

The Relationship between EFL Learners' Emotional Intelligence and Critical Reading

Mahnaz Saeidi

Islamic Azad University, Tabriz Branch

Mandana Yusefi

Islamic Azad University, Quchan Branch

This study examined the EFL learners' Emotional Quotient (EQ) and Critical Reading (CR) ability to identify possible relationships between these two traits. The results show that there exists a significant relationship between students' EQ and CR and there is no significant difference between females and males' EQ and CR ability. Finally, only Intrapersonal and Stress Management subscales of EQ can be regarded as predictors of changes in CR scores. The findings of the study suggest that it is necessary to plan and take action for the management of the learners' emotions and behaviors if pedagogy is going to develop learners' skill in rational thinking and problem-solving which will be effective not only in instructional settings but also in daily life.

Keywords: Emotional Quotient, Critical Reading, Intrapersonal Subscale, Stress Management Subscale

Although it was commonly assumed that learning implicated intellectual and cognitive processes, Emotional Intelligence (EI) is emerging as an important factor in high performance at academic contexts. Engaging in any learning activity is directly linked to the emotional state of the learner (how he feels about himself) and his

motivation (how he feels about the subject). Different emotions will incite different outcomes: positive emotions, for example, allow for efficient acquisition and creation of knowledge, while negative ones reduce and inhibit knowledge retrieval. Learners are highly complex beings and as such, learning involves both cognitive and emotional processes. In fact, emotional intelligence is recognized as an essential component to the success of human learning processes (Goleman, 1995; Salovey & Mayer, 1990). Goleman (1995) argued that emotional intelligence is much more important than academic intelligence in developing a well-rounded person, asserting that IQ contributes about 20 percent to the determining factors of success, while 80 percent is related to other factors. Regarding the importance and the impact of emotions on learning, our challenge is finding out the relationship and impact of EQ and its subscales on one of the major issues of current research, i.e. critical reading.

In order to have a clearer view of the issues at work, it is better to firstly deal with the history and definitions of EQ and critical thinking.

Emotional Intelligence

Salovey and Mayer (1990) defined Emotional Intelligence as the ability to perceive, generate and understand emotions so that it can help thinking and also to reflectively regulate emotions so as to promote emotional and intellectual growth. Emotional Intelligence (Goleman, 1995) is usually defined by five Emotional Quotient (EQ) skill dimensions: a) Self-Awareness of feelings: knowing how and why you are feeling and using your self-awareness to make better decisions; b) Emotional self-regulation: controlling strong negative emotions such as anger and anxiety and organizing positive personal support to enhance that control; c) Self-monitoring and goal setting: being goal-oriented and planning to reach your goals by being hopeful and optimistic; d) Empathy and perspective taking: showing genuine appreciation for the feelings and opinions of others; e) Social and communication skills: ability to work effectively in groups and using skills such as leadership,

problem solving and decision-making, careful listening, the spirit of give-and-take, and clear verbal and nonverbal communication.

In 1997, Six Seconds' team¹ sought to take those best-practices and create a framework for teaching and practicing the skills of EQ. They went beyond the scientific definition to capture the practical value of the concepts that are worth teaching and learning. They defined emotional intelligence as the capacities for bringing forth the optimal results in the relationships between the individual and others.

Six Seconds also developed a model that captures those practices in three areas: Know Yourself, Choose Yourself, and Give Yourself., with eight specific skills. Six Seconds' goal was to integrate thinking and feeling to live more effectively.

Another leading researcher whose work inspired both Goleman and Six Seconds was Antonio Damasio. Damasio (1994) outlined how emotions are functioning in the brain to create people's sense of identity and guide rational decision making. Damasio's contributions provide powerful evidence that it is artificial to separate thinking and feeling.

Other researchers even went further. Candace Pert (1997) was a leading neurobiologist who wrote *Molecules of Emotion*. Pert's perspective was that 'thinking' occurs in the brain and the body. All kinds of 'information' are processed throughout the body, feelings, and maybe even spiritual impulses. While the brain has the most processing power, it is not necessarily driving the system. Pert's claim is certainly very different from the idea that rational brain is the center of human essence.

Goleman (1995) takes a more holistic approach to defining intelligence than the traditional IQ, which focuses on cognitive intelligence. By incorporating the cognitive and affective dimensions of intelligence, he demonstrates that, to be successful in life requires more than just being smart. Goleman (1995) defined EQ as:

1 A nonprofit organization serving schools, families, communities and corporations with training and materials to support emotional intelligence (EQ Today is published by Six Seconds).

EQ is not destiny - emotional intelligence in a different way of being smart. It includes knowing your feelings and using them to make good decisions; managing your feelings well; motivating yourself with zeal and persistence; maintaining hope in the face of frustration; exhibiting empathy and compassion; interacting smoothly; and managing your relationships effectively. Those emotional skills matter immensely - in marriage and families, in career and the workplace, for health and contentment. (p. 224)

Goleman shows that the seeds of what he calls emotional intelligence are sown early in life, and affect not only how the person deals with other people but also how he can succeed in academic and educational settings. In contrast to cognitive intelligence, which is endowed to human being at birth, emotional intelligence can be strengthened later in life if properly tutored and managed.

While some researchers have focused on defining the skills of emotional intelligence, others have examined and studied its effects. Bar-On (1997) has been interested in non-cognitive competencies since the mid-1980s. He developed a test that measures people's self-report of these competencies, called the EQ-i. Bar-On. He defines emotional intelligence as a set of non-cognitive capabilities and skills which influence the individual's ability to succeed in managing environmental demands and pressures. Again, Bar-On, like Six Seconds, is focusing on the real-world results.

Another useful definition comes from Orioli, Jones, and Trocki (1999) the creators of the EQ Map. They say that emotional intelligence is the ability to understand and apply the power and judging skill of emotions as a source of human energy, information, trust, creativity and influence. A significant insight from this model is that having a capacity or skill is not sufficient to create real-world results.

More recently, Mayer and Cobb (2000) further developed the definition of emotional Intelligence, into four areas: a) emotional

perception which involves abilities for identifying emotions; b) emotional facilitation of thought which is dealt with abilities for relating emotions to other sensations and using the emotions in reasoning; c) emotional understanding that concerns solving emotional problems and understanding the similarities and differences between emotions; and d) emotional management which concerns the understanding of the implications of social activities on emotions and regulating emotions in the individual.

Hein (2005) defined Emotional Intelligence as the ability to know how to separate healthy and unhealthy feelings from each other and to turn negative feelings into positive ones. He believes Emotional Intelligence refers to an individual's innate potential, with a core formed by four inborn components: emotional sensitivity, emotional memory, emotional learning ability and emotional processing. He claims this innate intelligence is affected, either developed or damaged, by life experiences. It appears to be particularly affected by the emotional lessons taught by parents, teachers, caregivers and family. Hein considers emotional processing as one of the four core innate components, which affects individuals' natural intelligence and potential. Therefore, to improve an individual's Emotional Intelligence, perhaps one needs first to develop their emotional processing abilities.

According to Bar-On and Handley (2003), there are currently three major conceptual models for emotional intelligence:

- (a) the Salovey-Mayer model which defines EI as the ability to perceive, understand, manage, and use emotions to facilitate thinking, in this model EI is measured by an ability-based test;
- (b) the Goleman model viewing EQ as a set of competencies and skills that drive managerial performance, here a multi-rater assessment is used for measuring EQ;
- (c) the Bar-On model in which interrelated emotional and social competencies, skills and

facilitators impact intelligent behavior, measured by self-report questionnaire.

The Bar-On model provides the theoretical basis for the EQ-i, which was originally developed to assess various aspects of this construct as well as to examine its conceptualization. The Emotional Quotient Inventory (the EQ-i) has played an instrumental role in developing this model (the Bar-On model is operationalized by the EQ-i). The EQ-i is a self-report measure of emotionally and socially intelligent behavior that provides an estimate of emotional-social intelligence. The EQ-i was the first measure of its kind to be published by a psychological test publisher (Bar-On, 1997), and the most widely used measure of emotional-social intelligence to date (Bar-On, 2004).

A brief description of these emotional-social intelligence competencies, skills and facilitators measured by the 15 subscales is provided in Table 1.

In order to determine the relationship between emotional intelligence and students' performance, Swart (as cited in Bar-On, 1997) conducted a study on 448 university students in South Africa and indicated that there is a significant difference in EQ-i between successful and unsuccessful students. These results were confirmed by an additional study conducted on 1,125 university students in the United States. In both studies, the more successful students were found to be the more emotionally and socially intelligent. It was shown that academic performance appears to be facilitated by being able to set personal goals as well as to be sufficiently optimistic and self-motivated to accomplish them.

Table 1.
The EQ-i scales and what they assess (Adapted from Bar-On., 2006)

EQ-i SCALES	The EI Competencies and Skills Assessed by Each Scale
Intrapersonal:	Self-awareness and self-expression:
Self-Regard	<i>To accurately perceive, understand and accept oneself.</i>
Emotional Self-Awareness	<i>To be aware of and understand one's emotions.</i>
Assertiveness	<i>To effectively and constructively express one's emotions and oneself.</i>
Independence	<i>To be self-reliant and free of emotional dependency on others.</i>
Self-Actualization	<i>To strive to achieve personal goals and actualize one's potential.</i>
Interpersonal:	Social awareness and interpersonal relationship:
Empathy	<i>To be aware of and understand how others feel.</i>
Social Responsibility	<i>To identify with one's social group and cooperate with others.</i>
Interpersonal Relationship	<i>To establish mutually satisfying relationships and relate well with others.</i>
Stress Management:	Emotional management and regulation:
Stress Tolerance	<i>To effectively and constructively manage emotions.</i>
Impulse Control	<i>To effectively and constructively control emotions.</i>
Adaptability:	Change management:
Reality-Testing	<i>To objectively validate one's feelings and thinking with external reality.</i>
Flexibility	<i>To adapt and adjust one's feelings and thinking to new situations.</i>
Problem-Solving	<i>To effectively solve problems of a personal and interpersonal nature.</i>
General Mood:	Self-motivation:
Optimism	<i>To be positive and look at the brighter side of life.</i>
Happiness	<i>To feel content with oneself, others and life in general.</i>

An analysis of variance of the North American normative sample ($N = 3,831$) was conducted to examine the effect of age, gender and ethnicity on EQ-i scores (Bar-On, 1997). Although the results indicated a few significant differences between the age groups compared, these differences are relatively small in magnitude. In brief, the older groups scored significantly higher than the younger groups on most of the EQ-i scales; and respondents in their late 40s obtained the highest mean scores. With respect to gender, no differences have been revealed between males and females regarding overall EQ-i. However, statistically significant gender differences do exist for a few of the factors measured by the EQ-i, but the effects are small for the most parts. More specifically, the Bar-On model reveals that women are more aware of emotions, demonstrate more empathy, relate better interpersonally and are more socially responsible than men. On the other hand, men appear to have better self-regard, are more self-reliant, cope better with stress, are more flexible, solve problems better, and are more optimistic than women. Similar gender patterns have been observed in almost every other population sample that has been examined with the EQ-i. Men's deficiencies in interpersonal skills, when compared with women, could explain why psychopathy is diagnosed much more frequently in men than in women; and significantly lower stress tolerance amongst women may explain why women suffer more from anxiety-related disturbances than men. Meanwhile, it was concluded that there are no significant differences in emotional-social intelligence between the various ethnic groups that have been examined in North America (American Psychiatric Association, 1994).

Brackett, Mayer, and Warner (2004) conducted a study assessing the discriminant, criterion and incremental validity of an ability measure of emotional intelligence. College students ($N=330$) took an ability test of EI, a measure of the Big Five personality traits, and provided information on Life Space scales that assessed an array of self-care behaviors, leisure pursuits, academic activities, and interpersonal relations. The findings showed that women scored significantly higher in EI than men. EI, however, was more predictive of the Life Space criteria for men

than for women. Lower EI in males, principally the inability to perceive emotions and to use emotion to facilitate thought, was associated with negative outcomes, including illegal drug and alcohol use, deviant behavior, and poor relations with friends.

Critical Reading

The definition of critical thinking has changed somewhat over the past decade. Originally the dominions of cognitive psychologists and philosophers, behaviorally-oriented psychologists and content specialists have recently joined the discussion. The following are some examples of attempts by different scholars to define critical thinking (Huitt, 1998, p.1):

- The ability to analyze facts, generate and organize ideas, defend opinions, make comparisons, draw inferences, evaluate arguments and solve problems (Chance, as cited in Huitt, 1998);
- A way of reasoning that demands adequate support for one's beliefs and an unwillingness to be persuaded unless support is forthcoming (Tama, as cited in Huitt, 1998);
- Involving analytical thinking for the purpose of evaluating what is read (Hickey, as cited in Huitt, 1998);
- A conscious and deliberate process which is used to interpret or evaluate information and experiences with a set of reflective attitudes and abilities that guide thoughtful beliefs and actions (Mertes, as cited in Huitt, 1998);
- Active, systematic process of understanding and evaluating arguments. An argument provides an assertion about the properties of some object or the relationship between two or more objects and evidence to support or refute the assertion. Critical thinkers acknowledge that there is no single correct way to understand and evaluate arguments and that all attempts are not necessarily successful (Mayer & Goodchild, as cited in Huitt, 1998);
- The intellectually disciplined process of actively and skillfully conceptualizing, applying, analyzing, synthesizing, and/or evaluating information gathered from, or generated by, observation, experience, reflection, reasoning, or

communication, as a guide to belief and action (Scriven & Paul, as cited in Huitt, 1998);

- Reasonable reflective thinking focused on deciding what to believe or do (Ennis, as cited in Huitt, 1998).

In brief, critical thinking consists of the mental process of analyzing and evaluating statements or propositions that have been offered as true. It includes a process of reflecting upon the specific meaning of statements, examining offered evidence and reasoning, in order to form a judgment. The process of critical thinking involves acquiring information and evaluating it to reach a well-justified conclusion or answer. One can regard critical thinking as involving two aspects:

- 1- A set of cognitive skills, intellectual standards, and traits of mind.
- 2- The ability and intellectual commitment to use those structures to improve thinking and to guide behavior.

According to Paul and Elder (2006), irrespective of the sphere of thought, “a well cultivated critical thinker”:

- raises vital questions and problems, formulating them clearly and precisely;
 - gathers and assesses relevant information, using abstract ideas to interpret it effectively;
 - comes to well-reasoned conclusions and solutions, testing them against relevant criteria and standards;
 - thinks open-mindedly within alternative systems of thought, recognizing and assessing, as need be, their assumptions, implications, and practical consequences; and communicates effectively with others in figuring out solutions to complex problems.
- (p.4)

Critical reading is really the same thing as critical thinking. It means reading—and thinking—with an open mind, not to agree or disagree, but to discover ideas and information. To be a critical

reader doesn't mean criticizing. Instead, it assumes that written texts are not authoritative pronouncements, but rather human creations subject to interpretation and evaluation. In essence, everything is up for question. It follows that critical readers constantly ask the big question: Am I really thinking about what I'm reading?

According to Harnadek (1978) a critical reader follows evidence and considers all the possibilities. He always tries to rely on reason rather than emotion and value thinking. He considers the source of material and weighs the effects of motives and biases and is also more concerned with finding the truth than being right. Finally, he has good reasons for believing some things and disbelieving others, for agreeing with some authors and disagreeing with others.

Reading effectively requires approaching texts with a *critical eye*: evaluating what you read for not just what it says, but how and why it says it. Effective reading is central to both effective research (when you evaluate sources) and effective writing (when you understand how what you read is written, you can work to incorporate those techniques into your own writing). Being an effective reader also means being able to evaluate your own practices, working to develop your critical reading skills.

According to the model proposed by Huitt (1998), there are affective, conative, and behavioral aspects of critical thinking that must be considered in addition to the cognitive processes involved (Figure 1). First, an argument or proposition is presented by a stimulus. There is an affective tendency to use critical thinking in order to activate the critical thinking processes if it is to take place. Thus, a previously held belief is confirmed or a new belief is established which will be established as a component of declarative memory in its semantic form, although there may be episodic information associated with it. There may also be images or visualizations formed or remembered as part of the critical thinking process. There is then an affective disposition to plan and take action in order for the critical thinking to act as a guide to behavior. The conative components of goal-setting and self-regulation must be activated in order to develop and implement a

plan of action. As action is taken, it results in feedback from the environment and a corresponding increase in procedural knowledge. This new learning which is available as a necessary corrective action is taken to guide action toward the desired goal based on beliefs or a new situation that in turn requires additional critical thinking.

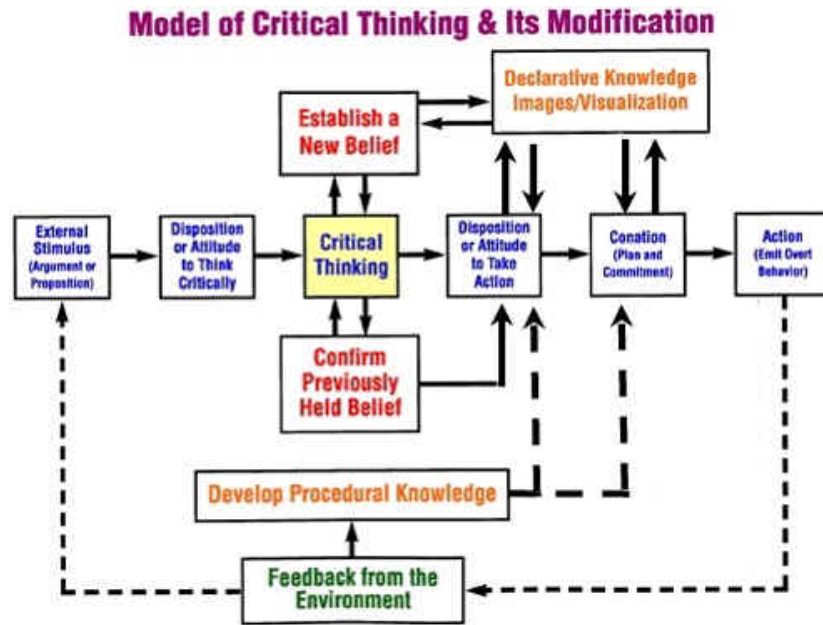


Figure 1. Model of critical thinking and its modification (adapted from Huitt, 1998)

Critical thinking may be distinguished, but not separated, from emotions, desires, and traits of mind. Failure to recognize the relationship between thinking, feeling, wanting, and traits of mind can easily lead to various forms of self-deception, both individually and collectively. While conventional wisdom says emotions get in the way of analytical thinking or that they are inherently irrational, modern neuroscience appears to claim the idea that emotions are a key *support* of intellectual performance. Regarding the claimed relationship, the main objective of the

present study was to examine the associations between scores on the trait EI measure and performance on a critical reading test in order to understand the possible relationship between these two.

However, there were several purposes for this study. The first was to determine whether and to what degree the learners' Critical Reading ability was related to their gifted Emotional Intelligence. A second purpose, related to the first, was to determine the difference between female and male learners concerning their Emotional Intelligence and Critical Reading ability. The final purpose was to examine the predictive relationship between learners' Emotional Intelligence subscales and Critical Reading ability.

Accordingly, the researchers have presented the following research questions:

- 1) Is there a relationship between EFL learners' Emotional Quotient and Critical Reading ability?
- 2) Is there a difference between female and male EFL learners' Critical Reading ability?
- 3) Is there a difference between female and male EFL learners' Emotional Quotient ?
- 4) Is there a predictive relationship between EFL learners' Emotional Quotient subscales and Critical Reading ability?

Method

Participants

For the purpose of this study and in an attempt to test the null hypotheses, 160 EFL learners majoring in English Translation, Literature, and Teaching at Islamic Azad University of Quchan were selected randomly to take the Bar-On EQ-i and the Critical Reading tests. Although 160 participants originally took the tests, there was subject attrition and incomplete data from some

participants. One hundred forty-three (27 males and 116 females) participants, who aged between 19 and 28, took part in the study. In order to obtain the students' consent, the purpose and possible advantages of the study were explained to them and those not inclined to participate were allowed to leave the session. Meanwhile, the students themselves became very much interested to know about their own EQ and CR ability and it was promised to inform them about the results of the tests, which was a very strong motivation causing them to answer the tests more carefully.

Instruments

The first instrument used was Bar-On's EQ-i, which has been around for over one decade. This self-report instrument originally evolved not out of an occupational context but rather a clinical one. The EQ-i contains 133 items in the form of short sentences and employs a 5- point response scale with a textual response format ranging from "very seldom or not true of me" (1) to "very often true of me or true of me" (5). A list of the inventory's items is found in the instrument's technical manual (Bar-On, 1997). The EQ-i is suitable for individuals with 17 years of age and older and takes approximately 40 minutes to complete. The individual's responses render a total EQ score and scores on the following 5 Subscales comprise 15 subscale scores:

Intrapersonal (comprising Self-Regard, Emotional Self-Awareness, Assertiveness, Independence, and Self-Actualization);

Interpersonal (comprising Empathy, Social Responsibility, and Interpersonal Relationship);

Stress Management (comprising Stress Tolerance and Impulse Control);

Adaptability (comprising Reality-Testing, Flexibility, and Problem- Solving);

General Mood (comprising Optimism and Happiness).

In an effort to examine the divergent construct validity of the Bar-On model, the EQ-i has been concomitantly administered with various measures of cognitive intelligence (including the

Wechsler Adult Intelligence Scale, Progressive Raven Matrix, and the General Adult Mental Ability Scale) to a total of 4,218 individuals in six studies (Bar-On, 2004). The results indicate that there is only minimal overlap between the EQ-i and tests of cognitive (academic) intelligence, which was expected in that this instrument was not designed or intended to assess this type of performance. Furthermore, these findings indicate that emotional-social intelligence and cognitive intelligence are not strongly related and are most likely separate constructs.

In order to examine the convergent construct validity of the Bar-On model and measure, the correlation between the EQ-i and other ESI (Emotional Social Intelligence), instruments was evaluated. The findings indicated that the degree of domain overlap between the EQ-i and other measures of ESI is about 36 percent, which is substantial when evaluating construct validity (Anastasi, 1988). When compared with a 4 percent overlap with IQ tests and a 15 percent overlap with personality tests, it was revealed that the EQ-i is measuring what the other ESI measures are measuring (i.e., emotional-social intelligence) rather than cognitive intelligence or personality traits). These findings suggest that EQ-i possesses good construct validity – i.e., for the most part, this instrument is measuring what it was designed to measure. Thus, the Bar-On model is a valid concept of ESI in that it is describing key aspects of emotional-social intelligence rather than other psychological constructs such as cognitive intelligence or personality. The Bar-On EQ-i was translated and piloted for reliability and validity by a group of psychologists of Sina Behavioral Research Institute in Iran (Ghods, 2007). In order to determine the face validity of the test, after consulting with experts in the field, 30 tests were distributed between the students of different majors. They were asked to determine the ambiguous items. After removing the deficiencies and ambiguities, the revised formats were administered to 500 students in different universities in Isfahan and Khurasgan. Then, all the items were factorially analyzed and correlation coefficient was calculated between all of them. As the result of omitting the unacceptable items, the number of the questions was reduced to 90. In the final step, the mentioned

sample took the test again and were interviewed and the internal consistency of the questions concerning each scale was calculated. It was concluded that only the question 63 had a low and reverse relationship with the total score of the test. This question was edited and the final format of the test was prepared. The final format included 90 questions with the total reliability of 88 percent at the $P < 0.0001$ for both female and male students. The maximum and minimum scores for the whole test are 450 and 90, and for each scale are 90 and 6, respectively.

The second instrument used was Critical Reading Test (Appendix). In order to test the students' critical reading ability, a test format adapted from Heberle.(2000) was used for a passage selected from '501 critical reading questions' (2004). It included five sections dealing with general questions for the analysis of the text (7 questions), lexical choice (4 questions), grammar (3 questions), visual elements (3 questions), and gender issues (3 questions).

Design

An ex post facto design was used in this study. The researchers examined the pre-existing reading ability and the EQ of the learners. The students' critical reading scores and their scores on Bar-On were the dependent and independent variables, respectively. Both variables were free from the researcher's manipulation.

Procedures

Both tests were administered at the same time for all the students. Scores on EQ-i were computer-generated. The students' answers on their answer sheets were entered into Excel program which calculated the student's total EQ score in addition to the score of its 15 subscales. Average and above average scores on the EQ-i suggest that the respondent is effective in emotional and social functioning. The students' final scores on critical reading

test were obtained by calculating the average of the scores the raters considered for them.

Results

The present data provide a wide range of possible analyses for addressing the main aims of the investigation. In order to examine the relationship between the students' EQ scores and Critical Reading (CR) scores (both interval scales), first, both variables were tested for normality, the results of which (Kolmogorov-Smirnov test EQ: $Z = 0.660$, $P = 0.776$ & CR: $Z = 1.331$, $P = 0.058$) showed that both are normal. Thus, the Pearson Correlation Coefficient was used to determine the degree of relationship between the variables. As it was shown in Table 2, there is a direct relationship between students' EQ scores and their CR scores (i.e., as the EQ score increases the student's score on CR test increases). Thus, the first null hypothesis, there is not a relationship between learners' EQ and CR ability, is rejected ($r = 0.201$, $P = 0.016 < 0.05$) and the alternative hypothesis, there is a relationship between EFL learners' critical reading ability and their scores on EQ-i test, is accepted.

Table 2
The relationship between EQ and CR tests

		SumEQ	Critical reading score
SumEQ	Pearson Correlation	1	.201(*)
	Sig. (2-tailed)	.	.016
	N	143	143

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

To understand that whether there is any difference between female and male learners regarding their CR ability (the second hypothesis), an Independent-sample T-Test was conducted. As Table 3 shows, there is not a significant difference between female and male learners regarding their CR scores ($t = -1.429$, df

= 57.4, $P = 0.158 > 0.05$). Therefore, we can conclude that there is no significant difference between female and male learners' scores on EQ and CR tests and the second hypothesis is rejected.

Table 3

Independent samples test between females and males (CR)

		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
Critical reading score	Equal variances assumed	5.576	.020	-1.111	141	.268	-.7337	.66016
	Equal variances not assumed			-1.429	57.4	.158	-.7337	.51355

As Table 4 indicates, no significant relationship exists between female and male learners with regard to their EQ scores ($t = -1.489$, $df = 39.3$, $P = 0.144 > 0.05$). The third null hypothesis, There is not a difference between female and male learners' EQ, is accepted. Thus, the alternative hypothesis, There is a difference between female and male learners' EQ, is rejected.

Table 4

Independent samples test between females and males (EQ)

		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
SumEQ	Equal variances assumed	.017	.895	-1.480	141	.141	-12.6070	8.52098
	Equal variances not assumed			-1.489	39.3	.144	-12.6070	8.46580

Finally, In order to examine the multivariate associations in the data in more detail and in an attempt to test the fourth null hypothesis, a regression model was constructed with the CR scores as the dependent variable and EQ subscales (Intrapersonal, Interpersonal, Stress Management, Adaptability, and General Mood) as independent variables. According to Table 5 the Intrapersonal scale ($F = 11.73$, $P = 0.001$) and the Stress Management ($F = 9.25$, $P = 0.000$) are respectively the important predictors of the learners' CR scores. As it was shown in Table 6, the Intrapersonal scale can be the sole predictor of 7% of the changes in the learners' CR scores and when the other scale (Stress Management) enters the model, the degree of the probable prediction rises to 10%. Meanwhile, regarding β standardized coefficient, it can be claimed that as the learner's interpersonal ability increases, his/her CR ability will also increase ($\beta = 0.277$); whereas, any increase of the learner's stress management ability causes a decrease in his/her CR ability ($\beta = -0.249$). Thus, the fourth null hypothesis, there is not a predictive relationship between learners' EQ subscales and CR ability, is partially rejected and the alternative hypothesis is accepted with modification: Intrapersonal and Stress management have the predictive roles in predicting CR ability but not the other subscales.

Table 5
ANOVA(c) among the CR and EQ Subscales

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	104.336	1	104.336	11.738	.001(a)
	Residual	1253.329	141	8.889		
	Total	1357.664	142			
2	Regression	158.482	2	79.241	9.251	.000(b)
	Residual	1199.183	140	8.566		
	Total	1357.664	142			

a Predictors: (Constant), interpersonal scale

b Predictors: (Constant), intrapersonal scale, stress management scale

c Dependent Variable: Critical reading score

Table 6
*Linear regression between CR scores and EQ subscales**

Model	R	R Square	Adjusted R Square		Std. Error of the Estimate	
1	.277(a)	.077	.070		2.98142	
2	.342(b)	.117	.104		2.92670	
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.907	1.592		1.198	.233
	Intrapersonal scale	.052	.015	.277	3.426	.001
2	(Constant)	2.138	1.566		1.365	.174
	Interpersonal scale	.079	.018	.426	4.301	.000
	Stress management scale	-.089	.035	-.249	-2.514	.013

a Predictors: (Constant), interpersonal scale

b Predictors: (Constant), intrapersonal scale, stress management scale

c Dependent Variable: Critical reading score

* Intrapersonal, Interpersonal, Stress Management, Adaptability, and General Mood

Discussion

The first hypothesis is stated about the possible relationship between EFL learners' CR ability and their scores on EQ test. The results of this study indicated that there exists a direct relationship between the students' CR ability and EQ. The existence of this relationship has been theoretically suggested in different definitions of EQ and the results of this study confirm Damasio's claim that thinking and feeling are not separable. Properly used, the emotions are an essential tool for successful and fulfilling life. But out of control, emotions can result in disaster. In our daily life, emotions affect our relations with other people, our self-identity, and our ability to complete a task. To be effective, our cognitive

processes must be in control of our emotions, so that they work for us rather than against us.

With regard to the direct relationship between CR and EQ and also the current focus on developing learners' critical thinking, it can be suggested that learners can control and develop their rational thinking ability if they become skilled in controlling their emotions, which in turn can be achieved (Goleman, 1996) by developing the ability to know one's emotions, to manage and handle these emotions, to marshal the emotions in the service of one's goal (causing self-motivation), to recognize emotions in others, and to manage emotions in them. Developing these abilities which deals with interpersonal and intrapersonal relationships guarantees the individual's skill in thought management.

The second and third hypotheses addressed the difference between female and male learners regarding their CR and EQ. There is a relationship between EQ and CR, according to the result of this study, so both of the hypotheses, 2 and 3, indicate that there is not a difference between females and males. Here again the results are encouraging. This finding is in agreement with the results achieved by Bar-On in North America (2006). This similarity of the groups can be accounted for by regarding the fact that EQ comprises 15 different subscales, each of which exists in varying degrees in different individuals, especially in different sexes, and since the third hypothesis focuses on the difference between the sexes concerning EQ as a total trait, it seems that the differences of EQ subscales are small or balanced out by each other. The researchers also analyzed the data descriptively whose results confirm this claim, too. Female learners enjoy higher emotional self-awareness, assertiveness, reality testing, and empathy while male ones have higher problem solving, independence, stress tolerance, responsibility, self regard, impulse control, and flexibility. Similar findings were also reported in Bar-On (2006) in North America.

The last hypothesis addressed the predictive relationship between EQ subscales and EFL learners' CR ability. The results of the Regression model suggest that Intrapersonal and Stress Management scales can be to some degree predictors of the

changes found in CR scores which is an interesting result and requires further fruitful research. Intrapersonal subscale deals with the individual's ability to be aware of one's emotions and his/her skill to express them. It seems justifiable that this ability is a precondition to the ability to understand other's emotions (interpersonal subscale) and the results show that intrapersonal subscale is the most important predictor of the learners' CR score of all. Another interesting finding is that Stress Management i.e. the individual's ability to tolerate stress and control emotions has a reverse relationship with his/her CR score, which is something unexpected and requires further research. However, the fact that stress management is more determining factor than interpersonal, adaptability, and general mood is predicted and justifiable.

The current study is a preliminary step in examining this issue and is limited in scope. Further studies can be conducted on different subjects and in other environments in order to confirm or reject these findings which surely will provide researchers with effective suggestive strategies to be applied in EFL classrooms.

Regarding Huitt's model of critical thinking proposing that the learners' affective tendency is a determining factor at two levels of thinking critically (at the level of activating critical thinking processes as well as planning to use it as a guide to one's behavior) and also its conative and behavioral aspects, it becomes necessary to plan and take action for the management of the learners' emotions and behaviors if pedagogy is going to develop learners' skill in rational thinking and problem-solving which will be effective not only in instructional settings but in their daily life.

The Authors

Mahnaz Saeidi, Assistant professor of English language at Islamic Azad University – Tabriz Branch holds Ph.D. in Applied Linguistics. She has published several articles and books and participated in a number of international conferences. Her major

research interests are Multiple Intelligences, Emotional Intelligence, Critical Reading, and Focus on Form Approach.

Mandana Yusefi, Ph.D. Student at Islamic Azad University - Tabriz Branch and staff member at Islamic Azad University – Quchan Branch. She has published several articles and a book. Her research interests include critical thinking, emotional intelligence, and learners' strategies and individual differences.

References

- American Psychiatric Association (1994). *Diagnostic and statistical manual of mental Disorders* (4th ed.). Washington, DC: American Psychiatric Association.
- Anastasi, A. (1988). *Psychological testing* (6th ed.), New York: Macmillan Publishing.
- Bar-On, R. (1997). *The Emotional Quotient Inventory (EQ-i): A test of emotional intelligence*. Toronto, Canada: Multi-Health Systems, Inc.
- Bar-On, R. (2004). The Bar-On Emotional Quotient Inventory (EQ-i): Rationale, description, and summary of psychometric properties. In G. Geher (Ed.), *Measuring emotional intelligence: Common ground and controversy*. (pp. 111-142). Hauppauge, NY: Nova Science Publishers.
- Bar-On, R. (2006). The Bar-On model of emotional-social intelligence (ESI). *Psicothema*, 18, suppl., 13-25.
- Bar-On, R., & Handley, R. (2003). *The Bar-On EQ-360*. Toronto, Canada: Multi-Health Systems.
- Brackett, M., A., Mayer, J., D., & Warner R., M. (2004). Emotional intelligence and its relation to everyday behavior. *Personality and Individual Differences*, 36, 1387-1402.
- Damasio, A. (1994). *Descartes' error: Emotion, reason, and the human brain*. New York: Grosset/Putnam.
- Elder, L.(1996).Critical Thinking and Emotional Intelligence. *Inquiry: Critical Thinking Across the Disciplines*, (XVI), 2.
- Ghods, S. (2007). *The effect of emotional intelligence on reading comprehension and structural ability of Iranian intermediate EFL students* (MA Thesis), Islamic Azad University of Garmsar.

- Goleman, D. (1995). *Emotional intelligence*. New York: Bantam Books.
- Harnadek, A. (1978). *Critical reading improvement*. New York: McGraw-Hill.
- Heberle, V. M. (2000). Critical reading: Integrating principles of critical discourse analysis and gender studies. *Ilha do Desterro*, 38, 115–38.
- Hein, S. (2005). *Definition of emotional intelligence*. Retrieved August 12, 2007 from <http://www.eqi.org/eidefs.htm>
- Huitt, W. (1998). *Critical thinking: An overview*, *Educational Psychology Interactive*. Valdosta, GA: Valdosta State University.
- Learning Express Skill Builder in Focus Writing Team (2004). *501 Critical Reading Questions*. USA: Learning Express, LLC.
- Mayer, J.D. & Cobb, C., D. (2000). Educational Policy on Emotional Intelligence: Does It Make Sense? *Educational Psychology Review*, 12 (2), 163-183.
- Mayer, J. D., Salovey, P., & Caruso, D. R. (2002). *Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)*. Toronto, Canada: Multi-Health Systems, Inc.
- Paul, R., & Elder, L. (2006). *The miniature guide to critical thinking: Concepts & tools*. Retrieved September 10, 2007 from www.criticalthinking.org
- Orioli, E. M., Jones, T., & Trocki, K. H. (1999). *EQ map: Technical manual*. San Francisco, CA: Q- Metrics.
- Pert, C. (1997). *Molecules of emotion: The science behind mind-body medicine* . New York: Touchstone.
- Salovey, P., Bar-On, R, Pert, C, Orioli, E, & Six Seconds (2002). Emotional WHAT? Definitions and history of Emotional Intelligence. *EQ Today*. Retrieved September 9, 2007 from <http://www.eqtoday.com/index2.html>
- Salovey, P. & Mayer, J.D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality*, 9, 185-211.

Appendix

The following passage discusses the inspiration and career of the first woman to receive a M.D. degree from an American medical school in the nineteenth century. Read carefully and answer the question followed.

Elizabeth Blackwell was the first woman to receive an M.D. degree since the Renaissance, graduating from Geneva Medical College, in New York State, in 1849. She supported women's medical education and helped many other women's careers. By establishing the New York Infirmary in 1857, she offered a practical solution to one of the problems facing women who were rejected from internships elsewhere but determined to expand their skills as physicians. She also published several important books on the issue of women in medicine, including *Address on the Medical Education of Women* in 1864 and *Medicine as a Profession for Women* in 1860.

Elizabeth Blackwell was born in Bristol, England in 1821, to Hannah Lane and Samuel Blackwell. Both for financial reasons and because her father wanted to help abolish slavery, the family moved to America when Elizabeth was eleven years old. Her father died in 1838.

As adults, his children campaigned for women's rights and supported the anti-slavery movement. In her book *Pioneer Work in Opening the Medical Profession to Women*, published in 1895, Dr. Blackwell wrote that she was initially repelled by the idea of studying medicine. She said she had "hated everything connected with the body, and could not bear the sight of a medical book . . . My favorite studies were history and metaphysics, and the very thought of dwelling on the physical structure of the body and its various ailments filled me with disgust." Instead she went into teaching, then considered more suitable for a woman. She claimed that she turned to medicine after a close friend who was dying suggested she would have been spared her worst suffering if her

physician had been a woman. Blackwell had no idea how to become a physician, so she consulted with several physicians known by her family. They told her it was a fine idea, but impossible; it was too expensive and such education was not available to women. Yet Blackwell reasoned that if the idea were a good one, there must be some way to do it, and she was attracted by the challenge. She convinced two physician friends to let her read medicine with them for a year, and applied to all the medical schools in New York and Philadelphia. She also applied to twelve more schools in the northeast states and was accepted by Geneva Medical College in 1847. The faculty, assuming that the all-male student body would never agree to a woman joining their ranks, allowed them to vote on her admission. As a joke, they voted “yes,” and she gained admittance, despite the reluctance of most students and faculty. Two years later, in 1849, Elizabeth Blackwell became the first woman to receive an M.D. degree from an American medical school. She worked in clinics in London and Paris for two years, and studied midwifery at La Maternité where she contracted “purulent ophthalmia” from a young patient. When Blackwell lost sight in one eye, she returned to New York City in 1851, giving up her dream of becoming a surgeon.

Dr. Elizabeth Blackwell established a practice in New York City, but had few patients and few opportunities for intellectual exchange with other physicians and “the means of increasing medical knowledge which dispensary practice affords.” She applied for a job as physician at the women’s department of a large city dispensary, but was refused. In 1853, with the help of friends, she opened her own dispensary in a single rented room, seeing patients three afternoons a week. The dispensary was incorporated in 1854 and moved to a small house she bought on 15th Street. Her sister, Dr. Emily Blackwell, joined her in 1856 and, together with Dr. Marie Zakrzewska, they opened the New York Infirmary for Women and Children at 64 Bleecker Street in 1857. This institution and its medical college for women (opened 1867) provided training and experience for women doctors and medical care for the poor. As her health declined, Blackwell gave

up the practice of medicine in the late 1870s, though she still campaigned for reform.

QUESTIONS TO HELP DEVELOP CRITICAL READING SKILLS

Encouraging Critical Reading in the EFL Classroom

General questions for the analysis of the text

1. Where and when was the text written?
2. Why was it written?
3. What is the text about?
4. Who is the text addressed to? Who are its probable readers?
5. What genre is the text?
6. Does the author establish an interactive, friendly relationship with the readers or is he/she distant, formal, and impersonal?
7. Are there elements of promotional discourse, such as positive evaluative words?

Lexical choice

1. What kind of vocabulary predominates in the text? (Are there formal, technical words or informal and colloquial expressions?)
2. Does the vocabulary appeal to emotions, or is it logical and argumentative?
3. Are there words that are ideologically significant?
4. What metaphors are used? What purposes do they serve in the text?

Grammar

1. What verb tenses are used and why?
2. Which subjects are described using the passive or active voice and why?
3. Are the agents of the actions explicit or implicit?

Visual elements

1. What visual resources are used besides the text (colors, symbols, figures)?
2. In what ways do the illustrations relate to the text?

3. What socio-cultural aspects can be identified in the visual signs?

Gender issues

1. Does the text contain signs of asymmetry in male-female relationships?
2. Are there traces of genderism?
3. Are there signs of stereotyped attitudes
(Adapted from Heberle 2000, 131–33)