

The Relationship among Critical Thinking, Creativity, and Reading Comprehension of Iranian EFL Learners

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ABSTRACT

This study investigated the probable relationship among critical thinking, creativity and reading comprehension of Iranian EFL learners. The significance of the reading skill as a base input provider for EFL learners inspired the researcher to carry out the present study. The participants of the study took part in the reading section of a Preliminary English Test as an English language proficiency test and 62 out of 103 students were considered as a homogeneous sample. The selected participants' scores in this test were taken as their reading score. The critical thinking and creativity of the participants were also measured through Critical Thinking Questionnaire and Torrance's Creativity Questionnaire. Due to the normal distribution of the data, the researcher ran three Pearson's correlation analyses to analyze the collected data and find answers for the research questions of the study. The results of the correlation analyses revealed that the participants' critical thinking, creativity, and reading comprehension were significantly and positively correlated. The results of the study could be useful for EFL learners, teachers, textbook designers and material developers.

Keywords: *Critical Thinking; Creativity; Reading Comprehension; Iranian EFL Learners: English as a foreign Language.*

1. INTRODUCTION

In the history of language teaching, there have been large degrees of endeavor and research, along with hypotheses and theories, which have attempted to invent a way to enable teachers to teach better. Nowadays, the trend has moved toward exploring what students do when they are engaged in a learning task. In fact, students and their characteristics in learning have obtained the most attention over the last decades. Despite traditional approaches toward language teaching, current communicative approaches put stress on the cognitive and affective traits of language learners as whole humans (Richards & Rodgers, 2001). As the significance of learners' characteristics has been grown up during recent decades, much research has focused on them (Cole et al., 1999).

The study of critical thinking and creativity as cognitive factors which influence language teaching and learning has a long history in the field (Albert & Kormos, 2004). Critical thinking examines the reading process, suppositions are created and rejected and standpoints originated (Sullivan, 2012). Learners must know that they have to interact with the text in a definite way. It is useful to regard a literary text as an actor that uses different craft to entice them into its own points of view. In the initial stages, learners can be told to what pay attention (Simpson & Courtney,

2002). As students are not supposed to initially have the knowledge of what to seek for, they need to be directed. In the next steps, learners can be taught to connect what questions to the how questions. Critical thinking would help learners determine that text criticism is not a disorganized and unsystematic activity but demands a meaningful and orderly mental process. Raising a critical ability of mind means raising learner's awareness of mental processes, which would allow them to mediate and rethink their own views (Renaud & Murray, 2008).

In other words, they would learn to be accountable for their thoughts and make a habit of thinking and scrutinizing their impulsive and routine ways of reflecting and acting. Not only from the aesthetic point of view but from the inevitable political perspective, critical thinking also heightens an acute awareness of the application of language. Students determine that language is not an expressionless phenomenon explaining some already existing reality but terms put layers of meanings together making and producing their own reality. The supposition behind this reasoning is that language is a reflective and ponderous selection of particular word models which attempt to affect the readers in a definite way (Sullivan, 2012).

On the other hand, after Guilford's (1950) presidential address, creativity was investigated scientifically in many various domains of study (Sternberg, 2006).

These studies particularly in the psychology indicate that creativity is a concealed skill which is present in all humankind. Nevertheless, some people may take advantage of the appropriate environment and education and are able to display and employ their potentials. Fasco (2001) asserts that although all people are creative, some people because of the factors such as motivation, knowledge, culture, and so on are more creative in particular fields. Researchers yet did not reach an agreement about the field-specificity and field-generality of creativity (Baer, 1998). Fields such as music, mathematics, religion, and different technologies are the constituents of culture. Field-specificity in creativity studies directs attention to the matchless talent of a creative person in a particular field, which cannot be employed in other fields and areas. For most people creativity is an intuitively attractive concept, and everyone appears to know, or feel, or at least have an intuition about what it means. The question appears, however, if this term is interpreted as a rare phenomenon observable only in the abnormally talented, in which case its relevance for the millions of average people learning foreign languages is obviously negligible. If, nevertheless, creativity is assumed to be a particular arrangement of those cognitive, motivational, personality or social characteristics that are present in everyone, its impacts on second language acquisition cannot be overlooked. In other words, if creativity is thought to be a domain-general talent which could be promoted and employed in various domains, it would be of importance in the language teaching and learning fields. A number of researchers (Cropley, 2007) believe that the underlying constituents of creativity are normally distributed in the population. Hence, creativity, which implicitly includes imagination, unconventionality, risk-taking, flexibility, and creating new classifications and systematizations of knowledge (Sternberg, 1985), might be a factor affecting second language acquisition.

Critical thinking and creativity can be regarded as tools to activate or build schema. Norris and Phillips (1987) state that critical thinking and creativity provide explanations for activating the previously made schemata and for building new ones by contrasting thoughts and involving in reflective thinking. Furthermore, Collins et al. (1980) consider inference-making as a way to activate schemata in terms of bridging the missing associations between the surface structure fragments of the text by use of content and knowledge about the world.

According to schema theory, there are no definitive or final conclusions that can be reached for the text (Collins et al., 1980). It means that schema theory regards the reading comprehension as an interactive process between readers' existing knowledge and the text being read and how these two can be creatively integrated. Sometimes a reader may finish with a different understanding, based on his or her total earlier experiences: their richness or paucity. Hence, a

reader with a rich background will understand better than one who has a poorer background. Briefly speaking, schema theory believes in open text or context, the interpretation is relative (Aloqaili, 2005) and may be related to the readers' critical thinking and creativity. For the purpose of the study, reading comprehension can be defined as the meaning built as a consequence of the complex and interactive processes relating a reader's critical thinking, creativity, and prior knowledge.

It is obvious that people are different from each other and they attend language classes with various characteristics such as memory, motivation, intelligence, etc. critical thinking and creativity are two instances of these individual characteristics and it may have a pivotal role in students' performance in the schools, universities, and other educational settings.

On the other hand, despite the variety of academic courses that the university students take in English, and the strenuous efforts universities and teachers devote to improve students' language skills, the students' language performance, unfortunately, seems to have been frustrating. This might be attributed to the learning styles used by students in studying English (Aqel & Mahmoud, 2005). Unfortunately, reading skill is being instructed so superficially in Iranian foreign language acquisition context that most of the English learners cannot master it and encounter numerous problems in forthcoming stages of their studies as well as their real life situations (Iranmehr et al., 2011).

As like as other three language skills, reading comprehension regarded as a recreate skill, in which reader uses his creativity and critical thinking to gain the writers' intended meaning. Despite the emergence of different methods and techniques in language teaching all over the world, there are so many hindrances in this regard in Iranian EFL setting. The stated problems encouraged the researcher to explore the relationship of critical thinking and creativity with reading comprehension of Iranian EFL learners.

2. Research Questions and Hypotheses

Based on the purpose of the study the following research questions were proposed:

1. Is there any significant relationship between Iranian EFL learners' critical thinking and their reading comprehension?
2. Is there any significant relationship between Iranian EFL learners' creativity and their reading comprehension?
3. Is there any significant relationship between Iranian EFL learners' critical thinking and their creativity?

According to the above-mentioned research questions the following null hypotheses were formulated:

1. There is not any significant relationship between Iranian EFL learners' critical thinking and their reading comprehension.

2. There is not any significant relationship between Iranian EFL learners' creativity and their reading comprehension.
3. There is not any significant relationship between Iranian EFL learners' critical thinking and their creativity.

3. Review of the Literature

3.1. Critical Thinking

This part begins with an argument of what critical thinking is by regarding the debate which has occurred on whether or not it can be explained. This is followed by an explanation of how it can be instructed and measured. The usefulness of the teaching of thinking as shown by prior investigations is then examined.

Critical thinking (CT) is not an unknown notion among many instructors and scholars. Nevertheless, a debate has been occurring for two decades on whether or not it can be obviously explained. Some researchers claim that critical thinking is an ambiguous concept (McPeck, 1990), and that it is a tacit unit of socialization and can only be expanded in unconscious social activity (Atkinson, 1997). Atkinson (1997) came to conclusion that critical thinking is not a definable educational notion, founded on the outcome that many professors at an American university were unable to present an obvious explanation when asked to in interviews. Davidson (1998), nevertheless, insisted that such outcomes only indicate that we still lack an obvious comprehension of critical thinking, rather than providing proof that casts doubt on its definability. Although it is hard to explain critical thinking and there is so far no common definition, those who took in to account it to be a significant notion have tried to explain what it is.

Cottrell (2005) explained critical thinking as a cognitive task, consenting on argumentation, which needs the application of the mind. Facione (2000) described critical thinking as a self-adjusting procedure including the utilization of cognitive abilities to make judgments and to develop the level of judgments. This procedure of the application of the mind often associates with reasoning, reflection and judging (Sternberg et al., 2007). When involving in critical thinking, one require thinking logically and reflectively in order to make decision what to think and what to carry out (Norris & Ennis, 1989). Siegel (1988) put stress on the concept that a critical thinker should be one who is worked rationally. These descriptions portray critical thinking as a self-adjusting cognitive procedure in which the mind is applied to make rational judgments. They also put stress on the fact that reasoning, which involves the analysis of proof and eliciting outcomes from it, lies at the center of critical thinking (Cottrell, 2005).

3.2. Creativity

Although there is a lack of general agreement on the constructs or evaluations of creativity, researchers agree that the central part of creativity is the human

capability to generate thoughts or products that are both novel and effective (Feist, 1998; Sternberg & Lubart, 1999). This obvious definition of creativity, requiring two core facets -novelty and effectiveness, has been broadly applied from 1990s. nevertheless, this definition rooted in earlier scholars' works, such as Hutchinson (1931) who applied the word, *practicality* associating with creativity and Barron (1955) who explained *originality* (Runco & Jaeger, 2012). Based on this explanation, unsuitable thought that are novel but not effective, or conventional thoughts that are effective but not novel, are not regarded creative, as seen in historic and cultural sittings (Piffer, 2012). Besides, the standards of creativity are often developed to involve beauty in cases of artistic creativity. In this state, some researchers prefer the term, *appropriateness* in place of *effectiveness* to explain creativity (Piffer, 2012).

Nevertheless, these explanations have restricted concentration on creativity as products. As mentioned by Rhodes (1961), the conceptualization of creativity includes various facets of creativity, involving the psychological behaviors of creative persons, the cognitive process including in producing a creative thought, and the setting reinforcing creativity. In fact, pioneering scholars in the creativity research area, such as Guilford (1950) and Torrance (1974), explained creativity as a procedure from the psychometric prospective, while another class of scholars, such as Amabile (1989) and Csikszentmihalyi (1988), noted the relevance of context to creativity.

3.3. Reading Comprehension

Nowadays, there is an increasing awareness on the significance of the reading skill in the world. The progressive nature of technological developments makes reading more crucial. Reading naturally is the foundation of other skills and the early phases of developing the first language and naturalistic acquisition of other languages are firmly dependent on this skill. "Reading is a most important activity in any language class, not only as a source of information and a pleasurable activity, but also as a means of consolidating and extending one's knowledge of the language" (Rivers, 1981, p. 259).

However, reading is not an isolated activity taking place in some vacuum. Bernhardt (1991, as cited in Liu, 2010) argues that taking a cognitive perspective to reading means considering reading process as an intrapersonal problem-solving that takes place in the knowledge structure of the reader's brain. So, comprehending a text requires different processes and techniques.

While reading, students encounter with variety of difficulties such as lack of vocabulary, structural complexity of the text, inadequate reading skills, lack of interest, and so forth. According to Guariento and Morley (2001), authentic text refers to the type of material which is written for fulfilling a real word objective in the language spoken in that community, in

other words it is genuine. They believe that using authentic texts in classrooms helps to fill the existing gap between classroom events and real life activities and also it increases the learners' motivation for learning. Chastain (1988) believes that "generally, any text that an author writes to be able to communicate some message is authentic because it has an authentic purpose and it conforms to authentic language use" (p. 233). On the other hand, authentic task – authentic reading – is performing reading under real operating conditions in meaning-focused language activities (Ellis, as cited in Guariento & Morley, 2001).

When a child starts reading in his native language, he has a repertoire of vocabulary. He is also accustomed with the grammar of his language. But, when a student begins to read in the L₂, he does not possess such vocabulary and grammar knowledge. However, he has other advantages. Nation (2009) believes that as most L₂ learners are older than L₁ learners, their cognitive skills are much more developed and direct instruction to them is more effective than L₁ readers. L₂ readers also take advantage of being familiar with reading processes and they will be able to transfer many reading strategies such as guessing, scanning, and skimming from his first language to L₂ reading situation.

3.4. Empirical Studies

Different studies have been carried out to examine the relationship between critical thinking and creativity and reading comprehension. In this part, some of them are mentioned briefly.

Albert and Kormos (2004) attempted to investigate the effect of creativity on performance in oral narrative tasks. Participants of their study were Hungarian learners whose creativity was measured with a standardized creativity test. The researchers examined the relationships between three aspects of creativity: originality, flexibility, and creative fluency, and different measures of task performance. Their findings suggest that the three components of creativity have a differential effect on the measures of task performance. Creative fluency was positively correlated with the quantity of talk. Originality was negatively related to the quantity of talk, and positive correlations were found between originality and the complexity of narratives. The magnitude of the correlations indicated that creativity affects participants' output in narrative tasks only moderately. Hassani et al. (2013) investigated the relationship between critical thinking and journal text reading comprehension in Iranian EFL learners. 90 students of English translation at Abhar Payame Noor University participated in this study. After running the proficiency test, 62 students were selected as a homogenous group for this project. One questionnaire of critical thinking and one journalistic test for measuring their reading comprehension proficiency were administered to find out the relationship between critical thinking and reading comprehension of

journalistic text. The Persian version of questionnaire (Honey, 2004) was given to the subjects. After the questionnaire, journalistic reading test consisting of four passages and 40 items was given to the subjects. They found strong correlation between the two variables through using Pearson Product Moment Correlation.

Asadi Arashlou (2014) investigated the relationship between creativity and listening comprehension. At first, a modified version of Comprehensive English Language Test was administered to a group of 82 students to determine their homogeneity as well as to assess their language proficiency. In the next phase of the study, Arjomand creativity Questionnaire was administered to the participants. Afterwards, the students were given a listening comprehension test consisting of two lectures to measure the listening comprehension of students. The findings indicated that there is a significant correlation between creativity and listening comprehension.

Aloqaili (2012) reviewed and analyzed the relationship between reading comprehension and critical thinking. The specific theatrical issues being discussed included schema theory as a rational premise for the connection between reading comprehension and critical thinking, cognitive development processes, critical thinking: its nature and definitions, critical thinking: skills and dispositions, and critical thinking and reading comprehension. The results revealed that: (1) there was well established relationship between reading comprehension and critical thinking, (2) schema theory provided a rational premise for that relation, and (3) there was no consensus regarding the definition of critical thinking which might be interpreted as a lack of an accepted framework for critical thinking.

Nosratinia et al. (2014) aimed at investigating the relationship between EFL learners' creative thinking and language learning strategies. For this purpose, they randomly selected 140 EFL students, ranging between 19 and 32 years old, majoring in English Translation and English Literature at Islamic Azad University, at Central Tehran, Iran. They gave two questionnaires of the Strategy Inventory for Language Learning and Creative Thinking Questionnaire to the participants of their study. The results of Pearson correlation indicated significant relationships between EFL learners' total use of language learning strategies and their creativity. In addition, running multiple regressions showed that social strategy predicted 79 percent of creativity scores. The affective strategy added up the percentage of prediction to 82.6 percent, and finally the metacognitive strategy entered the model on the last step and increased prediction to 93.2 percent.

As it can be understood from the previous sections of this chapter and as far as the researcher knows there is not any comprehensive research investigating the relationship among three variables of critical thinking, creativity, and reading comprehension among EFL learners in the context of Iran. Therefore, the researcher decided to conduct the present study.

4. METHOD

4.1. Participants

This study was conducted with participation of 103 male and female students in Arak. In order to have a homogeneous sample of the study, the reading part of a Preliminary English Test was distributed to the participants and based on its results the students whose scores fell between one standard deviation below and above the mean were selected as participants of the study. Through this process 62 students were selected. The age range of the participants was 15 to 18.

4.2. Instruments

To handle the present study, the researcher used the following instruments:

1. Preliminary English Test (PET): the reading section of a PET was used to assess the reading comprehension level of the participants. The reading section of PET is composed of 35 questions and each correct answer bears one score. So, it was scored out of 35.
2. Critical Thinking Questionnaire: this questionnaire is developed by Honey (2004) and includes 30 five-point Likert scale closed questions. According to Naeini (2005), the Persian version of the questionnaire was studied by some professors at Tehran Azad University and they modified it. The reliability of questionnaire was assessed through running Cronbach's Alpha and returned the reliability index of 0.88. The validity of this questionnaire was also acknowledged by three experienced teachers.
3. Torrance's Creativity Questionnaire: this questionnaire is designed by Torrance (1979). It includes 60 multiple-choice items used for determining the participants' level of creativity. The scoring of the participants' answers was based on the guidelines provided in the questionnaire itself. The minimum and maximum scores for each item were 0 and 2 and total score was calculated out of 120. The Persian version of this questionnaire was used in this study and its reliability was calculated by Cronbach's Alpha which revealed the acceptable index of 0.84. The validity of this questionnaire was also confirmed by three experienced teachers.

4.3. Procedure

At the first stage, Critical Thinking Questionnaire and Torrance's Creativity Questionnaire were given to 20 students having the similar conditions with the participants of the main study to pilot them. Based on the results of the pilot study, the internal consistency indices for the questionnaires were calculated. Then, the reading section of a PET as a proficiency test was given to the participants. The scores obtained from this test were used to check the homogeneity of

the participants. In addition, the scores of the selected students were considered as their reading comprehension score. The time given to this test was 60 minutes. According to the results of this test, those students whose scores were between one standard deviation minus and plus the mean were selected to participate in the study.

In the next session, the Persian translation of Critical Thinking Questionnaire and Torrance's Creativity Questionnaire were distributed to the selected participants. The time given to the participants to answer the items in each of the questionnaires was thirty minutes. The reason for using Persian versions of the questionnaires was eliminating probable problems which participants might encounter due to the lack of their English language knowledge.

4.4. Design

This study was a descriptive and survey-based research which intended to measure the degree of correlation among the three variables of the study. Critical thinking and creativity were considered as independent variables and the reading comprehension is taken as the dependent variable of the study arbitrarily, although, in fact, there is no independent or dependent variables in correlation designs.

5. RESULTS

5.1. The Results of the Selection Test

In order to have a homogeneous sample the reading section of a PET was administered to the participants and those who gained a score within the range of one standard deviation below and above the mean were chosen. Table 1 shows the descriptive statistics of the participants' PET scores.

Table 1: Descriptive Statistics of the Participants' PET Scores

	N	Minimum	Maximum	Mean	Std. Deviation
PET	103	3	33	21.49	10.005
Valid N (listwise)	103				

As Table 1 shows, overall mean and standard deviation of the participants' PET scores were 21.49 and 10.005, respectively. Out of the 103 students, 62 students whose scores were between one standard deviation below and above the mean (i.e., 12 and 31) were selected.

5.2. The Participants' Critical Thinking, Creativity, and Reading Comprehension Scores

Table 2 presents the results of the critical thinking, creativity, and reading comprehension of the participants. This table indicates descriptive statistics such as number of participants, minimum, maximum, mean and standard deviation of their scores.

Table 2: Descriptive Statistics of the Participants' Critical Thinking, Creativity, and Reading Comprehension Scores

	N	Minimum	Maximum	Mean	Std. Deviation
Critical Thinking	62	12	31	24.98	6.605
Creativity	62	31	150	88.27	35.976
Reading	62	21	120	73.85	27.390
Valid N (listwise)	62				

Table 2 indicates that the participants' critical thinking mean score was 24.98 with the standard deviation of 6.605. In addition, their creativity and reading comprehension mean scores were 88.27 and 73.85 with the standard deviations of 35.976 and 27.390, respectively.

5.3. Checking the Normal Distribution of the Scores

In order to run parametric tests in SPSS, the assumption of the normal distribution of the data should be met. Therefore, the Shapiro-Wilk test was run to check this assumption. From the results of this test, the p-value is compared to the *a priori* alpha level (level of significance for the statistic) – and a determination is made as to reject ($p < \alpha$) or retain ($p > \alpha$) the null hypothesis. Table 3 presents the results of the normality test.

Table 3: The Shapiro-Wilk Normality Test for Critical Thinking, Creativity, and Reading Comprehension Scores

	Shapiro-Wilk		
	Statistic	df	Sig.
Critical Thinking	.820	62	.211
Creativity	.947	62	.110
Reading	.968	62	.107

Given that the p-value in Table 3 is higher than 0.05 for three sets of scores, it can be concluded that all scores are normally distributed. Therefore, the normality assumption was met for this sample.

5.4. The Results Regarding the First Research Question

The relationship between critical thinking and reading comprehension scores of the participants was calculated through Pearson's correlation analysis. The results of the correlation analysis are presented in Table 4.

Table 4: Pearson's Correlation between Critical Thinking and Reading Comprehension

	Critical Thinking	Reading
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Critical Thinking	Pearson Correlation	1	.894**
	Sig. (2-tailed)		.000
	N	62	62
Reading	Pearson Correlation	.894**	1
	Sig. (2-tailed)	.000	
	N	62	62

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

As it is indicated in Table 4, the coefficient value was 0.894 and the p-value observed was 0.000 and this was lower than the level of significance selected for this study ($\alpha=0.01$). Thus, it can be claimed that there was a positive significant relationship between critical thinking and reading comprehension scores of the participants. In other words, the first null hypothesis of the study was rejected and any increase in the level of the participants' critical thinking is accompanied by the enhancement of their reading comprehension level.

5.5. The Results Regarding the Second Research Question

To determine the existence of any significant relationship between creativity and reading comprehension scores of the participants, the researcher ran a Pearson's correlation analysis. Table 5 shows the results of this correlation analysis.

Table 5: Pearson's Correlation between Creativity and Reading Comprehension

		Creativity	Reading
Creativity	Pearson Correlation	1	.608**
	Sig. (2-tailed)		.000
	N	62	62
Reading	Pearson Correlation	.608**	1
	Sig. (2-tailed)	.000	
	N	62	62

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

According to the results presented in Table 5, the coefficient value was 0.608 and the p-value observed was 0.000. The amount of p-value was smaller than the level of significance selected for this study ($\alpha=0.01$). Therefore, it was revealed that there was a significant relationship between creativity and reading comprehension scores of the participants. To state the matter differently, the second null hypothesis of was also rejected.

5.6. The Results Regarding the Third Research Question

The relationship between critical thinking and creativity scores of the participants was calculated through another Pearson's correlation analysis. The results of the correlation analysis are presented in Table 6.

Table 6: Pearson's Correlation between Critical Thinking and Creativity

		Critical Thinking	Creativity
Critical Thinking	Pearson Correlation	1	.735**
	Sig. (2-tailed)		.000
	N	62	62
Creativity	Pearson Correlation	.735**	1
	Sig. (2-tailed)	.000	
	N	62	62
**. Correlation is significant at the 0.01 level (2-tailed).			

As it is indicated in Table 6, the coefficient value was 0.735 and the p-value observed was 0.000 and this was lower than the level of significance selected for this study ($\alpha=0.01$). Thus, it can be claimed that there was a positive significant relationship between critical thinking and creativity scores of the participants. In other words, the third null hypothesis of the study was rejected.

6. DISCUSSION

The present study has provided empirical evidence considering the relationship among Iranian EFL students' critical thinking, creativity, and reading comprehension. The statistical analyses demonstrated that there were significant correlations among these variables. Although any cause and effect relationship between these variables was not implied, it can be concluded that EFL learners with higher levels of critical thinking and creativity are more successful in comprehending written texts.

To support the results of the study, it is essential to state the views of some cognitive specialists concerning critical thinking and reading comprehension. Some of the mental skills utilized in reading comprehension, according to Grabe (1991), are inference, synthesis, analysis, and evaluation which are what specialists consider as being at the heart of critical thinking. Therefore, taking the definition of reading comprehension by Durkin (1978), intentional reflection during which meaning is built through interactions between text and reader, this building of meaning during reading is a complex integrator of skills, prior knowledge and text accompanied by the language skills, motivation and

interest of the reader (Robinson, 2006). Hence, the above claim has been accepted in the significant correlation of critical thinking and reading comprehension. As it can be seen, critical thinking and reading comprehension both are cognitive skills that have shared cognitive skills so that fostering the first can lead to the promotion of the second.

Concerning the relationship between critical thinking and reading comprehension, the results of the present study were consistent with the findings of the studies carried out by Hassani et al. (2013) and Aloqaili (2012). The present study as well as the two mentioned studies indicated the existence of positive correlation between critical thinking and reading comprehension.

In terms of the relationship between creativity and reading comprehension, the findings complete the results of studies performed by Ehrman (1996), who believe that the ability to deal with something new is a significant characteristic that influences the prosperity of language learning. Their line of reasoning can be expanded, and on the basis of our findings, we can claim that the ability to make original and novel thoughts and ideas from a certain text affects how students perform in a particular language learning task. It may well be mentioned that Guilford (1967) claimed that "creativity is the key to education in its fullest sense and to the solution of mankind's most serious problems" (p. 13) is still applicable today.

Regarding the relationship between creativity and reading comprehension, the results of the present study were in line with the findings of Albert and Kormos (2004) and Asadi Arashlou (2014). These studies also revealed a positive relationship between creativity and reading comprehension.

7. CONCLUSION

People differ in the ways they perceive, think, feel, and behave. Researchers have identified many specific examples of these individual differences, among which are critical thinking and creativity. The personal and professional experiences of educators provide constant evidence that the variation in the level of critical thinking and creativity exists, potentially affecting many aspects of learning and teaching each day. The results of various studies suggest that it is important to determine students' critical thinking and creativity level and make them aware about different approaches to learning. By emphasizing these two personal characteristics, the focus will be on the learner and by doing so we are getting the learner to reflect on the reasons of his/her lack of comprehension and solutions for reducing this mostly undesired phenomenon.

The main focus of this chapter is to summarize the major findings of the study, to come to a conclusion, to draw a few pedagogical implications, and finally to provide some suggestions for further research. As stated earlier, the purpose of this study was to explore the relationship among critical thinking, creativity, and reading comprehension of Iranian EFL learners.

In order to meet the aims of the study, a homogeneous sample was drawn and the level of critical thinking, creativity and reading comprehension of the participants were measured. The findings indicated that among participants, all these three variables were mutually and positively correlated.

The conclusion that can be drawn from the findings of the present study was that due to the positive correlation between critical thinking, creativity, and reading comprehension, through teaching critical thinking skills and making the learners more creative through different exercises, the educational institutes can contribute to better comprehension of the written texts by the EFL students and accordingly develop their comprehension ability generally. Therefore, EFL students can extend their abilities to other language skills including listening comprehension.

In the light of the findings of the present study, the researcher would like to suggest some practical implications which can be useful to students and teachers. The first implication is for language teachers. Language instructors can aid EFL learners in any level to develop their critical thinking and creative abilities. Of course, foreign language learners might be cognizant of the strengthening impacts of critical thinking and creativity on their speaking within a communication context, but might not be aware of the ways to increase these characteristics. Therefore, language teachers can make the learners aware of the existence of critical thinking and creativity in foreign language learning and permit learners to know that they are supposed to think both critically and creatively when facing comprehension problems. Being aware of the possibility of solving the comprehension breakdowns might make the learners feel a bit relaxed and help them defeat unpleasant reactions.

Each study is usually faced with a number of limitations and delimitations. The current study explored the relationship among Iranian EFL learners' critical thinking, creativity, and reading comprehension. But, considering Iranian EFL context, in the future studies, qualitative methods may be accompanied to gather data to make the results more reliable and valid. Moreover, the gender of the participants may be differentiated in similar studies. It means that the critical thinking and creativity level of the male and female students may be compared and the degree of the correlation between critical thinking and creativity and language skills across genders can be measured.

CRedit Author Contributions

Conceptualization, methodology, data collection, formal analysis, investigation, writing- original draft, and writing- review & editing were carried out by the author.

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Conflict of Interest

The authors have no conflicts of interest to declare.

Data Availability Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.

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Declaration

This manuscript has not been published previously and is not under consideration for publication elsewhere.

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