

## **Critical Thinking and EFL Learners' Performance on Different Writing Modes**

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The essential function of critical thinking in education is obvious by many studies done in this field. The main purpose of this article is to find the relationship between critical thinking levels of Iranian EFL learners and their performance on different modes of writing. The sample of the study selected among those who studying English at the advanced level at Kish Institute of Science and Technology, Rasht, Iran. The instruments used in this study included the Longman paper and pencil test (2004) for ensuring the homogeneity of the learners, a critical thinking questionnaire (Honey, 2004) with 30 items into the 5-point Likert scale type that used to divide learners into high and low critical thinkers and an analytic scale of Weir (1990) for assessing participants' argumentative and descriptive writings. The study followed an ex-post facto design. The results of inferential statistics revealed a statistically significant difference between the writing performance of high and low critical thinkers in both the descriptive and argumentative modes. It was found that the high critical thinkers' writing was better in both modes of writing compared to the low critical thinkers. The result of this research helps teachers to consider the effect of critical thinking on the learning process. Moreover, the syllabus designers and course-book writers should think about critical thinking as an influential element in their program.

**Key Words:** descriptive, argumentative, critical thinking, writing

### **1 Introduction**

Many studies have been done in the area of critical thinking to show its important function in education. Critical thinking is an important factor which has a direct relationship with language learning and it is a very important component of education in this century. Huitt (1980) states that thinking plays an important role in people's life. He further adds that the movement toward the information age has changed attention to good thinking as a main element of life successes. So, this new trend has paved the way for critical thinking to be the main focus of schooling. In this regard,

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academically successful students are not defined as persons who memorize facts and learn fixed routines and procedures; instead as individuals who can mix their intellectual knowledge to think critically especially when they face difficulties or when they are learning something (Chaffee, 1992).

Writing is an important skill that needs higher critical thinking and its role in language learning cannot be ignored. In terms of skills, producing a connected, meaningful and extended piece of writing is the most difficult thing for language learners. For second language learners, it is more challenging, especially for those who enter a university to study the language that is not their own (Nunun, 1999). Written products need insightful thinking, and writing and revising procedures require specialized skills, skills that not every person earns naturally (Brown, 2001). We must realize that writing a language comprehensibly is much more difficult than speaking it (Rivers, 1981). Moreover, the major problems of students in some skills especially writing may be because of low level of critical thinking not because of their lack of knowledge in subject matter. Therefore, knowing about their learners' thinking and being aware of its importance can entice teachers to search for the ways to measure the levels of learners' thinking and find some ways to improve their thinking levels (Paul, 2004).

In spite of existing numerous approaches in teaching writing evolved from different methods of teaching, studying EFL writing is still one of the most challenging areas for teachers and students. Ahmad (2010) indicates that students' writing in an EFL classroom context should show their awareness of their own communicative goals, of the writing context and of the intended readers. Birjandi, Alavi, and Salmani (2004) noted that there is a distinct absence of mastery of both the macro (content and organization), and micro skills (grammar, vocabulary and mechanics) of writing in Iranian students' writing. Further evidence of this deficiency in both the micro and macro skills have been gleaned via contrastive analysis (Alifatemi, 2008). Although some studies show that Iranian EFL learners have problems in writing, this study has tried to determine that inability of EFL learners in writing can result from another factor that is lack of critical thinking.

Recently, a large number of studies have focused their attention on critical thinking and different skills and aspects of language learning. Kamali and Fahim (2011) investigated the relationship between critical thinking ability and reading comprehension of texts, including some unknown words. Nikoopour (2011) did a study investigating the relationship between critical thinking and the use of direct and indirect language learning strategies by Iranian learners. In another study, the relationship between critical thinking and lexical inference of EFL learners was examined by Mirzaie (2008).

However, among learners that acquire writing skill professionally some can write more analytically and evaluate some texts more precisely. This can be investigated more to find whether it is because of having a higher critical thinking level or not. In this case, this study aimed to find out the

relationship between Iranian EFL learners' critical thinking levels (i.e., high and low) and their performance on two writing modes (i.e., descriptive and argumentative).

## **2 Literature Review**

In the first part some theoretical views on critical thinking and writing will be reviewed, and in the second part the related studies will be covered.

### **2.1 Theoretical views on critical thinking**

Critical thinking enables people to analyze what they read or hear and make conclusion based on their analysis. As Blackburn (1996) states, critical thinking is the process of breaking a concept down into its components, in order to display its logical structure. Knott (2005) indicates that critical thinking involves reflective processes such as meticulous decision-making, rational reasoning, artistic creation, and solving problems. Simply put, critical thinking involves applying effective reasoning in analyzing problems. On this basis, critical thinkers judge and question an idea or thought based on reliable evidences by establishing logical relationships among statements or data.

### **2.2 Critical thinking and writing**

Writing a coherent piece of text is a huge challenge, especially in our second language (Nunan, 1999). Mirzaii (2012) states that "writing as a skill requires people to know a number of complex, linguistic, rhetorical, and predetermined conventional rules" (p. 140), the fact that becomes complex by the presence of different modes of writing. Accordingly, Richards and Schmidt (2010) introduce four types of non-creative writing modes including descriptive, narrative, expository, and argumentative writing, maintaining that a tacit consensus among EFL/ESL writing instructors is that novice writers should begin with the simplest mode, that is, the descriptive essay and gradually move towards learning the most complex one, that is, the argumentative mode.

A good piece of writing should reflect the aspects of critical thinking. For this, a writer should generate some content and arguments that he can then defend and from which he can draw conclusions (Kurland, 2000). Stapleton (2001) proposes the following criteria as the key factors to evaluate a written text in terms of critical thinking elements:

1. Arguments: Arguments are claims accompanied by a reason. A claim includes a statement whose truth is challenging, and is often advanced in answer to controversial issue.

2. Reasons: Reasons are sentences used to support what we say and generally answer why we should be believed it. Reasons must show a direct logical link to the claim in order to be bound into a single proposition called an argument.
3. Evidence: It involves statement serving to strengthen the argument. It can be defined as support for the fact of a proposition, especially those that derive from empirical observation or experience (Kemerling, 2002). Evidence involves personal experience, researches, statistics, citing authorities, comparisons, pointing out consequences, facts, logical and precisely defining words (Bean & Ramage, 1999).
4. Recognition of opposition: Opposing viewpoints makes statements that contradict interpretations to those expressed in the claim. Shortcomings in opposing viewpoints can include logical flaws, poor support, erroneous assumptions or wrong values (Bean & Ramage, 1999).
5. Conclusion: A conclusion is a statement in which a writer sets out what she wants the reader to believe. This belief is conveyed via an argument, evidence and other statements that the author uses to express his belief.
6. Fallacies: They are errors in reasoning. Davis and Davis (2000) contend that thinking critically is to find rational fallacies. It happens when the reason does not support the claim in a number of ways (Kemerling, 2002).

### **2.3 Related studies**

There are some studies in relation to critical thinking and language skills. Fahim and Sa'eepour (2011) conducted a study intending to investigate the impact of teaching critical thinking skills on reading comprehension ability and the influence of using debate on critical thinking of EFL learners. They concluded that including critical thinking skills in language classroom is vital to improve language teaching and learning.

In another study, Fahim and Azarniouchi (2011) tried to find whether there is any relationship between the critical thinking ability of language learners and their performances by using rule-driven or discovery learning approaches to teach grammar. The results of their study showed that there was a positive correlation between the critical thinking ability of the learners and their grammar test scores if the inductive teaching method is used. However, for the deductive teaching method, no specific relationship could be discovered between the critical thinking ability of the learners and their grammar test scores.

According to Khorasani and Farimani (2010), the reason we have both critical thinkers and non-critical thinkers in the Iranian setting is that, the whole educational agenda is more of a teacher-dependent character. Everything in the classroom is defined and explained by teachers. A majority of teachers are themselves brought up by this old view of education and view education mainly as filling their students' memory banks with information, so they cannot take their students beyond of what they themselves are

(Pishghadam, 2008). Kamali and Fahim (2011) investigated the relationship between resilience, critical thinking ability and reading comprehension of texts including unfamiliar vocabulary items. The conclusion showed that there is a significant relationship between critical thinking ability, resilience, and L2 reading comprehension. Behdani (2009) has done a research investigating the relationship between critical thinking ability, autonomy, and reading comprehension of the Iranian EFL learners. The results displayed that a significant relationship between learners' autonomy and their performance on reading comprehension exists. In another study, the relationship between critical thinking and lexical inference of EFL learners was examined by Mirzaie (2008). Here, the researcher found out a relationship between critical thinking levels and lexical inference of learners.

Hiber (1992) says that in many Arab countries, the education systems put emphasis on writing for test taking. In this respect, some studies in the Arab world and a few Egyptian studies were conducted offering different approaches and remedial programs to overcome the decontextualisation of writing and to develop students' EFL essay writing skills.

According to Hassani (2003, as cited in Alifatemi, 2008), the following problems exist in the Iranian language learning environment: a) old methods of teaching, b) unqualified teachers, c) differences in cultures, d) lack of audiovisual facilities, e) non-authentic materials, f) the lack of native speakers, g) lazy pupils, and h) the lack of English channels to watch related English language programs. In addition, some part of the writings of Iranian learners may appear to be a word for word translation of the Persian language grammatical structure into English. In the writing process, learners may make errors rooted in their mother tongue (Yarmohammadi, 2002 as cited in Alifatemi, 2008). As stated earlier, there are some studies conducted in the area of reading comprehension and critical thinking. However, writing as an important skill in learning a foreign language, which has an influential effect in academic communication, has not been attended a lot. Moreover, having a higher critical thinking ability can enable learners to write in a subtle way and transmit their intentions appropriately. In this regard, becoming aware of learners' critical abilities, teachers can find some ways to help learners to improve their critical mind to higher levels. However, to the best of the researcher's knowledge there is not any specific study carried out on Iranian learners to find the relationship between higher and lower critical thinking and their performance on different writing modes, namely, argumentative and descriptive. For this purpose the following research questions were posed.

1. Is there any significant difference between Iranian EFL high and low critical thinkers in their performance on descriptive writing mode?
2. Is there any significant difference between Iranian EFL high and low critical thinkers in their performance on argumentative writing mode?

Based on the above research questions the following null hypotheses were formulated:

H<sub>01</sub>. There is no significant difference between Iranian EFL high and low critical thinkers in their performance on descriptive writing mode?

H<sub>02</sub>. There is no significant difference between Iranian EFL high and low critical thinkers in their performance on argumentative writing mode.

### **3 Methodology**

#### **3.1 Participants**

The participants of the study were selected out of 94 advanced level EFL male learners at Kish Institute of Science and Technology, Rasht, Iran. They have studied English for five years. The researcher utilized intact groups in assigning the participants to the study. In order to select the homogenized learners, the researcher used a TOEFL test. Based on the obtained scores, those learners with a score falling within one standard deviation above and below the mean ( $M=80.45$ ,  $SD=9.33$ ) were selected. Finally, 64 learners with the scores between 71 and 90 formed the homogenized group. Their age range was from 14 to 21. All of were at high school level. Learners were from different family levels and their fields of study were mathematics, natural science and humanities. It is one limitation of this study that researcher did not consider learners' subject of study as a variable.

#### **3.2 Instruments**

##### **A) TOEFL test**

In order to ensure the homogeneity of learners in language proficiency the Longman paper and pencil test (2004) was administered. This test comprised of three sections: (a) structure and written expression with 40 items, and (b) reading comprehension with 50 items, and (C) listening comprehension with 50 questions. The allocated time to take the test was 140 minutes, and the scoring was estimated out of 150.

##### **B) Critical thinking test**

The homogenized group was given a critical thinking questionnaire (Honey, 2004, as cited in Naeini, 2005) with 30 items into the 5-point Likert scale type. They were requested to read items and chose an item ranging from never to always. The reliability of the questionnaire was obtained through cronbach's alpha that indicated a high internal consistency ( $\alpha=.86$ ). The participants were divided into two groups of high and low critical thinkers

based on their performance on critical thinking test. Those who scored 65 and above were considered as high critical thinkers and those who scored below 65 were considered as low critical thinkers (Farahani, 2011).

#### C) Writing scale

The analytic scale of weir (1990, as cited in Ahour & Mukundan, 2009) was used in this study for assessing participants' argumentative and descriptive writings. The scale includes the items such as relevance and adequacy of content, compositional organization, cohesion, spelling, punctuation and adequacy of vocabulary for purpose and grammar. The first three items are related to the fluency and the other categories are relevant to the accuracy in writing.

#### D) Argumentative and descriptive topics

The topics of writing were chosen from NTC TOEFL (2003) and given to both high and low critical thinkers in the study. The selected topics for descriptive and argumentative modes were, respectively, as follows:

- Describe your favorite movie.
- Do you agree or disagree with the statement "boys and girls should attend separate schools". Use specific reason and examples to support your answer.

The participants wrote at least 250 words on these topics in two different sessions. The devoted time for each writing was fifty minutes.

### 3.3 Design of the study

The study followed an ex-post-facto design, since the relationship between critical thinking ability of EFL learners (high and low critical thinkers) and their performance on two writing modes (argumentative and descriptive) was studied.

### 3.4 Data analysis

By using descriptive statistics, researcher obtained the mean of each group in two different modes of writing, namely, descriptive and argumentative. Then the means of each mode (descriptive and argumentative) were compared to see whether the differences between higher and lower critical thinkers' performance in these modes were significantly different. For this purpose, an independent-samples t-test was employed. The alpha level for significance testing was set at .05.

The descriptive and argumentative texts written by low and high critical have been analyzed by two experienced university professors as raters. The means and standard deviations for the scores of the two raters on different categories related to the participants' writings were calculated. In addition, inter-rater reliability was obtained through Pearson product-moment correlation for high critical thinkers ( $r=.86$ ) and low ones ( $r=.89$ ) of descriptive writing mode and for high critical thinkers ( $r=.91$ ) and low ones ( $r=.86$ ) of argumentative one. This reveals a high level of correlation between ratings of two raters for low and high critical thinkers. Thus, the average of the scores of the two raters was used in the data analysis.

## 4 Results

### 4.1 Longman homogeneity test

To evaluate the participants' level of proficiency, the researcher used Longman (2004) TOEFL test. The allocated time to take the test was 140 minutes, and the scoring was estimated out of 150 items. Based on the obtained scores, those learners ( $n=64$ ) with a score falling within one standard deviation above (90) and below (71) the mean ( $M=80.45$ ,  $SD=9.33$ ) were selected. The descriptive statistics for the TOEFL test are presented in Table 1.

Table1. Descriptive Statistics Test Related to TOEFL

TEST	Item	N	range	Min	Max	Mean	S.D
TOEFL	150	64	49	40	125	80.45	9.33

### 4.2 Critical thinking test

The critical thinking questionnaire including 30 multiple choice items was administered to the participants to test the skills of analysis, inference, evaluation, deductive reasoning and inductive reasoning. The participants were divided into two groups of high and low critical thinkers based on their performance on critical thinking test. Those who scored 65 and above were considered as high critical thinkers and those who scored below 65 were considered as low critical thinkers (Farahani, 2011). Among these participants 38 of them whose scores were above 65 were put in high critical thinkers and the rest (26) whose score was below 65 categorized as low critical thinkers. (See Table 2)



Table 2. Critical Thinking Test

Critical thinking test	N	Low critical thinkers	High critical thinkers
N	64	26	38
Percentage	100	40%	60%

### 4.3 Testing the first null hypothesis

In order to find whether there is a significant difference in the writing performance of Iranian EFL high and low critical thinkers and their performance on descriptive writing mode a topic taken from Nelson TOEFL book given to the subjects then the descriptive texts written by high critical thinkers were analyzed by two raters. Table 3 indicates the means and standard deviations for the scores of the two raters on different categories related to the participants' descriptive writings. It also shows the inter-rater reliability ( $r=.86$ ) obtained through Pearson product-moment correlation. This reveals a high level of correlation between ratings of two raters for high critical thinkers. Thus, the average of the scores of the two raters was used in the data analysis.

Table 3. Means, Standard Deviations, and Inter-rater Reliability for the Scores of Two Raters on Descriptive Writing of High Critical Thinkers

Rater		Content	Organization	Coherence	Vocabulary	Grammar	Punctuation	Spelling	Mean	Inter-rater reliability
1	M	2.86	2.70	2.19	2.26	1.23	2.02	2.90	16.	0.86
	S	.49	.37	.40	.38	.52	.45	.52	14	
	D									
2	M	2.85	2.63	2.27	2.30	1.2	2.25	2.90	16.	
	S	.48	.35	.41	.38	.50	.47	.51	30	
	D									
N		38	38	38	38	38	38	38		

(M=mean; SD=Standard Deviation; N= Number of participants)

The same descriptive topic was given to low critical thinkers and then their written texts were evaluated by the same raters. Table 4 indicates the means and standard deviations for the scores of the two raters on different categories related to the participants' descriptive writings. It also shows the inter-rater reliability ( $r=.89$ ) obtained through Pearson product-moment correlation. This reveals a high level of correlation between ratings of two raters for low critical thinkers. Thus, the average of the scores of the two raters was used in the data analysis

Table 4. Means, Standard Deviations, and Inter-rater Reliability for the Scores of Two Raters on Descriptive Writing of Low Critical Thinkers

N		Content	Organization	Coherence	Vocabulary	Grammar	Punctuation	Spelling	Mean	Inter-rater reliability
1	M	2.23	2.20	1.15	2.03	1.15	2.02	2.2	12.02	89
	SD	.41	.27	.30	.28	.32	.35	.42		
2	M	2.30	2.13	1.17	2.00	1.52	1.11	2.08	12.12	
	SD	.42	.26	.32	.24	.30	.37	.41		
	N	26	26	26	26	26	26	26		

(M=mean; SD=Standard Deviation; N= Number of participants)

As it was mentioned, there is a high level of inter-rater reliability between ratings of two raters for both low and high level critical thinkers in descriptive writing; however, the mean of whole scores of low critical thinkers ( $M= 12.07$ ,  $SD= 2.01$ ) is lower than the high critical thinkers ( $M= 16.23$ ,  $SD= 1.44$ ). It indicates that high critical thinkers outperformed low critical ones (see Table 5).

Table 5. Descriptive Statistics on the Descriptive Writing Scores of the High and Low Critical Thinkers

Group	Mean				Skewedness		
	Statistics	Std. error	SD	Variance	Statistics	Std. error ratio	
High critical thinkers	16.23	0.23	1.44	2.07	-0.49	0.38	-0.16
Low critical thinkers	12.07	0.39	2.01	4.07	0.77	0.45	+0.15

Table 5 shows the descriptive statistics of descriptive writing, the skewness ratio values are -0.16 and 0.15. Since the ratio values of descriptive scores in both groups are within the acceptable range of  $\pm 1.96$ , normality is assumed and using the Independent-Samples t-test is confirmed (see Table 6).

Table 6. Results of Independent-Samples t-test on the Descriptive Writing Scores of the High and Low Critical Thinkers

Group	Levene's test for equality of variances		T-test for equality of means				
	F	Sig.	T	Df	Sig. (-tailed)	Mean Difference	Std. Error Difference
Equal variance assumed	14.96	0.000	6.46	62	0.000	3.15992	0.55207

As Table 6 indicates, the results of the Levene's test ( $F=14.64$ ,  $p=0.000 < 0.05$ ) made clear that the variances between the two groups are significantly different and thus homogeneity of variances is not assumed. Therefore, in order to find out whether there is a significant difference between the means of the two groups, the second row of the independent-samples t-test was considered. The results show that there is a statistically significant difference,  $t(56.26)=6.46$ ,  $P=.000$ , between the writing performance of the high ( $M=16.23$ ,  $SD=1.44$ ) and low ( $M=12.07$ ,  $SD=2.01$ ) critical thinkers in the descriptive mode with the better performance of the high critical thinkers. Therefore, the first null hypothesis is rejected.

#### 4.4 Testing the second null hypothesis

In order to see whether there is any significant difference between Iranian EFL high and low critical thinkers and their performance on argumentative writing mode, a topic taken from Nelson TOEFL book given to the subjects then the argumentative texts written by high critical thinkers were evaluated by two raters. Table 7 indicates the means and standard deviations for the scores of the two raters on different categories related to the participants' argumentative writings. It also shows the inter-rater reliability ( $r=.91$ ) obtained through Pearson product-moment correlation. This reveals a high level of correlation between ratings of two raters for high critical thinkers. Thus, the average of the scores of the two raters was used in the data analysis.

Table 7. Means, Standard Deviations, and Inter-rater Reliability for the Scores of Two Raters on Descriptive Writing of Low Critical Thinkers

Raters		Content	Organization	Coherence	Vocabulary	Grammar	Punctuation	Spelling	M	Inter-rater reliability
1	M	2.33	2.40	2.0	1.9	1.13	1.92	2.5	13.	0.91
	S	.49	.37	.40	.38	.52	.45	.52	72	
	D									
2	M	2.30	2.03	1.87	2.40	1.03	2.0	2.08	13.	
	S	.48	.35	.41	.38	.50	.47	.51	98	
	D									
N		38	38	38	38	38	38	38		

(M=mean; SD=Standard Deviation; N= Number of participants)

As it is shown in table below, the same argumentative topic given to low critical thinkers and then the written texts have been analyzed by the same raters. Table 8 indicates the means and standard deviations for the scores of the two raters on different categories related to the participants' argumentative writings. It also shows the inter-rater reliability ( $r=.86$ ) obtained through Pearson product-moment correlation. This reveals a high

level of correlation between ratings of two raters for high critical thinkers. Thus, the average of the scores of the two raters was used in the data analysis.

Table 8. Means, Standard Deviations, and Inter-rater Reliability for the Scores of Two Raters on Argumentative Writing of Low Critical Thinkers

Scores of Two Raters on Argumentative Writing of Low Critical Thinkers										
Raters		Content	Organization	Coherence	Vocabulary	Grammar	Punctuation	Spelling	M	Inter-rater reliability
1	M	2.0	1.80	1.64	1.3	1.02	1.32	1.40	10.	0.86
	S	.49	.37	.40	.38	.52	.45	.52	18	
	D									
2	M	2.03	1.73	1.70	1.40	1.03	1.22	1.30	10.	
	S	.48	.35	.41	.38	.50	.47	.51	17	
	D									
N		26	26	26	26	26	26	26		

(M=mean; SD=Standard Deviation; N= Number of participants)

As it was mentioned, there is a high level of inter-rater reliability between ratings of two raters for both low and high level critical thinkers in argumentative writing; however, the mean of whole scores of low critical thinkers is 10.17 and high critical thinkers is 13.85 out of 21 respectively. It indicates that high critical thinkers outperformed low critical ones. It indicates that the differences exist the following descriptive statistics was used.

Table 9 shows the descriptive statistics of argumentative writing of both high and low critical thinkers. Accordingly, the skewness ratio values in both groups (-.52, -.108) is within the acceptable range of  $\pm 1.96$ . Therefore, both sets of scores were normally distributed and using a t-test is acceptable.

Table 9. Descriptive Statistics of Argumentative Writing of High and Low Critical Thinkers

Group	Mean		SD	Variance	Skewedness		
	Statistics	Std. error			Statistics	Std. error	ratio
High critical thinkers	13.84	0.37	2.29	5.27	-0.23	0.38	-0.52
Low critical thinkers	10.19	0.40	2.07	4.32	-0.104	0.45	-0.108

Moreover, as Table 10 indicates, the results of the Levene's test ( $F=0.23$  .64,  $p=0.000 < 0.05$ ) made clear that the variances between the two groups are not significantly different and thus homogeneity of variances is assumed. In order to find out whether there is a significant difference between the means of the two groups the second row of the independent-samples t-test was

considered. The results show that there is a statistically significant difference,  $t(56.26) = 6.46$ ,  $p = .000$ , between the writing performance of the high ( $M = 16.23$ ,  $SD = 1.44$ ) and low ( $M = 12.07$ ,  $SD = 2.01$ ) critical thinkers in the descriptive mode with the better performance of the high critical thinkers. Therefore, the first null hypothesis is rejected.

Table 10. T-test on the Argumentative Writing Scores of the High and Low Critical Thinkers

Group	Levene's test for equality of variances		T-test for equality of means				
	F	Sig.	T	Df	Sig.(2- tailed)	Mean Difference	Std. Error Difference
Equal variances assumed	0.23	0.633	-6.048	62	0.000	-3.64980	.44687
Equal variances not assumed			-6.609	57.216	0.000	-3.64980	.44757

## 5 Discussion

The results show that both in the descriptive and argumentative texts the differences between high and low critical thinkers are statistically significant. It means that although in the case of language proficiency all learners are homogeneous, there are some differences in the way of their writing that can be related to their critical thinking. This shows that critical thinking ability of Iranian EFL learners affected their writing and those who thought more critically wrote more coherently and used more correct forms of grammatical sentences and content words. In other words, those who had higher level of critical thinking ability obtained higher writing scores. It is implied that those with higher critical thinking can organize their thought better and this can be correlated with using higher levels of cognitive and metacognitive strategies that they use while writing. This result intensifies the important role of critical thinking in language learning, and is in line with the findings of some researchers, in the context of Iran, who investigated the relationship between critical thinking and different variables including the use of direct and indirect strategies (Nikoopour et al., 2011), reading ability when faced with unknown vocabulary (Kamali & Fahim, 2011), and L2 vocabulary knowledge and L2 vocabulary learning strategies (Fahim & Komijani, 2010). These kinds of studies indicate the essential role of critical thinking for being

successful in education in general and in learning different skills and sub-skills related to the foreign language in particular.

The study indicates that critical thinking level of the students is very important in their writing ability and their performances on two kinds of writing. The results of this study can be helpful to the language teachers in that they can consider the effect of critical thinking on the learning process and teach the related critical thinking strategies to their learners. Using pre-tasks and post-tasks for the purpose of teaching critical thinking among learners is recommended. Most of the teachers are not aware of the different types of critical thinking strategies and they cannot teach them to their students, accordingly. It is for the educational system, especially in Iran, to set up some workshops and courses for teachers in order to get the necessary training. In this regard, some in-service training courses are helpful for the professional development of the teachers.

The results of this study can also be useful for the syllabus designers and course-book writers. They can think about implementing critical thinking tasks and activities in the process of designing and developing the materials. However, the assessment used in this study for measuring writing ability of learners has been to some extent subjective, this may be one limitation of this study.

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