International Journal of Research in English Education (IJREE)

**Original Article** **Published online: 20 June 2019.**

# The Study of Relationship between Learning Autonomy, Language Anxiety, and Thinking Style: The Case of Iranian University Students

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Received: 1 December 2018
Revision: 23 April 2019
Accepted: 30 May 2019
Published online: 20 June 2019

**Abstract**

One of the important abilities of learners is to monitor their own learning process and take charge of their development. To this end and based on the correlational nature of the study design, total of 125 students (for the Winter semester of 2017) educating at Zanjan Universities (89 B.A. students of Islamic Azad University and 60 B.A. students of Payam-e-Noor University) were chosen as the statistical population. Using Cochran formula and stratified random sampling method (each university was considered as one separate strata), the sample size was determined as 108 (65 students educating at Islamic Azad University and 43 students educating at Payam-e-Noor University). To gather the information, Horwitz, Horwitz and Cope's, Foreign Language Classroom Anxiety Scale, Sternberg's Thinking Styles Inventory, and Learner Autonomy Questionnaire (LAQ) developed by Zhang and Li were used. The results of K-S test showed that non-parametric test was liable to be used in order to study the research hypotheses. Using Spearman correlation coefficient, a relationship was found between autonomy and language anxiety among Iranian university students. The other research question was an attempt to determine if there was a relationship between learner autonomy and thinking style which was confirmed through the use of Spearman correlation coefficient. Ultimately, the association between language anxiety and thinking style was addressed through the use of Spearman test which confirmed this relationship. Findings of the current study suggest pedagogical implications for second or foreign language teaching and learning as well as textbook writers and curriculum designers.

**Keywords:** language anxiety, learning autonomy, thinking style

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[ DOI: 10.29252/ijree.4.2.73 ]

## 1. Introduction

One of the important learning abilities is for students to monitor their own learning process and take charge of their development (Piaw, 2014). Despite the fact that the area of autonomous learning has been addressed by different researchers, little attention has been paid to this field, particularly when considering this variable in relation to other psychological barriers. It is almost evident that becoming proficient, or sometimes independent of learning context, requires incorporation of techniques (Suprianto, Ahmadi, & Suminar, 2019; Vangrieken, Grosemans, Dochy, & Hyndt, 2017).

Students make use of a variety of techniques which highlight the varied use of their thinking styles while putting these styles into action is not free of stress, anxiety, and learning-impeding elements (Zhou, 2016). The integration of autonomous learning with respect to different thinking styles and varied levels of anxiety yields a huge burden on the language learners' burdens since such an integration triggers their responsibility and taking charge of their own learning process (Nguyen & Walkinshaw, 2018). How these issues can be solved and the extent to which teachers play role in these situations has not been studied in literature.

Also, the viewpoint of students, who play a major role in developing or debilitating learning abilities, toward their own experiences has not been elicited so far to the best knowledge of the researchers. Thus, it seems suitable to accommodate studies of this kind to make use of students' attitudes toward their autonomy, thinking styles, and anxiety when it comes to learn a foreign language. Thus, the present study endeavors to tackle all these concerns and provides some useful suggestions for both teachers and students to exclude the probable problems in this regard. Consequently, implications of this study would be of great importance to English-related administrators to draw their attention toward the issue of autonomous learning and problems embedded in this domain which is the overall purpose of the current examination.

It seems necessary to open up opportunities for both teachers and students to get the knowledge of their roles with respect to their active engagement in conditions such as the ones occurring in anxious-based circumstances despite the fact that most of students prefer to fully engage in teacher-assigned tasks in order to fulfill their educational needs. Additionally, reviewing these roles and importance of autonomy as well as influential conditions are presumed to be necessary. Therefore, this paper gave an account relationship between learning autonomy, language anxiety, and thinking style. The present paper explains the basis of autonomous learning along with the importance and different related concepts. It is hoped that the findings of this paper bridge the gap of those areas which have remained contentious and intact.

### *1.1 Statement of the Problem*

The study of second and foreign language learning has established new opportunities for researchers to draw their attention towards new concepts which change the language learning behaviors. One of the most significant current discussion in the field of language learning is learner autonomy which has changed its direction from traditional teacher-based learning approach to learner-based learning. Such a shift in terms of responsibility of teachers to language learners is called "learner autonomy." In formal education, the development of learner autonomy is important. However, Benson (2013) noted that "autonomy can be fostered, but not taught" (p. 290). Gardner and Miller (2011) assumed that the "major goal of the promotion of self- access learning is the fostering of autonomous learning" (p. 78). Another definition of autonomy is put forth by Benson (2013) as the extent to which one is able to control the learning aspect. In the same vein, Dang (2012) defines autonomy as "a capacity for detachment, critical reflection, decision making, and independent action" (p. 4). Also, Dam (2008) regards the learner autonomous when they take the charge of their responsibilities and have the incentive to act independently.

In the new teaching and learning studies context where new developments have been discovered, a lot of researchers have concentrated on the issue of superiority among language learners from the perspective that some learners excel others, and such a difference of learning capabilities can be attributed to a number of factors such as the level of autonomy, the stress, language anxiety, social class, age, gender, and so on (Dafei, 2007). In case such a belief is taken by students, they will opt for taking new responsibilities which were neglected previously. Students should be aware of the fact that teachers are not reachable anytime and this coerces them to choose the ways based on their own attitudes and thoughts. In addition, recent developments of foreign language learning studies have emphasized the role of teachers in assisting students how and what to choose learning items. Students should be given guidelines and instructions of how to take their own responsibilities and monitor their progressions through establishing a stress-free environment (Little, 1991). Also, teacher should pave the way for students' self-development which prepares them for out-of-class life where they rely on themselves to reach their goals.

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As indicated previously, recent studies have highlighted the need for scrutinizing the factors which deal with learning barriers which affect the overall independence and decision-making procedure of students including the gender, anxiety, stress, and so on. Language anxiety is believed to be a major component in language learning which inhibits the learners from representing their potential fully. Zhou, Ma, and Decci (2009) contended that three major aspects should be taken into consideration in order to reduce the learner anxiety, namely, relatedness, perceived completeness, and a sense of learner autonomy. In addition, autonomy is a teacher-and-student link where the teacher guides, gives the instructions, enlightens the vague ways, and directs the students based on which students can set their goals and attain their progression. Knowing that gaining success in this long process of monitoring, developing, and evaluating oneself for learning requires extended psychological pressure, students differ from one another in terms of their learning level. Likewise, one of the purposes of the present study is to elicit students' perspectives towards their experiences of autonomy in classrooms and their reactions based on their level of anxiety and those elements which might debilitate or develop their autonomy in language learning contexts.

The role of teachers is not ignorable within the autonomous learning condition as teachers are the essence of providing an atmosphere through relying on which students can offer new decisions. Monitoring and relying on self which is referred to as autonomy is achieved through employing different strategies. Students vary in the way they think of their own and their learning potentials, and decisions they make are different. Therefore, thinking style is another feasible notion to be investigated in relation to autonomy. Putting into simpler terms, another objective of the current study is to find out the possible relationship between autonomy and thinking style among the participants. All in all, recent developments in the field of foreign language learning has led to a renewed interest in developing an idea of how independent and autonomous learning can influence learners' performance with respect to the related factors. To date, there has been a consensus over the benefits of autonomous learning as it prepares the learners for individual decision-making. However, there is an insufficient number of studies on the possible relationship between learning autonomy, language anxiety, and thinking style. Due to the importance of the topic and paucity of available evidence regarding learner autonomy, language anxiety, and thinking style in the Iranian context, the present study intends to focus on this neglected area of research through eliciting the perspectives of Iranian English as a foreign language (EFL) students.

### *1.2 Research Questions and Hypotheses*

To examine the relationship between learning autonomy, language anxiety, and thinking style among Iranian university students, following research questions were taken into consideration:

$RQ_1$: Is there any significant relationship between autonomy and language anxiety among Iranian university students?

$RQ_2$: Is there any significant relationship between autonomy and thinking style among Iranian university students?

$RQ_3$: Is there any significant relationship between language anxiety and thinking style among Iranian university students?

To address the above-mentioned research questions, following research hypotheses were formulated:

$H_0$1: There is no significant relationship between autonomy and language anxiety among Iranian university students.

$H_0$2: There is no significant relationship between autonomy and thinking style among Iranian university students.

$H_0$3: There is no significant relationship between language anxiety and thinking style among Iranian university students.

## 2. Literature Review

### *2.1 Autonomy*

There is a consensus over the claim that learner autonomy roots in individuals and it is generated through the leaners' reasonability sense of learning. The implication is that it is necessary for the learner to feel responsible for action taken and his/her monitoring pays the vital role in his regard as emphasized by Benson and Voller (2014). Such a control is presented in different forms for individuals depending on the specific contexts. For instance, the learner who shows a high degree of autonomy in one area can be non-autonomous in another. It is somehow difficult to share a common definition of autonomy and Little (2012) represents an extended form of autonomy definition through embarking on the following lines which emphasize what autonomy does not:

1. Autonomy is not a synonym for self- instruction; in other words, autonomy is not limited to learning without a teacher.

2. In the classroom context, autonomy does not entail giving up responsibility on the part of teacher; it is not a matter of letting the learners get on with things as best they can.

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3. Autonomy is not something that teachers do to learners; that is, it is not another teaching method.

4. Autonomy is not a single, easily described behavior.

5. Autonomy is not a steady state achieved by learners once.

Another definition of autonomy is provided by Campbell (2012) who emphasizes it is a talent and capacity of one's latent and innate power to fix up things in a proper manner. As stated by Little (1991), the main function of autonomy is to help students achieve their preplanned goals and monitor their own learning process for which they are free and independent in terms of decision-making long with monitoring and evaluating their progress and achievements. What happens in between is the participation of both teachers and students in language learning setting where the students experience much more responsibility which illustrates greater degrees of involvement and enhanced learning.

2.1.1 Characteristics of Autonomous Learners

One of the major features concerning the autonomous learners is that leaning process is accompanied by active role playing. The autonomous learners follow the teachers but rely on themselves when it comes to learning. There are four characteristics of autonomous learners. They are cognizant of the teaching process which means that these types of learners know what is going to be taught.

Autonomous learners are the ones who take active roles in the learning process, by finding more learning opportunities for themselves, rather than being the complete pursuer of the teacher. The example in this regard can be attributed to the grammar rules already known by the learner and the ones going to be presented by the instructor. Another characteristic is that autonomous learners are potent to determine their own goals as well as those their teachers. One way through which they take the control of their goals determination is watching newspapers or TV programs. Learning strategies are well implemented and practiced by the autonomous learners which is regarded as the fourth characteristics of such learners. As an example in case, when it comes to reading a text, the autonomous learner concentrates on details rather than scanning to see what happens throughout it. Having made use of the strategies for learning, the autonomous learner is liable to perform it effectively can understand the extent to which implementing the determined strategies work out. The example in his regard incudes the reviewing of possible errors made in exam to solve them primarily and to study more on getting good score in exam subsequently. With these four basic characteristics, it is inevitable for autonomous learners to engage actively in the learning process and to take control of their own learning (Coterall, 2017).

In a study conducted by Chen (2001), a number of characteristics were found to represent the autonomous learners and these features were extracted based on their own perceptions: highly motivated, goal oriented, well organized, hardworking, initiative, enthusiastic about learning, flexible, active, willing to ask questions, and making use of every to improve their learning.

*2.2 Anxiety*

Language anxiety is believed to be in line with the theories of communication apprehension. It is necessary for teachers to identify those groups of students who are anxious in terms of communication (King & Chleboun, 2019; MacIntyre & Gardner, 1989). It is widely known that language learners go through continuous stages to master the language learning. They experience failures of understanding the words, grammar, communication techniques, and related fields which make them feel uncomfortable, leading to anxiety. With recurrent occurrences of state anxiety, the students tend to link anxiety arousal with the second language (Karimi, Lotfi, & Biria, 2019; Young, 1999) and, therefore, the student will expect to experience a feeling of anxiety in the context of second language. This becomes a self-fulfilling emotional prophecy in the students' second language learning.

*2.3 Thinking Styles*

The basic distinguishing feature of human and animals is the ability of thinking. The term thinking is possible to be defined as a process to exercise the powers of judgment, conception, or inference (Horwitz, 2001; Masalimova, Mikhaylovsky, Grinenko, Smirnova, Andryushchenko, Kochkina, & Kochetkov, 2019). One of the indispensable abilities which is strongly recommended to be acquired by language learners is the ability of thinking. Thinking and its related skills are the main constructs which are emphasized by researchers. As Ennis (1987) puts it critical thinking is "reasonable and reflective thinking focused on deciding what to believe or do" and the details numerous proficiencies, tendencies, and dispositions that constitute such reasonable reflective thinking" (p. 21). In a similar vein, Conger and Mezza (1996) identified the components of critical thinking including "the ability to reason, deduce, and induce based upon current research and practice findings" (p. 81). In defining thinking styles, Sternberg (1988) posits that the way people use their abilities is regarded as their styles. It is through the use of styles that individuals are capable of making decisions and feel comfortable. Also, Sternberg (1988) distinguishes between styles and

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abilities; the former has to do with the preferences when making use of one's own abilities. Styles are identified to be preferred ways of expressing the abilities (Armstrong, 2000; Cano-Garcia & Hughes, 2000; Sousa & Rocha, 2019; Sternberg, 1997; Zhang & Sternberg, 1998 & 2000).

Regarding the importance of thinking styles as indicated by several authors, Sternberg (1997) categorizes the styles by five scales described as follows: (1) functions (including the legislative, executive, and judicial styles), (2) forms (hierarchical, monarchic, oligarchic, and anarchic styles), (3) levels (global and local styles), (4) scopes (internal and external styles), and (5) leanings (liberal and conservative styles). Type I thinking styles are the ones that tend to be more creativity-generating and that denote higher levels of cognitive complexity, including the legislative (being creative), judicial (evaluative of other people or products), picture), and liberal (taking a new approach to tasks) styles. Type II thinking styles are styles that suggest a norm-favoring tendency and that denote lower levels of cognitive complexity, including the executive (implementing tasks with given orders), local (focusing on details), monarchic (working on one task at a time), and conservative (using traditional approaches to tasks) styles. The anarchic (working on whatever tasks that come along) and oligarchic (working on multiple tasks with no priority) styles are Type III styles. They may manifest the characteristics of the styles from both Type I and Type II groups, depending on the stylistic demands of a specific task (Sternberg, 1997).

Styles are not permanent which implies that life demands and the environment in which people live are liable to make changes in individuals' styles and make them differentiated (Sternberg, 1997). In addition, another construct which affects the thinking styles is culture. For instance, North America's culture gives more importance to innovation and legislative style and in Japan's culture, executive and conservative thinking styles are emphasized. Several studies have been undertaken pinpointing the extent to which the mental self-government is present within academic and non-academic settings (Rodríguez-Rey, Palacios, Alonso-Tapia, Pérez, Álvarez, Coca, & Gómez, 2019; Verma, 2001). As Zhang (2010) suggests, thinking styles vary from one gender to another with respect to the age, the level of social living, job as well as experience. All these elements are believed to alter the type of thinking style. With respect to the gender, Sternberg (1994) shows that men scores in legislative styles, global, and internal styles are more than woman's scores but in judicial style men scores are less than women.

*2.4 Iranian Studies*

In a study, Fatemi and Heidarie (2016) studied the link between thinking styles and academic achievement of the students. Thinking styles scale was used to measure the variables and the mean scores of the students was used for measuring their academic achievement. The statistical population included all high school students of Ahvaz, of who 320 students were selected using the multistage random sampling method. Data were analyzed through the use of Pearson correlation coefficient which indicated a significant relationship between the variables of legislative, executive, oligarchic, monocratic, anarchic, hierarchic, judiciary thinking styles and academic achievement.

Marandi and Sadeghian (2016) led a study entitled as "A shift into Autonomous Education" and devoted their attention towards the importance and analysis of autonomy in foreign language learning context. Particularly, this research investigated the patterns of autonomous behavior among Iranian EFL learners before the implementation of principles of autonomous education in language classroom. Students' responses to autonomy questionnaire went through a factor analysis process which revealed the existence of three factors underlying participants' autonomous learning behaviors. Salimian and Tabatabaei (2015) endeavored to specify the correlation between autonomy and cognitive style under the title "Relationship between L2 Learners' Autonomy and Their Cognitive Style: Reflectivity in Focus" among 140 Iranian MA students. QPT test was administered initially to homogenize the sample to determine lower and higher proficiency subjects. LAQ was also distributed among this sample and the results were reported accordingly. Weak positive association was found between low-level proficient students and their degree of reflectivity. Strong correlation was identified between high proficiency L2 learners' level of autonomy and their degree of reflective.

In another study, Saljoughi and Nemati (2015) analyzed the bond between autonomies of both teachers and students entitled as "The Relationship between Teacher Autonomy and Learner Autonomy among EFL Students in Bandar Abbas." 25 professors of Islamic Azad and Payam-e-Noor universities of Bandar Abbas and 77 MA students of those universities majoring in English Teaching and English Translation constituted the sample size. The independent t-test and the one-sample t-test were applied to examine the relationship between teacher autonomy and learner autonomy and to clarify autonomy level of students. The results of the study indicated that there was no significant relationship between teacher autonomy and learner autonomy and the autonomy level of students was high.

The relationship among autonomy, thinking styles, and language learning strategy use in Iranian EFL learners was investigated by Negari and Solaymani (2013). The participants were 92 Iranian EFL upper-intermediate and advanced learners of Hormozghan province. The results of the Pearson Product Moment Correlation indicated that a) there is a

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

The review of literature also shows the importance of thinking styles notion as confirmed by Emamipour and Esfandabad (2013) who developed a study entitled "Developmental Study of Thinking Styles in Iranian Students University" to address the issue of thinking styles among Iranian university students. Using Sternberg-Wagner Thinking Style Inventory, it was concluded that the means of legislative, judicial, monarchic, hierarchic, external and liberal thinking styles were significantly reduced among the students from year 2000 to year 2011. Furthermore, thinking styles among the male and female students were reported to be significantly different. The means of executive and monarchic styles were higher in female students, whereas the mean of judicial style was higher in male students. Thinking styles changing among male and female genders was proved in this study.

*2.5 International Studies*

"Autonomy in teaching practice: Insights from Vietnamese English language teachers trained in Inner-Circle countries" was the topic of research conducted by Nguyen and Walkinshaw (2018). Using an online survey, the authors attempted to discover the feasible influence of TESOL training on the autonomy among the Vietnamese teachers. It was found that teachers experience a great deal of pressure when it came to make use of their autonomy throughout their teaching sessions and they had to control for all hard-to-manage circumstances.

Teacher collaboration and autonomy was the main area entitled as "Teacher autonomy and collaboration: A paradox? Conceptualizing and measuring teachers' autonomy and collaborative attitude" and was investigated by Vangrieken, Grosemans, Dochy, and Kyndt (2017). The overall purpose of this study was to provide a model which involved three main scales, namely, collaborative attitude, didactical -pedagogical autonomy, and curricular autonomy. This model was proved to be fit in terms of its psychometric measure. In another attempt, Zhou (2016) focused on developing a model for language learning through considering the roles of social anxiety and autonomy under the notion of "The roles of social anxiety, autonomy, and learning orientation in second language learning: A structural equation modeling analysis." Using a questionnaire among 303 fifth-grade students in China, a SEM was developed. Direct and indirect effects of autonomy were found to exist on language learning among the participants. Also, the results represented that gender did not influence the developed model.

Due to the importance of autonomy in language learning, Liu's (2015) study entitled as "Learner Autonomy: The Role of Motivation in Foreign Language Learning" went through understanding the role of motivation when considering students' success. The sample comprised 150 first-year university students (70 men and 80 women) who were non-English majors enrolled in a regular private university in Central Taiwan. The results indicated that students of all three proficiency levels tended to perceive their ability as being mediocre. Significant differences in all three aspects of learner autonomy were observed for participants with different motivation levels. Furthermore, the findings established that motivation and autonomy had a high level of positive correlation. Engagement frequency of learning activities had the strongest association with motivation, followed by perceived ability and responsibility. Finally, the results revealed that motivation effectively contributed to predicting autonomy, accounting for a relatively high amount (50%) of variance in the dependent variable.

The learner autonomy in language learners from the perspectives of teachers was investigated by Nga (2014). It was found thorough distributing the questionnaires that teachers generally lacked understanding about learner autonomy and there was an alignment between teachers' beliefs and their actual teaching practices regarding learner autonomy, resulting in little evidence of learner autonomy found in any of the case study classrooms. Effects of gender and thinking style on students' creative thinking ability" was the title of the study undertaken by Piaw (2014). The sample of this study consisted of 216 from sixth students who were randomly selected from its population using the power analysis method. To obtain the results, MANCOVA test was mainly used which represented a significant relationship between three moderators, i.e. ethnicity, academic major and critical thinking ability and thinking ability. It is worth noting that learning styles were examined in relation to creative thinking ability components, namely, originality, fluency, elaboration, abstractness of title, and resistance to premature closure. Two variables, i.e. the gender and thinking style were identified to be the predictors of cognitive thinking ability while the effect of the two variables on overall creative thinking ability was not significant.

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Balçıkanlı (2010) developed a study to examine both teachers and students' beliefs towards the autonomy in language learning. The overall study findings indicated that student teachers are positive towards the adoption of learner autonomy principles. Most student teachers, however, do not want their future students to take part in the decision making process concerning the time and place of the course and the textbooks to be followed. In 2003, Koçak carried out a study to examine the learners' readiness for autonomous EFL learning. The data analysis was carried out through quantitative (frequencies, means, standard deviations, t-test, and one-way ANOVA) analysis techniques. The results of the study indicated that majority of the students had high motivation. Another result revealed that the students tended to use some metacognitive strategies like self-monitoring and self-evaluation. The third result showed that the learners considered the teacher as more responsible for most of the tasks during their own learning process.

Zhang and Sternberg (2000) conducted a study entitled as "Thinking Styles and Cognitive Development" on the relationship between learning approaches and thinking styles. To do so, Eighty-two Hong Kong university students (44 male, 38 female) were chosen from the sample. The main instrument for data collection was Study Process Questionnaire developed by Biggs (1992). Outcomes of this study indicated the positive association between learning approaches and thinking styles, the surface approach was also identified to be correlated with styles which were related to less complexity; however, judicial, legislative, hierarchical, and liberal styles were negatively correlated with thinking styles. Another conclusion was positive relationship between deep approach and styles related to more complexity. The same approach was reported to be negatively correlated with the conservative, executive, local, and monarchic styles.

### *2.6 Literature Gap*

The review of literature presented in this paper indicated that a plethora of studies have been undertaken so far to address the importance of autonomous learning since it plays a major role in developing learners' achievement. In addition, one of the main concerns among researchers has been the effect of learner variables such as thinking style on individual needs which are represented differently among language learners. All in all, the Iranian and international studies have shed light on the way independent learners are influenced by their learning context, their personal characteristics, and their society; however, scant attention has been directed toward consideration of autonomous learning in contexts involving various styles and exertion of anxiety. Therefore, the present study was an attempt to fill the gap of literature through concentrating on the feasible association between learning autonomy, language anxiety, and thinking styles which has not been put into probe by similar researchers, particularly in Iranian EFL context. The overall purpose was to unleash the importance of autonomy in language learning when it is accompanied by anxiety among students with various thinking styles.

## 3. Methodology

### *3.1 Design of the Study*

Correlation is a measure of the extent to which two variables are related. If an increase in one variable tends to be associated with an increase in the other, then this is known as a positive correlation. If an increase in one variable tends to be associated with a decrease in the other, then this is known as a negative correlation. When there is no relationship between two variables, this is known as a zero correlation. This study was an ex-post-fact to design since there was no treatment at all. In addition, the present study sought to examine whether there was a link between autonomy, anxiety, and thinking styles among Iranian university students. Since such a relationship is liable to be investigated through running the correlational tests, one can demonstrate that the study follows a correlational design which concentrates on studying the variables in relation to one another.

### *3.2 Participants*

One hundred forty-nine students educating at Zanjan Universities have participated in this study (89 B.A. students of Islamic Azad University and 60 B.A. students of Payam-e-Noor University). Sample population was determined as 108 (65 students educating at the Islamic Azad University and 43 students educating in Payam-e-Noor University). The researchers made use of the stratified random sampling method in which each university was considered as one separate strata. Stratified sampling is a probability sampling technique wherein the researcher divides the entire population into different subgroups or strata, then randomly selects the final subjects proportionally from the different strata (Jack. Richards & Richard Schmidt, 2002). The questionnaires were distributed randomly among these participants.

### *3.3 Instruments*

Different research instruments and materials were employed to gather the necessary data. Here, is a list of the most important instruments and materials which were used are as follows.

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3.3.1 Foreign Language Classroom Anxiety Scale (FLCAS)

In order to check the participants' level of foreign language anxiety, the Foreign Language Classroom Anxiety Scale developed by Horwitz, Horwitz and Cope's (1986) was employed in this research project. The scale consisted of 33 items which were developed on five-point Likert scale (SA=strongly agree; A=agree; N=neither agree nor disagree; D=disagree; SD=strongly disagree). The validity of the scale was confirmed by the research supervisor. As for the reliability of the test, it was piloted with 30 students who had the similar characteristics as the participants of this study. Cronhach's Alpha reliability coefficient was calculated to be .67 for this test. This value indicated that the Foreign Language Classroom Anxiety Scale was reliable.

3.3.2 Learner Autonomy Questionnaire (LAQ)

To account for the participants' autonomy in foreign language learning context, the researchers used the Learner Autonomy Questionnaire (LAQ). This scale was developed by Zhang and Li (2004) and consisted of two parts; involving 11 items organized on Likert five-item scale ranging from never to always and 10 multiple choice questions. As with the validity of the previous test, this scale was confirmed to enjoy validity by two psychology instructors in Zanjan University. Cronhach's Alpha reliability coefficient was calculated to be 0.73 for this test. Since the reliability index of 0.73 proved to be acceptable, the researchers utilized it in their study.

3.3.3 Sternberg's Thinking Styles Inventory (STSI)

Finally, Sternberg's Thinking Styles Inventory (1997) was employed to check the students' thinking styles. This test consisted of 104 items and was developed on Likert seven-item type ranging not at all well to Extremely well. This scale went under the same validation and piloting procedure as the previous tests. Cronhach's Alpha reliability coefficient was calculated to be .81 for this test which showed a good level of reliability.

*3.4 Procedure*

This study aimed at finding out the relationship between three variables; learner autonomy, classroom anxiety, and thinking styles of EFL learners. To accomplish the purposes of this study, the following procedures were followed.

3.4.1 Pilot Study

In order to assess the feasibility of the main study and measure the internal validity of the aforementioned questionnaires, a pilot study was conducted on 30 university students who met all required conditions. At the first stage of this study, the pilot subjects were asked to fill out the three questionnaires regarding the classroom anxiety, thinking styles, and learner autonomy at the given time. Then, the subjects were asked for feedback to identify ambiguities and difficult questions. The analysis of the data gathered from the pilot study revealed that the questionnaires are internally valid and the main study is feasible.

3.4.2 Data Collection

The main study was carried out among EFL students of Islamic Azad University and Payam-e-Noor University of Zanjan. First of all, a total number of 125 B.A. students were selected as the population of this study. Afterwards, the Cochran formula was used to calculate the ideal sample size (n = 108) who were divided into two strata based on stratified random sampling. In the next step, the three questionnaires administered in the pilot study were distributed among the participants of the main study. They were asked to complete the questionnaires at the given time according to the instructions provided. After the results of the questionnaires were collected, non-normality of the relevant data was confirmed through running One-Sample Kolmogorov-Smirnov Test; therefore, Spearman correlation coefficient was applied in order to test the research hypotheses. Finally, the analysis of the data was reported in descriptive and inferential levels.

3.4.3 Backward and Forward Translation

In order to be sure about the participants' answer to the Learner Autonomy Questionnaire (LAQ) developed by Zhang and Li (2004), Foreign Language Classroom Anxiety Scale developed by Horwitz, Horwitz and Cope's (1986) and Strenberg's Thinking Styles Inventory (1997) questionnaires, they were translated into Persian Language. First the English versions were given to two expert translators to translate them into Persian Language, and then two other expert translators were asked to translate the Persian version of the questionnaires by two other experts in English language and finally, one of Persian versions of the questionnaires which was the most appropriate translated version was selected at the questionnaire of the current research.

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*3.5 Data Analysis*

Having collected the data through distributing the questionnaires, the data were analyzed using pertinent tests. At the first stage, Kolmogorov-Smirnov test was used to determine normal or non-normal status of the variables distribution. Later on, Spearman correlation coefficient was employed to study each research question. Results in this regard were reported in the following section.

**4. Results**

*4.1 Descriptive Statistics*

4.1.1 Descriptive Study of Statistical Population Considering the Gender Variable

The following table and its relevant descriptions reveal the gender variable status in studied statistical sample.

Table 1. Descriptive statistics of participants' gender variable differentiated by male and female

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | Male | 18 | 16.7 | 16.7 | 16.7 |
| | Female | 90 | 83.3 | 83.3 | 100.0 |
| | Total | 108 | 100.0 | 100.0 | |

According to the Table 1, participants' gender distribution was different by male and female. The statistical sample comprises 18 males and 90 females that concluded 16.7 and 83.3 % respectively. As a result, more participants were female.

4.1.2 Descriptive Study of Statistical Sample Considering Marital Status Variable

The following table shows the descriptive study of statistical sample regarding Marital Status Variable.

Table 2. Descriptive statistics of participants' marital status

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | single | 92 | 85.2 | 85.2 | 85.2 |
| | married | 16 | 14.8 | 14.8 | 100.0 |
| | Total | 108 | 100.0 | 100.0 | |

In Table 2, the distribution of the sample by marital status is shown. Most of the participants were single. Therefore, among 108 people, 92 (85.2%) were single and the rest were 16 (14.8%) married.

4.1.3 Descriptive Study of Statistical Sample Considering Age Variable

The following table and the related descriptions show the age variable status in assumed statistical sample.

Table 3. Descriptive statistics of respondents' age variable differentiated by level of age

| | | Frequency | Percent | Valid Percent | Cumulative Percent |
|---|---|---|---|---|---|
| Valid | <20 | 12 | 11.1 | 11.1 | 11.1 |
| | 20-30 | 96 | 88.9 | 88.9 | 100.0 |
| | Total | 108 | 100.0 | 100.0 | |

Table 3 shows the frequency distribution of the sample based on the age group. As it can be displayed, out of 108 people, 12 (11.1%) were under 20 years of age, and the rest were 96 (88.9%) between 20 and 30 years old.

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*4.2 Inferential Statistics*

In order to determine the normality of data, Kolmogorov –Smirnov test was used.

Table 4. One-Sample Kolmogorov-Smirnov test for research variable

| | | Learning Autonomy | Language Anxiety | Thinking Style |
|---|---|---|---|---|
| N | | 108 | 108 | 108 |
| Normal Parametersa,b | Mean | 1.5710 | 2.0926 | 3.2593 |
| | Std. Deviation | .24982 | .50764 | .39460 |
| Most Extreme Differences | Absolute | .279 | .248 | .158 |
| | Positive | .221 | .248 | .143 |
| | Negative | -.279 | -.141 | -.158 |
| Test Statistic | | .279 | .248 | .158 |
| Asymp. Sig. (2-tailed) | | .000c | .000c | .000c |

As it can be seen in the Table 4, the Sig value for all three variables is less than 0.05 and the result is that the assumption of normalization of the samples is not accepted at the 5% error level. In other words, samples do not follow the normal distribution, and the result is that non-parametric methods were used to test the research hypotheses. Therefore, Spearman correlation coefficient was used to examine the relationship between variables.

4.2.1 Hypothesis 1

Null hypothesis: There is no significant relationship between autonomy and language anxiety among Iranian university students.

Alternative hypothesis: There is a significant relationship between autonomy and language anxiety among Iranian university students.

Statistical hypothesis

$$\begin{cases} H_0: r = 0 \\ H_1: r \neq 0 \end{cases}$$

Table 5. Correlations between autonomy and language anxiety

| | | | Language Anxiety | Learning Autonomy |
|---|---|---|---|---|
| Spearman's rho | Language Anxiety | Correlation Coefficient | 1.000 | .464** |
| | | Sig. (2-tailed) | . | .000 |
| | | N | 108 | 108 |
| | Learning Autonomy | Correlation Coefficient | .464** | 1.000 |
| | | Sig. (2-tailed) | .000 | . |
| | | N | 108 | 108 |

**. Correlation is significant at the 0.01 level (2-tailed).

As shown in the Table 5, the correlation coefficient between two variables (Language Anxiety and Learning Autonomy) is 0.464. The Sig value is less than 0.05 shows that there is a significant direct relationship between the two variables. In other words, the hypothesis of the research is accepted at the 5% error level. There is a significant relationship between autonomy and language anxiety among Iranian university students.

4.2.2 Hypothesis 2

Null hypothesis: There is no significant relationship between autonomy and thinking style among Iranian university students.

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Alternative hypothesis: There is a significant relationship between autonomy and thinking style among Iranian university students.

Statistical hypothesis

$$\begin{cases} H_0: r = 0 \\ H_1: r \neq 0 \end{cases}$$

Table 6. Correlations between autonomy and thinking style among Iranian university students

| | | Learning Autonomy | Thinking Style |
|---|---|---|---|
| Learning Autonomy | Pearson Correlation | 1 | .252** |
| | Sig. (2-tailed) | | .009 |
| | N | 108 | 108 |
| Thinking Style | Pearson Correlation | .252** | 1 |
| | Sig. (2-tailed) | .009 | |
| | N | 108 | 108 |

**. Correlation is significant at the 0.01 level (2-tailed).

As seen in the Table 6, the correlation coefficient between the two variables (Thinking Style and Learning Autonomy) is 0.252. The direct relationship between these two variables is due to the Sig value less than 0.05. In other words, the research hypothesis is accepted at the 5% error level, there is a significant relationship between autonomy and thinking style among Iranian university students.

4.2.3 Hypothesis 3

Null hypothesis: There is no significant relationship between language anxiety and thinking style among Iranian university students.

Alternative hypothesis: There is a significant relationship between language anxiety and thinking style among Iranian university students.

Statistical hypothesis

$$\begin{cases} H_0: r = 0 \\ H_1: r \neq 0 \end{cases}$$

Table 7. Correlations between language anxiety and thinking style among Iranian university students

| | | | Thinking Style | Language Anxiety |
|---|---|---|---|---|
| Spearman's rho | Thinking Style | Correlation Coefficient | 1.000 | .231* |
| | | Sig. (2-tailed) | . | .016 |
| | | N | 108 | 108 |
| | Language Anxiety | Correlation Coefficient | .231* | 1.000 |
| | | Sig. (2-tailed) | .016 | . |
| | | N | 108 | 108 |

*. Correlation is significant at the 0.05 level (2-tailed).

As seen in the Table 7, the correlation coefficient between thinking Style and Language Anxiety is 0. 231. The direct relationship between these two variables is due to the Sig value less than 0.05. The direct relationship between the two variables is significant, in other words, the research hypothesis is accepted at the 5% error level; that is, there is a significant relationship between language anxiety and thinking style among Iranian university students.

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## 5. Discussion

As it was stated earlier in this paper, three research hypotheses were developed to address the feasible nexus between learner autonomy, thinking style, and language anxiety. Followings are demonstrations in this regard. The first research question addressed the relationship between autonomy and language anxiety among Iranian university students. The level of significance was obtained as 0.000. Since ($p<0.05$) or sig was less than 0.05, the null hypothesis was rejected and the alternative hypothesis was accepted. That is to say, there is a relationship between autonomy and language anxiety among Iranian university students. Participants of the current study claimed that they feel anxious doing such tasks and the positive relationship ($\rho = 0.464$) between autonomy and anxiety was confirmed.

Findings of this research question are in line with the one reported by Killen (2013). The findings of Chan (2001) support the outcome of this research question positing that guidance should be provided to learners in order to reduce the amount of stress or anxiety-exerting factors within the learning context. In addition, researchers (Balçıkanlı, 2010; Koçak, 2003; Okazaki, 2011) emphasized students' readiness for adopting autonomy in classroom; however, conditions for developing this concept were absent since students felt anxious as it was a new experience ever realized. Another idea which can be stated is that teachers' awareness of learners' autonomous learning plays a key role in reducing or increasing the anxiety among them, one can say anxiety is viewed as an important factor which debilitates the extent to which students tend to experience and develop their sense of autonomy in language learning setting (Nga, 2014). Furthermore, Ghorbandordinejad and Moradian Ahmadabad's (2015) investigation revealed that foreign language classroom anxiety significantly mediates the relationship between autonomy and English language achievement; so, classroom anxiety and learners' autonomy are correlated with one another.

It is noteworthy to mention that the findings of the present research overlap what have been discovered earlier by Young (1998). "Severe performance anxiety mitigates against autonomy and motivation, though mild anxiety may sometimes enhance them" (Young, 1998 as cited in Oxford, 2003, p. 83). On the contrary to the current study, a study seeking to discover the relation between anxiety and language learner autonomy was conducted by Shinge (2005) where no significant relationship was found between anxiety and autonomy levels of EFL learners. Similarly, Sanadgol and Abdolmanafi-Rokni (2015) conducted an experiment on high school students and concluded that a very small negative correlation existed between levels of anxiety and participants' willingness to take charge of their learning which was not statistically significant.

In a rather different way, Kabiri, Nosratinia, and Mansouri's (2018) research findings were in contradiction with the results of the current study i.e. even though they confirmed a relationship between learners' anxiety and autonomy levels, the correlation was reported as being negative ($\rho = - 0.633$) and high levels of anxiety were associated with low levels of autonomy. Similarly, Liu (2012) found that learners' anxiety has a significant but negative relationship ($\rho = - 0.313$) with their autonomy. Along these lines, Savaskan (2017) proved that that learner autonomy levels were significantly lower when students had a higher degree of anxiety. All in all, teachers need to help students achieve the level of fluency through assigning a variety of tasks which accelerate their learning pace simultaneously. This is confirmed by the idea that anxiety might impede the language learning from fully engaging in activities, resulting in poor performance and weakened achievement. More importantly, language instructors are suggested to choose the ways through adhering to which they can motivate students toward their goal of language learning and exclude, to the greatest extent, conditions which carry the psychological responsibilities.

The second research question was an attempt to determine if there was a relationship between learner autonomy and thinking style. Using Spearman correlation coefficient test which was obtained as 0.252, it was found that there is a positive relationship between autonomy and thinking style among Iranian university students. This maintained that autonomous language learners are more capable of making associating, placing new words into a context, semantic mapping, structured reviewing, using mechanical techniques who are also talented in practicing, repeating, reviewing, translating, transferring, reasoning, and analyzing the target language. These results are consistent with the view of Little (2012) who emphasized that the link between thinking styles and learner autonomy is very close so that one can judge how autonomous learners are from the styles they employ in learning. He believed that if we emphasize on the language learning strategies and language use, it will lead to learner autonomy. Additionally, the results of the current study are consistent with the views of Zhang and Sternberg (2006) who suggest that problem solving and decision making abilities which are also the characteristics of autonomous learning are correlated with learners' thinking styles.

Researchers (Fleenor & Toylor, 2008; Milgram & Milgram, 2011) confirmed the findings of this research question. In a similar context, Negari and Solaymani' (2013) research revealed that there were significant correlations between

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self-attitude to autonomous language learning and most of the subcategories of thinking styles. When it comes to the context of language learning, it seems very crucial to take into consideration different thinking and learning styles which students use to learn the inputs. Drawing attention toward such differences is practically neglected in most of the cases, and both students and teachers need to consider this issue with regard to their abilities and purposes.

Last but not least, the association between language anxiety and thinking style was addressed through the use of Spearman test which confirmed this positive relationship ($\rho = 0.231$). Concerning the last research question, Zhang (2009) found out that there was a positive relationship between conservative style and anxiety; however, creativity-generating styles (also known as Type I styles) and the external style (a preference for working with others as opposed to working alone) were negatively related to anxiety. The results obtained from different studies (Emamipour & Seif, 2003; Razavi & Shiri, 2005) were in line with this finding emphasizing that various forms of thinking styles adopted and incorporated by foreign language learners , regardless of their gender and level of education, are in direct association with the level of their anxiety. In other words, students were found to be anxious while attempting to make use of their thinking styles within language learning milieu.

Contrary to what have been found in the present research, Alipour Katigari, Heidari, Firouzi, and Mohamadi ariya's (2017) study revealed that although there was a correlation between thinking styles subcategories and test anxiety, the relationship was determined as being significantly negative. It also indicated that the males and females' performance on thinking style questionnaire and test anxiety was significantly different. All in all, the way students attempt to choose their learning depends to a large extent on the level of their anxiety. Negative anxiety debilitates their pace of learning while removing such anxiety-exerting factors can facilitate and improve choice of items. Thus, findings of this research question are important for language learners.

## 6. Conclusion

The purpose of the current study was to determine the relationship between learner autonomy, language anxiety, and thinking styles among Iranian EFL students. The first major finding drawn was the positive relationship between autonomy and language anxiety among Iranian university students. The second conclusion drawn was the positive relationship between learner autonomy and thinking style. Last but not least, the third finding suggested the association between language anxiety and thinking style. Despite the numerous studies conducted in the field of autonomy, little attention has been drawn toward the links among these variables. The present study could fill this gap through considering two other variables, namely, language anxiety and thinking style which suggested that both teachers and students need to account for the psychological issues such as the anxiety while trying to learn a foreign language. Also, findings of the current study could compensate for previous similar studies in that the role of students' use of strategy in language learning, namely, their thinking styles was identified to be the important factor for autonomous learning. The researchers believe that further investigations and experiments into such relationship are required to broaden the understanding of autonomous learning.

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