

## The Relationship between Iranian Male and Female EFL Learners' Critical Thinking Ability and Autonomy

Nasser Ghafoori\*<sup>1</sup>, Vida Javanshir<sup>2</sup>

*Department of English, Tabriz Branch, Islamic Azad University, Tabriz, Iran*

\*Corresponding author: ghafoori@iaut.ac.ir

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### Abstract

One of the main aims of the education agenda in the last decade has been to develop critical thinking and autonomy among children, in order to educate them to be active and involved persons in society. The present study sought to examine the relationship between Iranian male and female EFL learners' autonomy and their critical thinking ability. To this aim, the researcher used a language proficiency test, a questionnaire of autonomy, and a questionnaire of critical thinking. The study was conducted in two phases. In the first phase, 242 third-grade high school students of Urmia city were provided with a Key English Test (KET). Afterwards, 162 of them were selected as the homogenized group and were given a questionnaire of autonomy and questionnaire of critical thinking. Finally, the results of 144 (because some of participants did not complete their critical thinking questionnaire) participants were analyzed. The Pearson coefficient of correlation revealed that Iranian EFL learners' autonomy and critical thinking were significantly related. The findings offered important pedagogical implications for teachers, learners, and syllabus designers.

**Keywords:** Autonomy, Critical thinking, EFL learners

### Introduction

Critical thinking and autonomy are among the hottest issues which have recently been discussed in education and often understood as interdependent properties. There are close connections between critical thinking and autonomy (Fahim & Ahmadian, 2012). Raya, Lamb and Vieira (2007) believed that “the ability to think critically complements with the notion of autonomy and self-sufficiency”, so it is important for students to develop both their critical thinking and autonomy because improving them will be effective in their lifelong learning process especially in academic achievement and higher education because it is exactly what students need to succeed in an academic environment (Behar, 2011). Little (2000) stated that learning and communication require active participation and using of language by the learners. Therefore, educators need to consider enhancing thinking abilities in learners (Rezaei, Derakhshan & Bagherkazemi, 2011).

Apparently it seems that autonomy and critical thinking are related to metacognition (Mango, 2009), and that the notion of thoughtfulness has roots in learning experience; good quality of thinking is obtained from good education. Research evidence has shown that cognition and language development are closely related. Such close relationships between language and thinking skills have long been emphasized by theorists and educators (Piaget, 1971; Vygotsky, as cited in Brown, 2000). In line with these findings, Fahim and Ahmadian (2012, p. 759) point out that “having cognitive critical thinking skills is essential to be a good critical thinker, but it is not enough”. It should be realized that it is theoretically and practically impossible to separate the cognitive and affective factors in process of learning and thinking (Garrison, 2003). Cognitive skills include the abilities such as dissecting, modifying, analyzing, interpreting, examining, correlating, synthesizing, summarizing, understanding, and making inferences and generalizations. Affective dimension, on the other hand, include being tolerant of ambiguity, thinking independently, having perseverance, being self-confident, inquisitive, motivated, risk taker, reflective, creative, and curious (Nugent & Vitale, as cited in Fahim & Pezeshki, 2012).

Atkinson (1997) describes critical thinking as an essentially Western concept; he claims non-Western cultures may not be capable of thinking critically due to their cultural values because they prefer community consensus in place of individualism. However, Willingham (2007) argues that, practically, everyone is capable of critical thinking and uses it all the time. What seems to be important thing is just individual practice, because even in the same social and cultural background, individuals can differ significantly in their critical thinking skills. In response to the claim of Atkinson and Willingham, Sert (2006) argues that critical thinking and self-voice are not emphasized explicitly within the educational system in many Asian culture.

From historical perspective, critical thinking has always been a goal of instruction and assessment. It has been taken into consideration since the time of Ancient Greeks. In fact, Critical thinking and Socratic questioning are related and share a common goal (Beach, 2004). Most traditional and recent theories have highlighted the value of utilizing critical thinking in instruction. Critical thinking is a way of increasing our awareness of how we think. In other words it emphasizes how to think rather than what to think (Ozman & Craver, as cited in Thompson, 2011). Benson (1997) highlighted that learners have right to decide what they want to learn, and to use language for their own reasons and purposes autonomously.

Little (1991) defined autonomy as a capacity for critical reflection, decision making, and independent action. He considered autonomy as “interdependence rather than independence” (p.5). A number of scholars (e.g., Littlewood, 1996; Little, 1999, Nematipour, 2012) disputed that autonomy is not a specific method to be employed in classes, rather it can be regarded as an educational aim implemented appropriately in different settings, even in the Eastern educational system.

Jacobs and Farrell (2001) note that  
the concept of learner autonomy ... emphasizes the role of the learner rather than the role of the teacher. It focuses on the process rather than the product and encourages learners to develop their own purposes for learning and to see learning as a lifelong process. (p.5)

It allows learners to work on different tasks, with different abilities and different interest, not all doing the same thing at the same time, though this

sense of autonomy does not exclude teachers from the experience of learning and does not mean that learning can be carried out in isolation without teachers or peers (Holec, 1981). In the autonomous learning program a teacher has responsibilities such as training learning strategies, building up students' awareness of available language learning resources and inviting students to make pedagogical choices about their own learning (Spratt, Humphreys & Chan, 2002). In sum teacher should be a facilitator, a counselor, and a resource (Voller, 1997).

According to Benson (2001), autonomy consists of control on three components; control over learning management (consisting of directly observable behaviors such as planning, organization and evaluation of their learning), control over cognitive process (a matter of the psychology of learning which is inferred from observation of the behaviors), and control over learning content (i.e., freedom to determine their own goals and purposes). He believes that these three levels of control are clearly interdependent, and effective learning management depends upon control of the cognitive processes involved in learning.

A plethora of studies have been done regarding learners' critical thinking and autonomy and their implication in language learning. Some studies have revealed that the students were basically teacher-centered and lacked personal autonomy or critical thinking, especially in Asian contexts.

The effect of Iranian EFL learners' critical thinking abilities on their receptive English language proficiency skills was investigated by Hashemi and Zabihi (2012). Results showed significant correlations between WGCTA subscales and proficiency scores. To see to what extent total scores for critical thinking might affect English language proficiency, three groups of High, Mid, and Low were formed based on critical thinking scores. The means of the proficiency scores of the three groups were compared. Result revealed significant differences in the means of the proficiency scores among the three groups. They strongly claimed that critical thinking is a crucial factor in explaining EFL learners' high proficiency levels.

Similarly, Mohamadpour (2013) conducted a study in which she investigated the relationship between autonomy and proficiency. The results

showed that English proficiency and learner autonomy had significant relationship; the students with similar autonomy had similar proficiency scores, while those with different autonomy level had different levels of proficiency.

Fahim and Behdani (2011) carried out a study similar to the present study on investigating any significant relationship between critical thinking ability and autonomy of Iranian EFL learners. The results of the statistical analysis revealed that Iranian EFL learners' autonomy was significantly related to critical thinking ability. They claimed that an autonomous person has a critical reflection, decision-making, and independent action.

Mazloomiy, Nadrian and Nahangi's (2012) also examined the ability of Iranian medical and dental students in thinking critically and found the mean score of  $45.33 \pm 5.4$  with the range of 31.2 to 57 that indicates an inclination for CT in Iranian context.

Focusing on gender, the purpose of the present study was to find out if there is any relationship between critical thinking and autonomy of Iranian male and female learners. Through these findings, educators can put emphasis on training more critically thinking and autonomous learners from primary school students to adults and college learners. Accordingly, the following research questions were formulated:

1. Is there any significant relationship between Iranian male EFL learners' critical thinking and their autonomy?
2. Is there any significant relationship between Iranian female EFL learners' critical thinking and their autonomy?

## Method

### Participants

Cluster sampling was used in this study. First, one district of Urmia was chosen and then three male and three female high schools were selected in this district of Urmia randomly. Then one or two third grade classes were selected from each high school randomly. The initial participants of this study were 242 third-grade students, in six high schools. To ensure the homogeneity of the participants in terms of their language proficiency, Key English Test (KET, 2008) was administered. From among 242 students who took part in the test, 162 students whose scores fell between one Standard Deviation (SD) above and below the mean were selected as homogeneous participants. Thus, 162

participants were selected for the next stage. The number of the participants was reduced to 144 (91 male and 53 female) in the second stage because some of the participants had not completely answered the questions. So, these participants were excluded from the study.

### **Instrumentation**

The following instruments were used in this study for data collection purposes:

#### **Key English Test (KET)**

The first instrument administrated to homogenize the participants on the basis of their general language proficiency was KET. In this study the Reading and Writing sections of the test which consisted of eight parts including 55 items were used and Part 9, guided writing was excluded from testing, due to time and administration restrictions.

#### **Autonomy Questionnaire**

The participants were required to answer 21 questions of the autonomy questionnaire designed by Zhang and Li (2004). The questionnaire had two sections, the first section consisted of eleven Likert-type (from never to always) items, and the second section consisted of ten Likert-type (from A to E, with A being the lowest and E being the highest) items. The questionnaire has been proved to have high content validity and high reliability (Khabiri & Heidari, 2011; Dafei, 2007).

#### **Critical Thinking Questionnaire ( WGCTA)**

Watson-Glaser Critical Thinking Appraisal was used for measuring critical thinking ability of participants. The questionnaire had five subsections, namely drawing inferences, recognizing of assumptions, making deductions, interpreting evidence, and evaluating arguments, each comprising 16 items with two to five alternatives. The questions were of varying difficulty and format in order to measure all areas of critical thinking ability (Watson & Glaser, 2012). High validity and reliability has been reported for the appraisal by Watson and Glaser (1980). The test-retest reliability of the appraisal ( $r = 0.81$ ) and internal consistency reliability has been reported to be above 0.8

### Procedure

The first step was the selection of the participants through cluster sampling from third-grade high school students of Urmia. To this end, one or two classes from three male and three female high schools were chosen randomly. The KET test was employed to check the learners' homogeneity regarding their proficiency in English. Accordingly, the students whose scores fell between one standard deviation above and below the mean (scores between 21 and 33) were selected as the homogeneous sample (see Table 1).

In the second stage the two instruments (learner autonomy questionnaire and critical thinking questionnaire) were distributed among the students by their teachers during the regular class time. They were asked to answer autonomy questions at first in 10 minutes and then answer critical thinking questions in fifty minutes. In this stage, some of the participants did not completely answer the questionnaire of critical thinking. So, these participants were excluded from the study and the number of participants was reduced to 144 (91 male and 53 female). The data were collected over a period of three weeks.

### Results

To ensure the homogeneity of the participants, in terms of their English language proficiency, the researcher used a standard English proficiency test (KET, 2008). Table 1 shows the descriptive statistics for the results of the KET test.

Table 1  
*Descriptive Statistics of Participants' Scores on KET*

N	Valid	242
	Missing	0
Mean		26.90
Std. Deviation		5.75
Minimum		14
Maximum		40

From among the students who took part in the testing session (n=242), 162 students whose scores were between one SD above and below the mean were selected as the main participants.

Also, to assess the normality of the scores distribution, the Kolmogov-Smirnov test of normality was run. Table 2 indicates the results of the analysis.

Table 2  
Tests of Normality for Proficiency Test

	Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Proficiency score	.048	242	.200*	.990	242	.103

a. Lilliefors Significance Correction

\*. This is a lower bound of the true significance.

According to Table 2, both the Kolmogorov-Smirnov and Shapiro-Wilk tests indicated that the assumption of normality was not violated ( $P > 0.05$ ). It means that the data collected were normally distributed and the parametric statistical methods could be performed to analyze the results. The decision was to use the Pearson correlation statistics to examine the significance of the relationship between the variables of the study.

### The Results of the Pilot Study

Prior to the main study, a pilot study was performed on 40 participants who were selected randomly from the homogenized group to find out the reliability of the questionnaires. Descriptive statistics of the pilot test of critical thinking and autonomy are provided in Table 3 and Table 4.

Table 3  
Descriptive Statistics of the Pilot Study for Critical Thinking

Statistic	Std. Error	
Mean	43.1674	
Std. Deviation	4.2548	
Minimum	35.00	
Maximum	53.00	
Skewness	-.105	.184
Kurtosis	.031	.418

Table 4  
Descriptive Statistics of the Pilot Study for Autonomy

Statistic		Std. Error
Mean	74.8475	
Std. Deviation	8.1245	
Minimum	43.00	
Maximum	86.00	
Skewness	-.370	.156
Kurtosis	-.102	.381

Table 5 and Table 6 show the reliability of critical thinking and autonomy questionnaires in the pilot study. The reliability for critical thinking and autonomy were 0.71 and 0.72, respectively.

Table 5  
Reliability Statistics of Critical Thinking in Pilot study

Cronbach's Alpha	N of Items
.718	80

Table 6  
Reliability Statistics of Autonomy in Pilot study

Cronbach's Alpha	N of Items
.721	21

As mentioned earlier, some students didn't answer the questionnaire of critical thinking completely, so these participants were excluded from the study and the number of participants was reduced to 144 (91 male and 53 female). In order to investigate the first research question, i.e., the relationship between the male EFL learners' critical thinking ability and autonomy, the researcher conducted the Pearson Product Moment Correlation test. The results revealed that male participants' critical thinking positively correlated with their autonomy. According to Table 7 ( $r=.428$ ,  $p<0.05$ ), there was a statistically significant correlation between critical thinking scores and autonomy scores of male students.

Table 7

*Pearson Correlation between Iranian male EFL learners' critical thinking and autonomy*

<i>r</i>	<i>N</i>	<i>p</i>
.428**	91	.000

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

The results of Pearson Correlation analysis to investigate the second research question showed that female learners' critical thinking positively correlated with their autonomy (table 8).

Table 8

*Pearson Correlation between Iranian female EFL learners' critical thinking and autonomy*

<i>r</i>	<i>N</i>	<i>p</i>
.418**	53	.000

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

According to Table 8 ( $r=.418$ ,  $p<0.05$ ) there was a statistically significant relationship between critical thinking scores and autonomy scores of male students.

### Discussion

As the findings of the study indicated, there was a positive correlation between both male and female EFL learners' amount of autonomy and their critical thinking. The outcomes of the present study are in line with those of Fahim and Behdani's (2012) findings, who found a significant relationship between learners' critical thinking and autonomy. Criticality requires learners' engagement in the process of thinking and obtaining comprehensive awareness of learning experience, regularly monitor and check their progress and improve their decision making ability and the appropriate use of their time and effort. Learners' involvement entails their feeling of responsibility for their own learning by engaging them fully in planning, monitoring and evaluation. Taking charge of their own learning makes learners more reflective thinkers which is one the main components of autonomy. Little (2007) asserted that success in autonomy oriented L2 requires the operationalization of learner involvement, learner reflection, and target language use).

Behdani (2009) also found out a high correlation between critical thinking ability of learners and their performance on reading comprehension and

claimed that the higher the critical thinking ability and autonomy, the higher the reading comprehension. Behdani claims that there is high correlation among critical thinking and autonomy and reading comprehension. The correlation between critical thinking and autonomy is in line with the present study's finding. Phan (2009) believes that improving EFL learners' critical thinking has a positive influence on their self-regulation and consequently their perceived sense of autonomy. The outcomes of the present study are in line with those of Phan's (2009) findings which point to the existence of relationship between critical thinking and autonomy. Based on his findings, he concluded that the learners' use of self-checking mechanism to monitor their own thinking and learning processes makes them autonomous learners.

Furthermore, in many studies (e.g., Abdul Rashid & Hashim, 2008; Dafei, 2007; Hashemi & Zabihi, 2012), the existence of a high relationship between both critical thinking and autonomy with proficiency and L2 language learning have been proved. All of these studies show the significant relationship between critical thinking and autonomy like the present study. Halvorsen (2005) confirmed that encouraging critical thinking can result in a more attentive and meaningful environment of learning, which changes the students' roles from passive learners to active ones and hence to their learning success. According to Halvorsen's (2005) findings, increasing critical thinking ability of students raises their autonomy. This finding again confirms the result of the present study. Thus the more reflective the learners, the higher the amount of their autonomy become. Autonomy involves learners control over learning management, cognitive process and learning content

Birjandi and Bagherkazemi (2010) also in an investigation found a positive relationship between Iranian EFL critical thinking ability and pedagogical success. They suggest that a high critical thinking ability brings success and accomplishment. McKown (1997) draws extensively on the above issue by indicating that developing critical thinking and control over learning, as central academic skills, can increase the success of educational outcome.

Also, the obtained level of critical thinking of the present study is in line with that of Mazloomi, Nadrian and Nahangi's (2012). They examined the ability of Iranian medical and dental students in thinking critically and found an inclination for CT in Iranian context.

Regarding the obtained results, developing critical thinking among EFL learners can enhance their sense of autonomy in learning arena. Thus to have successful learners considering the ways for improving critical thinking and autonomy is a vital need.

The present study sought to find out the relationships between Iranian elementary male and female EFL learners' critical thinking and their autonomy. The results of the correlation analysis showed a positive correlation between the learners' critical thinking and their autonomy. There is no doubt that critical thinking and autonomy are two interrelated concepts. More specifically, in the field of L2 education and new realm of pedagogy they are a must for success.

So, lack of awareness of these two important factors can influence individuals' learning. Teachers should take into account the importance of issues and try to fulfill these goals. One of the prerequisites of being a good teacher is to pay attention to these essential issues and to train students with these characteristics. The teacher should guide the class in a way that students believe that they are capable of thinking critically on issues that they learn and being autonomous in learning. As a result, these potentialities can extend to life-long learning. It seems that the more critical thinking instruction we have, the more autonomous learners there will be.

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### **Biodata**

**Vida Javanshir** got her Master Degree in EFL from Islamic AZAD University, Tabriz Branch. She has several years of experience as EFL teacher in English language institutes in Uromia and Tabriz. She is interested to continue research in the fields of applied linguistics and teaching methodology.

**Nasser Ghafoori** holds Ph.D. in Teaching English as a Foreign Language. He is assistant professor in Islamic Azad University, Tabriz Branch. He has presented in several international conferences and published articles in several international journals. His research fields are applied linguistics, English language teaching and testing.