goal (Barfield and Brown 2007).

Koçak (2003) studied learners' readiness for autonomous learning of English as a foreign language. The results of the study indicated that majority of the students had high motivation. And the students used meta-cognitive strategies such as self-evaluation and self-monitoring. Another study revealed that the students considered the teacher as responsible for most of their learning and majority of the students preferred to spend quite little time for out-of-class tasks to improve their English.

Koda-Dallow and Hobbs (2005) investigated the relationship between autonomy in a foreign language learning context and personal goal-setting based on goal-setting theory. Population was first and second year students of the Japanese language in a BA degree course. The results showed no statistically significant difference between experimental and control groups to show that personal goal-setting improved autonomy while learning Japanese. On the other hand, the analysis of qualitative data demonstrated that autonomy was promoted through the goal-setting process in few students.

Dafei (2007) studied the relationship between learners' autonomy and their English proficiency. The statistical analysis revealed that the students' English proficiency was significantly and positively correlated with their learner autonomy, and there were no statistically significant differences among the students' autonomy when their English proficiency was the same. But significant differences existed among the students' autonomy when their English proficiency was not the same.

Hoban and Sersland (1998) found out a statistically significant correlation between readiness for self-directed learning and self-efficacy for self-directed learning.

2.2 Thinking Styles

Literature on the area of thinking styles will represent diversity of research and studies. Zhang and Sternberg (2000) conducted a study on the relationship between learning approaches and thinking styles. The participants were from Hong Kong (n = 854) and from Nanjing, mainland China (n = 215). They completed the Study Process Questionnaire (Biggs, 1992) and the Thinking Styles Inventory (Sternberg & Wagner, 1992). The results revealed that the learning approaches and thinking styles were correlated. It was shown that the surface approach was positively and significantly correlated with styles related to less complexity, and negatively and significantly correlated with the judicial, legislative, hierarchical, and liberal styles. The deep approach was assumed to be positively and significantly correlated with styles related to more complexity, and negatively and significantly correlated with the conservative, executive, local, and monarchic styles.

Cano-Garcia and Hughes (2000) conducted a study on "Learning and Thinking Styles: an analysis of their interrelationship and influence on academic achievement" and found that the students' thinking styles were related to their academic achievement.

Zhang (2002) studied the nature of thinking styles in the theory of mental self-government. 212 university students completed the Thinking Styles Inventory. Results from the statistical analysis showed that thinking styles have common variance in the data. It became clear that the more creativity-generating and more complex thinking styles are related to a holistic

mode of thinking, and that the more simplistic thinking styles are related to an analytic mode of thinking.

Sharma and Neetu (2011) studied the relationship and significance of difference between academic achievement and learning-thinking style of secondary school students. The results of the study revealed that learning-thinking style and academic achievement of secondary school students were positively and significantly related to each other. He found that academic achievement was a factor which influenced the learning-thinking style of secondary school students. He also concluded that male and female secondary school students were not different in respect to their academic achievement whereas they were different in respect to their learning-thinking style.

2.3 Language Learning Strategies

Vermunt (1996) conducted a study on "Meta-cognitive, cognitive and affective aspects of learning styles and strategies: A phenomenographic analysis". The results proved that large differences existed among the students' manner in carrying out learning functions, and that these differences were related to both internal and external sources.

Tsan (2008) investigated the language learning strategies used by undergraduate students at National Taiwan Normal University. The study revealed that a) Students whose major was English used learning strategies more frequently than students majoring in other subjects. b) The most effective strategy was meta-cognitive and the least effective strategy was affective used by both groups. c) Significant differences existed among the strategies used between English and non-English majors. d) The effectiveness of learning strategy was different between English and non-English major students.

Liu and Lin (2007) studied the relationship between cognitive and meta-cognitive strategies, peer feedback and achievement in networked peer assessment. The results of the study showed that students used advanced cognitive and meta-cognitive strategies when they provided feedback. However, they indicated the tendency to provide less feedback with lower cognitive and meta-cognitive strategies. Serri (2012) studied the relationship between learners' listening strategy use and some of their individual differences. The results indicated a significant relationship between the learners' listening strategies and their level of motivation.

3. Methodology

3.1 Participants

The participants were 102 EFL upper-intermediate and advanced learners learning English in language institutes of Hormozgan province. However, since 12 of the students, 6 males and 4 females were not present when the second questionnaire was administered; their responses to the first questionnaire were left out. At last, 92 participants remained in the study. Among them 51 (55%) learners were female and 41 (45%) learners were male and the mean age of the learners was 18 .The sampling process was based on convenience, due to availability and practicality. The three questionnaires were distributed by the researcher in two sessions at the

beginning of the learners' daily classes. At the first session, strategy inventory language learning (SILL) and Attitudes to Autonomous Language Learning Inventory (AALLI) questionnaires was handed out to the learners and at the second session, Thinking Styles Inventory (TSI) was distributed so as to diminish the probable effect of tiredness. They were completed anonymously by the learners, and then collected for further analysis.

3.2 Instrumentation

In this study three instruments were used, the first instrument was Oxford's (1990) Strategies Inventory for Language Learning (SILL). The learners were asked to rate the statements on a five-point Likert scale from, "never true of me" to "always true of me". In the present study, the reliability estimates were 0.72, 0.69, 0.77, 0.68, 0.70 and 0.65, respectively for the memory, cognitive, meta-cognitive, compensation, affective and social language strategies. The second was Cotterall (1995) Attitudes to Autonomous Language Learning Inventory (AALLII) (cited in Conttia, 2007). The participants were asked to read the statements of the questionnaire and choose: (1) strongly disagree, (2) disagree, (3) neither agree nor disagree, (4) agree, or (5) strongly agree. The questionnaire includes 32 items which is divided into two subcategories i.e. self-attitude to autonomous language learning and beliefs about teacher's role. In this study, the Cronbach's alpha coefficients were 0.76 for self-attitude to autonomous language learning and 0.71 for attitudes to the teacher's role. The third instrument was Thinking Styles Inventory (Sternberg, 1997) which is a seven-point Likert scale from, "not at all well" to "extremely well". The Cronbach's alpha coefficients for the 13 scales ranged from the mid 0.50s to the mid 0.80s, with the majority of them were being in the mid to upper 0.70s. In this study, the Cronbach's alpha coefficients were 0.72 (legislative), .65 (executive), 0.74 (judicial), 0.69 (global), 0.66 (local), 0.80 (liberal), 0.62 (conservative), 0.79 (hierarchical), 0.58 (monarchic), 0.70 (internal), and 0.64 (external).

3.3 Data Analysis

The data were submitted to Statistical Package for Social Sciences (SPSS) to be analyzed. Quantitative data analyses were performed in this study. The quantitative analysis involved: 1. Pearson correlation was used to determine the relationship between learners use of language learning strategies and attitudes to autonomous language learning, language learning strategies and thinking styles, attitudes to autonomous language learning and thinking styles; 2. in order to determine any preferences in learners' language learning strategy use, thinking styles and autonomous language learning related to gender, independent samples t-test was conducted. The significance value in this study was P < 0.05.

4. Results and Discussion

In order to determine whether there is any statistically significant relationship between attitudes to autonomous language learning and strategies for language learning, the Pearson correlation was computed.

As Table 1 shows, all the subcategories of SILL correlated significantly with self-attitude to autonomous language learning subcategory of AALLI. These results are consistent with the

views of Little (1997) who emphasized that the link between language learning strategies and learner autonomy is very close so that one can judge how autonomous learners are from the strategies they employ in learning. He believed that if we emphasize on the language learning strategies and language use, it will lead to learner autonomy.

Table 1. Correlation between language learning strategies and attitude to autonomous learning

AALL / LLS		Self-attitude to autonomous language learning	Beliefs about teacher's role
Memory strategies	r.	0.234	0.198
	sig	0.02*	0.058
Cognitive strategies	r.	0.225	-0.032
	sig	0.03*	0.76
Compensation strategies	r.	0.206	0.106
	sig	0.048*	0.31
Meta-cognitive strategies	r.	0.252	0.098
	sig	0.01*	0.35
Affective strategies	r.	0.208	-0.117
	sig	0.04*	0.26
Social strategies	r.	0.212	0.205
	sig	0.04*	0.049*

$*P < 0.05$

The results revealed that self-attitude to autonomous language learning significantly correlated with memory strategies ($r=0.234$, $p=0.02$). This implies that autonomous language learners are more capable of making associating, placing new words into a context, semantic mapping, structured reviewing and using mechanical techniques.

Self-attitude to autonomous language learning also significantly correlated with cognitive strategies ($r=0.225$, $p=0.03$). It means that autonomous language learners are talented in practicing, repeating, reviewing, translating, transferring, reasoning and analyzing the target language.

The correlation between self-attitude to autonomous language learning and compensation strategies is also significant ($r=0.206$, $p=0.048$) which says that autonomous language learners are more capable of guessing intelligently, overcoming limitations in speaking and writing, using mime or gesture, adjusting or approximating the message, using a circumlocution or synonym and coining words.

A significant correlation of ($r=0.252$, $p=0.01$) exists between self-attitude to autonomous language learning and Meta-cognitive strategies. It derives that they have the capacity to self-monitor, self-evaluate, pay attention, find out about language learning, set goals and objectives, seek practice opportunities and identify the purpose of a language task.

There also exists a significant correlation of ($r=0.208$, $p=0.04$) between self-attitude to

autonomous language learning and affective strategies which means that they are capable of lowering their anxiety, using progressive relaxation, encouraging themselves and rewarding themselves.

The results show that there is also a significant correlation of (r=0.212, p=0.04) between self-attitude to autonomous language learning and social strategies which suggests that autonomous language learners have the tendency to ask questions, ask for correction, cooperate with others, become aware of others' thoughts and feelings and develop cultural understanding.

But in regard to belief about teacher's role subcategory of AALLI there are not significant correlations between this and subcategories of SILL, except social strategies (r=0.205, p=0.049) which implies that those who do not have self-attitude and rely more on teacher are less able to use a variety of language strategies than autonomous learners. They are capable of using social strategies in order to ask for clarification and verification, cooperate with proficient users of the new language and become aware of others' thoughts and feelings.

The results of Pearson correlation in Table 2 maintains that there are significant correlations between self-attitude to autonomous language learning and most subcategories of thinking styles. These findings confirm the general research results of Zhang & Sternberg (2006) suggested that thinking styles are related with problem solving and decision making which are also the characteristics of autonomous learning.

Table 2. Correlation between thinking styles and attitude to autonomous learning

AALLI / TSI		Self-attitude to autonomous language learning	Beliefs about teacher's role
Legislative thinking style	r.	0.242	-0. 139
	sig	0.02*	0.18
Executive thinking style	r.	0.112	0.209
	sig	0.28	0.04*
Judicial thinking style	r.	0.237	-0.095
	sig	0.02*	0.35
Monarchic thinking style	r.	0.198	-0.102
	sig	0.058	0.33
Hierarchic thinking style	r.	0.218	0.192
	sig	0.03*	0.06
Oligarchic thinking style	r.	-0.146	0.207
	sig	0.16	0.047*
Anarchic thinking style	r.	0.201	0.179
	sig	0.054	0.08
Global thinking style	r.	0.206	0.196
	sig	0.048*	0.06
Local thinking style	r.	0.214	0.187

	sig	0.04*	0.07
Internal thinking style	r.	0.228	-0.132
	sig	0.02*	0.20
External thinking style	r.	0.205	0.198
	sig	0.049*	0.058
Liberal thinking style	r.	0.206	-0.014
	sig	0.048*	0.89
Conservative thinking style	r.	0.154	0.168
	sig	0.14	0.10

* P < 0.05

As Table 2 demonstrates there is a statistically significant correlation between self-attitude to autonomous language learning and legislative style of thinking (r=0.242, p=0.02). This implies that autonomous language learners have potentiality to be more creative and set their own rules. They are in favor of doing things in their own way. But the correlation between beliefs about teacher's role and legislative thinking style is insignificant (r= -0.139, p=0.18).

The next significant correlation exists between beliefs about teacher's role and executive thinking style (r=0.209, p=0.04). It suggests that those who rely on teacher but not on themselves incline to observe regulations and perform commands cheerfully. The correlation between self-attitude to autonomous language learning and executive style of thinking is low.

There is also a significant correlation between self-attitude to autonomous language learning and judicial thinking style (r=0.237, p=0.02). This means that autonomous language learners have the capability to analyze and evaluate existing rules and ideas. They are also capable in writing critics, judging people and evaluating their work, and different programs. Judicial people are more autonomous because the correlation between beliefs about teacher's role and judicial thinking style is not significant (r= -0.095, p=0.35).

Among the forms of thinking styles a significant correlation of (r=0.218, p=0.03) exists between self-attitude to autonomous language learning and hierarchic thinking style and between beliefs about teacher's role and oligarchic thinking style (r=0.207, p=0.47) which implies that those who rely on teacher but not themselves are supposed to be doubtful about the priority of the tasks and the length of time that should be allotted to the goals but autonomous language learners tend to set a hierarchy of goals and prioritize them.

There existed significant correlations between self-attitude to autonomous language learning and global and local levels of thinking styles (r=0.206, p=0.048) and (r=0.214, p=0.04) respectively. This suggests that global and local learners have potentiality to become autonomous learners.

Between the scopes of thinking styles both internal and external learners are capable to be autonomous learners. There are significant correlations of (r=0.228, p=0.02) and (r=0.205, p=0.049) between self-attitude to autonomous language learning and internal and external thinking style respectively.

Finally, there is a significant correlation of (r=0.206, p=0.048) between self-attitude to

autonomous language learning and liberal thinking style.

An independent t-test was run in order to investigate whether there is any statistically significant difference at the level of significance ($p \leq 0.05$) between Iranian EFL male and female learners regarding their autonomy, thinking styles and their language learning strategy use. The results are presented in Table 3.

Table 3. t-test for gender differences concerning attitudes to autonomous language learning.

	Female (N=41)		Male (N=51)		t	p*
	M	SD	M	SD		
Memory strategies	3.48	1.06	3.62	0.90	-0.672	0.503
Cognitive strategies	3.68	1.00	3.65	0.88	1.50	0.880
Compensation strategies	3.47	1.12	3.59	1.05	-0.525	0.600
Meta-cognitive strategies	3.82	1.03	3.89	0.83	-0.231	0.817
Affective strategies	3.18	1.10	3.23	1.07	-0.219	0.826
Social strategies	3.38	1.02	3.54	1.06	-0.734	0.464
Overall language learning strategies	3.52	1.07	3.60	0.95	-0.374	0.709
Legislative style	4.96	1.36	4.32	1.28	2.302	0.023*
Executive style	4.88	1.50	4.64	1.46	0.771	0.442
Judicial style	4.39	1.36	4.98	1.32	-2.095	0.039*
Monarchic style	3.92	1.48	4.02	1.39	-0.330	0.741
Hierarchic style	4.62	1.36	4.53	1.25	0.327	0.744
Oligarchic style	3.76	1.34	3.97	1.68	-0.667	0.506
Anarchic style	4.06	1.42	3.98	1.48	0.263	0.792
Global style	4.67	1.48	4.24	1.42	1.410	0.162
Local style	4.32	1.42	4.85	1.36	-1.813	0.073
Internal style	4.75	1.25	4.20	1.32	2.045	0.043*
External style	4.35	1.42	4.87	1.36	-1.778	0.078
Liberal style	4.38	1.48	4.24	1.43	0.457	0.648
Conservative style	4.36	1.44	4.58	1.30	-0.760	0.449
Overall thinking styles	4.42	1.46	4.45	1.44	-0.098	0.921
Self-attitude to autonomous language learning	3.88	1.04	3.74	0.98	0.658	0.512
Beliefs about teacher's role	3.12	0.97	3.34	1.05	-1.042	0.300
Overall attitudes to autonomous language learning	3.50	0.99	3.65	1.02	-0.712	0.478

*P < 0.05

When analyzing the difference of strategy use between male and female learners, the results on the strategy use of male and female learners showed that female learners used language learning strategies more than male learners in all subcategories except cognitive strategies,

and the overall mean for male learners were 3.52, and for female 3.60. Meanwhile the results showed that there was no significant difference in the language learning preferences between male and female learners. The finding disagrees with the findings of Oxford and Nykos (1989), Ehrman and Oxford (1989), Green and Oxford (1995) and Kaylani (1996) which revealed no significant differences in the use of strategies between males and females. On the other hand, the finding supports the findings of Ehrman and Oxford (1990) proved that the number and kind of strategies used by males were similar to those used by females (cited in Tabanlioğlu, 2003).

Concerning the gender differences in functions of MSG preferences of the participants, statistically significant differences existed between male and female learners regarding legislative and judicial thinking styles. Males scored higher than female counterparts on legislative thinking style while females scored higher than males on judicial thinking style, as the value of (t) were (t= 2.302, p= 0.023), (t= -2.095, p= 0.039), respectively.

No significant difference was found between male and female learners regarding forms of MSG.

In regard to levels of MSG the results showed that males prefer global thinking more than females did. As Zhang and Sternberg (2006) stated, this results matches with the stereotypical characteristics of males since they tend to focus on the big picture than details. In addition, this finding supports the results of the study conducted on Turkish samples (Palut, 2008) which presents that Turkish male undergraduate students share the stereotypical characteristics stated by Zhang and Sternberg (2006). On the other hand, there were no significant difference between females and males in terms of local thinking. In addition, more females scored themselves as high local thinkers than as high global thinkers, but statistically it cannot be concluded that females prefer local thinking than males do. This contradicts the stereotypical characteristics of females as they are expected to prefer local thinking (Zhang and Sternberg, 2006).

The last significant difference found on internal thinking style with the value of (t= 2.045, p=0.043) where males scored higher than female counterparts.

These results are consistent with the views of Zhang and Sternberg (2006) who pointed out that women scores in legislative styles, global and internal styles are less than man's scores but in judicial style women scores are more than men.

No significant difference was found between male and female learners concerning attitudes to autonomous language learning.

5. Conclusion and Pedagogical Implications

The main purpose of this study was to investigate the relationships among Iranian EFL learners' attitudes to autonomous language learning, thinking styles and their language learning strategy use.

The results showed that there is a significant relationship between learners' use of language learning strategies and attitudes to autonomous language learning, language learning

strategies and thinking styles, attitudes to autonomous language learning and their thinking styles.

Firstly, the results indicated that on the one hand there is a significant relationship between self-attitude to autonomous language learning and all the subcategories of language learning strategy use, but on the other hand there is no significant relationship between attitudes to the teacher's role and language learning strategy use except social strategy. Secondly, Significant relationships were found between self-attitude to autonomous language learning and most of the subcategories of thinking styles i.e. legislative, judicial, hierarchic, global, local, internal, external and liberal thinking styles. But there were a few significant relationships between attitudes to the teacher's role and subcategories of thinking styles i.e. executive and oligarchic thinking styles. Thirdly, the results maintained that there exists significant correlation between subcategories of language learning strategy use and subcategories of thinking styles. Fourthly, regarding the differences between males and females, no significant difference was found in the preferences for language learning strategy use between males and females. Significant differences were found in the preference of legislative, judicial and internal thinking styles between males and females. No significant difference was found in the preferences for attitudes to autonomous language learning between males and females.

The findings of the current study suggest several pedagogical implications for second or foreign language teaching and learning as well as textbook writers and curriculum designers. The findings suggest that teachers should be aware of learners' attitudes to autonomous language learning, thinking styles and their strategy use and provide necessary assistance so that unrealistic attitudes are negotiated and resolved, thinking styles will be understood and a variety of learning strategies are practiced in the classroom. It is suggested that teachers should adopt their teaching method so as to encourage autonomy in a way that learners use a variety of language learning strategies and thinking styles. In addition, teachers, being aware of the important role of strategies, autonomy and thinking styles in language learning, should explicitly teach the strategies, autonomous learning and styles of thinking, and create opportunities for learners to practice in class, as some studies suggest that learning strategies, autonomous learning and thinking styles are readily teachable (Oxford & Nyikos, 1989; Ehrman et al., 2003; Zhang, 2006, Holec, 1980). Ehrman et al. (2003, p. 318) point out, "The most effective strategy instruction appears to include demonstrating when a given strategy might be useful, as well as how to use and evaluate it, and how to transfer it to other related tasks and situations". Dickinson (1995) points out, "autonomy is achieved slowly, through struggling towards it, through careful training and careful preparation on the teacher's part as well as on the learner's". Sternberg and Zhang (2006) believed that people acquire their thinking styles through socialization. They, furthermore, pointed out that thinking styles can change during the life time and they are teachable.

Language learning strategies and thinking styles of the learners are very important in autonomous language learning and more studies should be conducted in this area at different levels, across different regions and cultures because there are very few, if any, researches regarding the relationship between autonomy, thinking styles and strategy use of language learners.

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