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The relationship of Emotional Intelligence and Linguistic Intelligence in acquiring vocabulary

Abstract. Why some students learn vocabulary and other language-related information faster or more easily than others is an intriguing question for instructors and curriculum designers alike. Two models of Emotional Intelligence are compared based upon the ideas proposed in Salovey & Mayer (1990), and Saklofske, Austin, & Miniski (2003) to identify the relationship between salient intelligences of Multiple Intelligence (based on Gardner's nine domains), that is Linguistic Intelligence, Emotional Intelligence, and Vocabulary Learning (Receptive Breadth of Vocabulary) among Iranian EFL learners. To this end, the study sought to find a relationship between EI and LI, EI and Vocabulary Knowledge, LI and Vocabulary Knowledge, and whether LI is a predictor for EI and vice versa. An attempt was also made to determine which intelligences (EI or LI) can predict the learning of Vocabulary Knowledge and which dimensions of EI can predict LI and learning Vocabulary Knowledge.

The findings of this study reveal that there is a positive relationship between EI & LI, between EI & Vocabulary Knowledge and between LI & Vocabulary Knowledge, EI was found to be a potential predictor for LI, and vice versa. Furthermore, multiple regressions showed that LI is a better predictor of receptive vocabulary knowledge than EI. Based on the findings, among all dimensions of EI, according to Saklofske, Austin, & Miniski (2003), only Utilization can predict the variances in Vocabulary Knowledge, and Social and Optimism had predictable value with LI. Moreover, based on Salovey & Mayer's (1990) classification, ERO, AEO, and EE had significant correlation with LI.

Keywords: Vocabulary Learning Knowledge, Vocabulary Breadth, Multiple Intelligences, Linguistic Intelligence, Emotional Intelligence.

1. Introduction

In recent years, there has been a substantial amount of interest in individual differences among learners. They bring to the language learning situation a wide spectrum of individual differences that influence the learning rate and the ultimate learning results. It is worth mentioning that intelligence is often thought to be one of the most significant predictors of language learning success (GU, 2003). Intelligence was traditionally defined and measured as linguistic and Logical-Mathematical abilities. In addition, 'General Ability' (g) is a general intelligence factor that governs performance on all cognitive tasks; Spearman (1927) called this a kind of 'mental energy' that underlined the specific factors and controlled performance on all mental tasks. It should be pointed out that a number of critics have challenged the relevance of psychometric intelligence in the concept of everyday life. They believe that IQ tests did not measure creativity, character, personality, or other important differences among individuals (Gottfredson, 1997). Dissatisfaction with traditional IQ tests has led to the development of a number of alternative theories, all of which suggest that intelligence is the result of a number of independent abilities that individually contribute to human performance. Gardner (1983) introduced Multiple Intelligences (MI) theory in his book, *Frames of mind*, in which he describes different forms of knowing, which provides a much more comprehensive picture of intelligence. Gardner's theory of Multiple Intelligences utilizes aspects of cognitive and developmental psychology, anthropology, and sociology to explain the human intellect. Gardner (1983, 81), defines intelligence as 'the ability to solve problems, or to create products, that are valued with one or more cultural settings'.

1.1. Basic Criteria

Gardner (1993) developed a set of criteria to determine what set of skills make up an intelligence. Here are listed the key points:

1. Potential isolation as a brain function / potential isolation by brain damage.
2. Existence of prodigies, savants, and other exceptional individuals.
3. An identifiable core operation or set of operations.
4. A distinctive developmental history, along with a definable set of expert 'end state' performances.

5. An evolutionary history and evolutionary plausibility.
6. Support from experimental psychological tasks.
7. Support from psychometric findings.
8. Susceptibility to encoding in a symbol system.

1.2. Gardner's Category of Linguistic Intelligence

Gardner (1983) suggested that all individuals have personal intelligence profiles that consist of a combination of several different intelligence types, including linguistic. Gardner (1999) has described Linguistic Intelligence as sensitivity to spoken and written language and the ability to use language to accomplish goals, as well as, the ability to learn new languages.

1.3. Emotional Intelligence

Emotional Intelligence (EI), a concept rooted in the theory of social intelligence is defined in a number of ways. One definition denotes that EI as the combination of factors allow a person to feel, to be motivated, to regulate mood, to control impulse, to persist in the face of frustration, and thereby to succeed in day-to-day living also, EI is a different way of being smart (Goleman, 1995).

At the most general level according to Goleman (2001) Emotional intelligence or (EI) refers to the ability to recognize and regulate emotions in ourselves and others. Also, 'EQ is the ability to monitor one's own and other's feelings, to discriminate among them and to use this information to guide one's thinking and actions' (Salovey & Mayer, 1990, pp. 185-211).

Goleman (1998) identified the five domains of Emotional Quotient (EQ) as the following:

1. **Self-awareness:** One of the basic emotional skills involves being able to recognize feelings and put a name on them.
2. **Managing emotions:** It is very important to realize the intention of feeling. Our beliefs have a great effect on our actions and our ability to do things.
3. **Empathy:** Dealing with a new situation and act appropriately requires understanding the feelings of the others involved in that condition. It is important to be able to listen to them without being carried away by personal emotions.
4. **Communicating:** Developing qualified relationship has a very positive effect on all involved in a communication.

- 5. Co-operation:** Knowing how and when to take the lead and when to follow is essential for effective co-operation.

1.3.1. Ability Model

This model considers emotional intelligence as a pure form of mental ability with personality characteristics such as optimism and well being (Mayer, Caruso, & Salovey, 1999). The ability based model views emotions as useful information that helps a person to understand his social environment (Salovey & Grewal, 2005). According to Salovey and Mayer (1990) this ability based model consists of four parts: Emotional Perception and Expression, Use of Emotions, Emotional understanding, and Emotional Management.

1.3.2. Mixed Model

Goleman (2001) suggested a mixed model in terms of performance, integrating individuals' abilities and personalities, and using their effects in work place. Goleman's mixed model (1998) includes four constructs: Self-awareness, Self-management, Social awareness, and Relationship management.

1.3.3. Trait Model

Petrides and Furnham (2001) identified 15 components via content analysis of the existing models of emotional intelligence. These components according to Petrides, Furnham, & Fredrickson (2004) are as follows:

Adaptability, Assertiveness, Emotion Expression, Emotion management (others), Emotion perception (self and others), Emotion regulation, Impulsiveness (low), Relationship skills, Self-esteem, Self-motivation, Social competence, Stress management, Trait empathy, Trait happiness, and Trait optimism.

1.4. Vocabulary Knowledge

Another important variable for this research is vocabulary knowledge. Words are the basic building blocks of an utterance, units of meaning from which larger structures such as sentences, paragraphs, and whole texts are formed. Roever (2001 cited in Nunan, 1991) considered knowing adequate vocabulary as the most important factor in communication and believed that one might not be able to use the structures learned for comprehensible communication without having a good command of vocabulary. According to

Seal, cited in Celce- Marica (1991, p.296), ‘words are perceived as the building blocks upon which knowledge of the second language can be built’. There is a general agreement that vocabulary knowledge should be regarded as multi-dimensional construct, rather than a single dimensional one. They stated that vocabulary knowledge at least contains two dimensions, namely vocabulary breadth, and depth of vocabulary knowledge. (Richards, 1976; Wesche and Paribakht, 1996; Henriksen, 1999; Qian, 1999).

1.4.1. Depth of Vocabulary Knowledge

Qian (1999) defines depth of vocabulary knowledge as a learner’s level of knowledge of various aspects of a given word, including phonemic, graphemic, morphemic, or the derivation, and compounding of a word, syntactic, semantic, phraseological properties, and knowledge of collocation means the awareness of combination of special words together, and frequency which means how common the word is, and register as formal or colloquial word. The depth dimension is an aspect of word knowledge including spelling, pronunciation, meaning, frequency, register and morphological, syntactic and collocational properties.

1.4.2. Breadth of Vocabulary Knowledge

According to Qian (1999) Breadth of vocabulary knowledge is defined as vocabulary size, or the number of words for which a learner has at least some minimum knowledge of meaning. According to Nation (2001) quoted in Nassaji (2001) breadth of vocabulary knowledge has referred to the quantity or number of words learners know at a particular level of language proficiency.

1.5. Background

Mettetal, Jordan, and Harper (1997, p.115) investigated the impact of a MI curriculum in an elementary school. They used observation and survey for data collection. On the basis of their analyses of the data, three themes emerged ‘(a) students, teachers, and parents were very positive about the concept of multiple intelligences; (b) they were positive about school-wide implementation, including flow time, activity room, and enrichment clusters; and (c) classroom implementation of MI concepts was uneven across classrooms’. The researchers highlighted the importance of MI in changing the attitudes of both teachers and students.

Palmer, Walls, Burgess, and Stough (2001) explored the relationship between emotional intelligence and effective leadership. Emotional intelligence was assessed by a modified version of the Trait Meta Mood Scale in 43 participants employed in management roles. Effective leaders were identified as those who displayed a transformational rather than transactional leadership style as measured by the multifactor leadership questionnaire. Emotional Intelligence correlated with several components of transformational leadership suggesting that it may be an important component of effective leadership.

Wolfradt, Felfe, Koster (2001-2002) in two studies revealed that emotional intelligence is mainly associated with personality traits (extroversion, agreeableness, conscientiousness, self-perceived creativity), life satisfaction and thinking styles with only a low relation to verbal intelligence. Furthermore, people higher in the emotional intelligence dimension, emotional efficacy, produced more creative performances than those lower in this domain.

2. Objectives

The main objective of the present study has been to investigate whether there is any relationship between Emotional Intelligence, Linguistic Intelligence, and Vocabulary Knowledge among Iranian EFL learners. Most specifically, the researcher aims to know if any dimension(s) of Emotional Intelligence based on two views; Salovey & Mayer (1990), and Saklofske, Austin, & Miniski (2003) can predict the strengths or weaknesses in EFL vocabulary knowledge. An attempt is also made to predict the strengths or weaknesses of any dimension(s) of Emotional Intelligence with Linguistic Intelligence. As the second objective of the study, the researchers have intended to see whether Linguistic Intelligence or Emotional Intelligence is a better predictor of vocabulary learning for EFL learners.

2.1. Research Questions

This study seeks to answer the following questions:

1. Is there any significant relationship between Emotional Intelligence and vocabulary knowledge in Iranian EFL learners?
2. Is there any significant relationship between Linguistic Intelligence and vocabulary knowledge in Iranian EFL learners?

3. Is there any relationship between Emotional Intelligence and Linguistic Intelligence among Iranian EFL learners?
4. Which of the intelligences (Linguistic Intelligence or Emotional Intelligence) is a better predictor for vocabulary knowledge?
5. Can Emotional Intelligence be a predictor for Linguistic Intelligence and the other way round among the learners?
6. Which dimension(s) of Emotional Intelligence can predict the Vocabulary Knowledge of EFL learners?
7. Which dimension(s) of Emotional Intelligence can predict the Linguistic Intelligence of EFL learners?

3. Methodology

After choosing advanced level learners to be appropriate for the study, 66 junior students from Shiraz Azad University and Shiraz State University were selected. Three instruments were used including Linguistic Intelligence tests which was a part of Nail's MI questionnaire (2001), Schutte Self Report Emotional Intelligence (SSREI) (1998), and Nation's Level Tests (2001). The data were subjected to descriptive and inferential statistics and the following analyses were run on the data: Choosing the appropriate level of the learners at 90% rate, Pearson Correlation Coefficient, Standard Multiple Regression, and Stepwise Multiple Regression.

The participants were chosen from Shiraz Azad University, and Shiraz State University. Also, all the students were native speakers of Persian. They were 103 junior university students (90 females and 13 males) studying in three fields of language learning: English Language Teaching, English language Translation, and English Language Literature.

Three instruments were used in this study. The revised version of Nation's 2000 Word Level Test (Schmitt, Clapham, & Schmitt, 2001) was used to establish the appropriate level of the learners. The second, the Linguistic Intelligence Questionnaire, was a part of Multiple Intelligences of Gardner's nine domains Test. The last questionnaire was Schutte Self Report Emotional Intelligence Test (2001).

3.1 The Nation's Vocabulary Level Test

Nation's Levels Tests (2001) were used to gauge students' receptive and productive vocabulary levels. The receptive vocabulary levels tests consist of four general vocabulary tests establishing vocabulary levels of 2000, 3000, 5000 and 10,000 words each, and of a special vocabulary test, the test of the Academic Word List (AWL), determining knowledge of words used frequently in academic writing beyond the first 2000 words (Coxhead, 2000). The receptive tests involve word-definition matching. Test takers are required to match the words to the definitions. The five general vocabulary tests consist of 60 words and 30 definitions, in group of six and three respectively.

Since the Vocabulary Level Test is a standard test of vocabulary, its validity and reliability were assumed to be satisfactory. To ensure the content validity of the test, the committee members' advice was sought. Each strongly confirmed the appropriateness of the test in regard to subject matter content and the general objective of measuring the appropriate level of the learners.

In order to estimate how reliable the use of Nation's Level Test is, the internal consistency of the test was computed based on Cronbach alpha and the covariance figures were satisfactory, being 0.90. (The Pearson Product Moment Correlation between the two complete equivalent tests was 0.95).

Table 3.1 Reliability of Level Test

Cronbach's Alpha	N of Items
.90	66

3.2. Linguistic Intelligence Test

This Linguistic Intelligence test was a part of Nail's Multiple Intelligences Test of Ned production (that has been translated into French, German, Italian, Portages, and Spanish) intelligences inventory (Walker McKenzie, 1999) and Armstrong (1994). For the sake of simplicity and avoidance of misunderstanding, the translation of the items was used. This questionnaire contained 10 items with Five-Likert Scale ranging from (1= this is not like me at all, to 5= definitely I am always like this). The validity of the LI questionnaire has been widely and extensively confirmed, based on construct validity, because it is shown a great relationship between the LI on the one hand and the participants linguistic abilities on the other. For validity and reliability indexes in this study, the original English version was translated into Persian

and then back into English by several experts. In order to check the internal consistency of the LI questionnaire, the Cronbach Alpha coefficient was calculated. Do to the small number of items (10 items) it didn't have high reliability, but it was acceptable.

Table 3.2 Reliability of Linguistic Intelligence Test

Cronbach's alpha	N of Items
.559	10

3.3. Emotional Intelligence Test

The Schutte Self Report Emotional Intelligence (SSREI) scale used to measure the participants' emotional intelligence (Schutte et al. 1998). It has 33 items with a five-point likert scale. Based on construct validity, the validity of EI test has been extensively confirmed. A number of ESL/EFL studies have demonstrated a great relationship between this test and measuring the learners' capacities in showing their emotional talents. In this study, Cronbach alpha (α) of .863 was calculated for Schutte Self-Report Emotional Intelligence.

Table 3.3 Item reliability for total EI

Cronbach's alpha	N of Items
.863	33

As suggested in Salovey and Mayer's (1990) theory of Emotional Intelligence, the SSREI scale is a six factor model of Emotional intelligence:

1. **ERS:** Emotional Regulation of the Self.
2. **EE:** emotional expression.
3. **ERO:** Emotional Regulation of Others.
4. **AEO:** Appraisal of Emotions in Others.
5. **AES:** Appraisal of Emotions in Self.
6. **UEPS:** Utilization of Emotions for Problem Solving.

Table 3.4 Item Reliability for Salovey & Mayer's EI Components

Components	N. of Items	Cronbach Alpha
ERS	8	.831
EE	2	.422
ERO	5	.651
AEO	7	.707
AES	2	.591
UEPS	4	.634

According to Saklofske, Austin, and Minski (2003) SSERI scale, EI has four dimensions: Optimism, Appraisal, Utilization, and Social.

Table 3.5. Item Reliability for Saklofske, Austin, & Minski's EI Components

Components	Number of Items	Cronbach's Alpha
Optimism	10	.823
Appraisal	6	.700
Social	7	.679
Utilization	5	.469

The highest reliability of about .823 was related to optimism, while the lowest, about .469, was reported for utilization. Saklofske, Austin, & Minski's items classifying for utilization has lower reliability than other components (.46) and it is because of item number 33. Based on a factor analysis, this item has low consistency with other four items (.027); so it was better classified under another component. As is clear from Table 3.6, all items (7, 17, 20, 27) except item 33 have acceptable consistency with each other.

Table 3.6. Factor Analysis for Utilization items

Number of Items	Component	
	1	2
i7	.708	-.412
i17	.654	.259
i20	.816	-.131
i27	.761	.268
*i33	.027	.917

Extraction Method: Principal Component Analysis (2 components extracted).

As seen in Table 3.7., without item number 33, there is only one component column.

Table 3.7. Factor Analysis for Utilization items without i33

Number of Items	Component
	1
i7	.711
i17	.652
i20	.817
i27	.758

Extraction Method: Principal Component Analysis (1 component extracted)

3.3. Data Collection

The procedures of data collection including the administration and scoring procedures are presented as follows:

The data were collected in two sections. In order to motivate students to do the tests, the objective of the study were explained to them and to avoid misunderstanding, all the instructions were given in Persian. First the Emotional intelligence scale was translated into Persian in order to prevent any reading comprehension problems and misunderstanding. The Persian translation was developed through the process of translation and back translation: the researcher translated the original English form into Persian; then five M.A. students majoring in EFL were asked to translate the Persian copy back into English. Their translations and the original copy of the scale were compared. This translated test was given to the participants and the necessary instruction was explained to them.

3.3.1. Administration Tests

The Linguistic test, part of Likert Scale of MI questionnaire, which measures the participants' linguistic knowledge, was given to participants. In this part, like EI test, the translation was given to the participants, as the purpose was not to measure their language knowledge, but to measure their linguistic knowledge. In order to complete the test, there was no time restriction, but it took about 5-10 minutes to complete the questionnaire.

The Nation's Level Test (2001) was given to participants to determine their vocabulary threshold. Generally, it took about 40 minutes to complete all the questionnaires. However, there was no time pressure for subjects; most of them completed each part in about 10-15 minutes as expected.

3.3.2. Scoring Procedures

The procedures of scoring for the EI, LI, and Vocabulary test were as follows:

One hundred and three EFL students were assessed on their emotional intelligence using the Emotional intelligence Scale (Schutte et al., 1998). The participants read each statement in the scale and decided whether they 'strongly disagree', 'disagree', were 'undecided', 'agree', or 'strongly agree' with

the statements. Each response has its value ranging from 1 to 5. Therefore, the measure yields the global score ranging from 33 to 165. Therefore, the measure yielded a global score ranging from 33 to 165.

The participants were given a Linguistic Intelligence Test. This test has 10 items with 5 scales as 'strongly disagree', 'disagree', 'undecided', 'agree' or 'strongly agree' with the statements. Each item has its value ranging from 1 to 5, and their scores ranges from 10 to 50.

The Nation's Level Test (2001) was a revised version of Nation's VLT (1999) which had 2000, Academic, 3000, 5000, and 10000 levels. In each part are 60 questions with 30 responses as the participants choose the correct response. Based on their responses, the researcher could assign the appropriate level of knowledge to them. The passing rate for each test was set at 90%. This means that the students could make three errors in the receptive test and still pass the test which shows the number of students participating in each test and the percentage of students who pass each test with a passing rate of 90%. Therefore, in each level their scores range from 0-30. Among them, those who entered 5000 level will be considered as the advanced ones and the statistical procedures will be carried on with them. **3.4.**

3.3.3. Data Analysis

First of all three items in SSREI Scale (asterisked items in appendix 5, 28, 33) were reversed because they were stated negatively in the test (Palmer, Gignac, Manocha, & Atough, 2005). Then all the items were added up to make the participants' total Emotional Intelligence. Also, the sum of different items relating to different components of Emotional Intelligence according to Salovey and Mayer's (1990) classifying (ERS, EE, ERO, AEO, AES, and UEPS) and Saklofske, Austin, and Miniski's (2003) four dimensions (Optimism, Appraisal, Utilization, and Social) were calculated. The participants Emotional Intelligence scores, ranging from 33 to 165, as well as their scores in its components were compared with their scores on vocabulary knowledge test only on the advanced level. Also, their scores were compared with their Linguistic Intelligence grades which ranged between 10-50. In order to know which of them is a better predictor of Emotional Intelligence, through some descriptive analysis, the mean, maximum, and minimum scores, standard deviation, and variance of all the scores were obtained. To understand any positive, negative, or zero relationship between variables, correlation coefficient (r) was calculated. In

order to make prediction, regression analysis was done. Multiple regressions on the components of Emotional Intelligence Scale, Linguistic Intelligence, and vocabulary Level Tests specified any specific relationship.

4. Results and Discussions

103 participants voluntarily participated in the study. With the passing rate of 90 percent, 81.5% of the students passed the receptive 2000 test; 85.4% the AWL; 66% the receptive 3000 test; and 55% the receptive 5000. Therefore, 66 students were assigned advanced level, and these were included in the study.

Table 4.1. Vocabulary Knowledge Level for 103 Participants

	N	90%	Mean	Minimum	Maximum	SD
R2000	103	81.5%	93	50.0	100.0	16.1
AWL	103	85.4%	92.18	20.0	100.0	16.44
R3000	94	66%	88.91	33.0	100.0	17.98
R5000	66	55%	88.05	27.0	100.0	13.83

For these 66 respondents, the range of Vocabulary 5000 is 73.3 from 26.7 to 100 with a mean of 88.03 and standard deviation of 14.5. The range of EI is 61.0 from 100 to 161, with a mean of 133.28 and standard deviation of 11.104. The range of LI is 23.0 from 26 to 49, with the mean of 39.33, and standard deviation of 4.73.

As to the relationship between vocabulary knowledge and linguistic intelligence, the findings of the data analyses showed that there is a significant relationship between the two variables, ($r=.57$). This means that if one of the variables increases, the other increases, too.

Table 4.2 Correlations

	LI	Vocab5000
LI Pearson correlation	1	.57*
Sig. (1-tailed)		.033
N	66	66
Vocab 5000 Pearson correlation	.57	1
Sig. (1-tailed)	.033	
N	66	66

Correlation is significant at the 0.05 level (1-tailed).

The relationship between Emotional Intelligence and Vocabulary Knowledge is .44.

Table 4.3 Correlations

	EI	Vocab5000
EI Pearson correlation	1	.44
Sig. (1-tailed)		.250
N	66	66
Vocab 5000 Pearson correlation	.436	1
Sig. (1-tailed)	.250	
N	66	66

This shows that there is a positive relationship between emotional intelligence and vocabulary knowledge.

Table 4.4 Correlations

	LI	EI
LI Pearson correlation	1	.65*
Sig. (1-tailed)		.029
N	66	66
EI Pearson correlation	.65	1
Sig. (1-tailed)	.029	
N	66	66

As Table 4.4. illustrates, the correlation between Emotional Intelligence and Linguistic Intelligence is .65 which is a significant relationship. This means that the two sets of scores show high positive correlation.

In order to answer the question whether Emotional Intelligence be a predictor for Linguistic Intelligence or the other way round, a simple linear regression was used because with only one independent variable.

Table 4.5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.330(a)	.528	.001	11.097

a. Predictor: (Constant), LI

b. Dependent Variable: Total EI

In this study R Square was .528; 52% of the variance in EI was explained by their LI scores.

The ANOVA table (4.6) shows that this coefficient of determination (52%) is significant at $p < .05$ level.

Table 4.6 ANOVA(b)

Model	Sum of Squares	df	Mean Square	F	Sig.
1Regression	134.522	1	134.522	1.092	.003(a)

Residual	7881.009	64	123.141		
Total	8015.530	65			

In order to interpret the result and see the weighting of the variable we should look at the **Beta Value**. In this part, the Beta Value is .430, which indicates the effect that one standard deviation unit change in the independent variable has on the dependent variable. The result shown is that Linguistic Intelligence is a good predictor of Emotional Intelligence.

Table 4.7 Coefficients a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	121.335	11.517		10.535	.000
LI	.304	.291	.430	1.045	.003

a. Dependent Variable: EI

As the Table 4.8. illustrates between two intelligences (Linguistic Intelligence, and Emotional Intelligence), Linguistic Intelligence makes stronger unique contribution to explaining the receptive size of vocabulary and it is a better predictor of vocabulary learning knowledge.

Table 4.8 Stepwise Multiple Regression of Vocabulary — Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.255a	.065	.035	14.2430

R square in Table 4.8. is about .065, meaning that about 6.5 percent of variances in vocabulary knowledge as the dependent variable could be determined by variances in Linguistic Intelligence, and Emotional Intelligence. The following ANOVA table told us about the significance of this claim.

Table 4.9 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1Regression	885.802	2	442.901		
Residual	12780.416	63	202.864	2.183	.001a
Total	13666.218	65			

Table 4.9. indicates if the coefficient of multiple regressions demonstrated by R^2 is significant or not. In this research the significance is .001 which is meaningful at .05 level of significance.

Table 4.10 Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)					
EI Total	79.000	24.444		3.232	.002
LI	-.151	.160	.124	.942	.05
LI	.742	.376	.442	1.972	.003

Linguistic Intelligence Beta value is .442, and Emotional Intelligence Beta value is .124. It suggests that Linguistic Intelligence makes the stronger contribution to explaining the vocabulary size and it is a better predictor of vocabulary learning knowledge.

To determine which dimension(s) of Emotional Intelligence can predict the Vocabulary Knowledge of EFL learners, a multiple regressions were run between LI and EI according to Saklofske, Austin, and Miniski's view.

Table 4.11 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.159a	.025	-.039	14.7769

- a. Predictor: (Constant); Social, Utilization, Appraisal, Optimism
b. Dependent Variable: Vocabulary 5000

In this part of the research $R^2 = .025$, indicating that 0.025% of the variance in the vocabulary knowledge is explained by the combination of all the independent variables of the study, namely, social, optimism, appraisal, and utilization.

Table 4.12 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	346.495	4	86.624	.397	.004a
Residual	13319.723	61	218.356		
Total	13666.218	65			

Before this we should look at the ANOVA table. It indicates whether the coefficient of multiple regressions demonstrated by R^2 is significant or not. In this research the significance is .004 which is meaningful at .05 level of significance.

Table 4.13 Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
Constant	91.295	20.362		4.484	.000
Optimism	-.447	.396	-.177	-1.130	.263
Appraisal	.257	.586	.059	.438	.663
Utilization	-.072	.874	.386	-.083	.046
Social	.341	.581	.092	.586	.560

In this research Utilization predict .39 units of change in the vocabulary knowledge.

To determine which dimension(s) of Emotional Intelligence (Salovey & Mayer) can predict the Vocabulary Knowledge of EFL learners, regression analysis is computed on Vocabulary Knowledge and Salovey & Mayer's EI components.

Table 4.14 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.218	.049	-.048	14.8524

- a. Predictors: (Constant), UEPS, ERO, AEO, EE, AES, ERS
 b. Dependent Variable: Vocabulary 5000

In Table 4.14 R square was about .049, indicating that about 4.9 percent of variances in vocabulary knowledge as the dependent variable could be determined by variances in UEPS, AEO, EE, AES, ERO, and ERS as independent variables. The following ANOVA table indicates the significance of this claim.

Table 4.15 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	651.103	6	108.517		
Residual	13015.115	59	220.593	.492	.812a
Total	13666.218	65			

- a. Predictors: (Constant), UEPS, ERO, AEO, EE, AES, ERS
 c. Dependent Variable: Vocabulary 5000

According to Table 4.15., the prediction power of Mayer & Salovey's EI dimensions (4.9%), is not meaningful at .05 level of significance.

To determine which dimension(s) of Emotional Intelligence can predict the Linguistic Intelligence of EFL Learners, the researcher considered the multiple regressions of LI and Salovey & Mayer's EI components.

Table 4.16 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.118a	.667	-.086	4.9342

R square in Table 4.16. was .67 meaning that about 67 percent of variances in Linguistic Intelligence variable could be determined by variances in UEPS, AEO, EE, AES, ERO, and ERS as independent variables. The following ANOVA table determines the significance of this analysis.

Table 4.17 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1Regression	20.239	6	3.373		
Residual	1436.427	59	24.346	.139	.000(a)
Total	1456.667	65			

According to Table 4.17., the prediction power of Mayer & Salovey's EI dimensions 67% is meaningful at .05 level of significance. Table 4.18. presents the Beta values of this analysis.

Table 4.18 Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1(Constant)	40.960	7.460		5.491	.000
ERS	.35	.173	.35	-.081	.004
EE	.24	.475	.075	-.518	.007
ERO	-.070	.203	-.053	-.347	.730
AEO	.45	.191	.46	-.156	.03
AES	.40	.495	.061	.417	.078
UEPS	.090	.249	.053	.361	.719

According to this table, among all dimensions of EI, ERS (Emotional Regulation of the Self), AEO (Appraisal of Emotions in Others), AES (Appraisal of Emotions in the Self), and EE (Emotional Expressions) had a significant correlation; the significance level is at $p < .05$. *Beta* indicates the effect that one standard deviation unit change in the independent variable has on the dependent variable. With respect to our data, one standard unit change in the score for ERS results in 0.35 units of change in the Linguistic Intelligence scores. With respect to AEO, this unit of change would be 0.46, for AES the unit of change would be .40, and for EE .24. Thus we can say that AEO (Appraisal of Emotions in the others) is a better predictor of Linguistic Intelligence scores than others.

To determine which dimension(s) of Emotional Intelligence Saklofske, Austin, & Miniski) can predict the Linguistic Intelligence of EFL Learners, the same procedure as Mayer & Salovey's (1990) EI was done for Saklofske, Austin, & Miniski's (2003) EI in order to know its predictability.

Table 4.19 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of The Estimate
1	.128a	.569	-.030	4.8049

In table 4.19. R Square was .57, indicating that about 57 percent of variances in linguistic intelligence would be determined by variances in Optimism, Appraisal, Social, and Utilization as independent variables. The ANOVA table told us about the level of significance.

Table 4.20 ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	48.384	4	12.096		
Residual	1408.282	61	23.087	.524	.000a
Total	1456.667	65			

According to Table 4.20. the prediction power of Saklofske, Austin, & Miniski's EI dimensions 57% is meaningful at .01 level of significance. The Coefficients table will determine the significance of this analysis.

Table 4.21 Coefficients (a)

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1(Constant)	34.990	6.621		5.285	.000
Optimism	.070	.129	.40	.542	.002
Appraisal	-.171	.191	-.121	-.894	.375
Utilization	.225	.284	.108	.792	.43
Social	.040	.189	.33	.210	.032

As Table 4.21 shows two construct, optimism and social have significant effects. The Beta value of Optimism is .40 while the Beta value for social is .33. Thus, we can say that optimism is a better predictor of linguistic intelligence than social.

5. Conclusions

The hypothesis of this study is that there would be a significant and positive relationships between EI and LI, EI and Vocabulary Knowledge, and between LI and Vocabulary Knowledge and that Linguistic Intelligence is a better predictor for learning vocabulary knowledge. Furthermore, LI is a predictor for EI, and the other way round. Some other interesting by-products were also reported: Mayer & Salovey's (1990) theory of SSREI scale classification could predict variances in Iranian's EFL abilities in improving their receptive vocabulary knowledge than that of Saklofske, Austin, & Miniski (2003). The multiple regressions of EI of Saklofske, Austin, & Miniski and Vocabulary Knowledge were %025, although the multiple regressions of Mayer & Salovey and Vocabulary Knowledge were %49. We had the similar result for the prediction power of LI and two kinds of EI views. The prediction power of Salovey & Mayer was higher than the prediction power of Saklofske, Austin, & Miniski (%67 and %57 respectively); it might be a good topic for discussion. Based on the Palmer, Gignac, Manocha, & Con Stough (2005) as they supported the six- factor interpretation, corresponding to ERS, EE, ERO, AEO, AES, and UEPS (Salovey & Mayer, 1990) upon the Optimism, Appraisal, Utilization, and Social (Saklofske, Austin, & Miniski (2003).

Also, the proportion of each part in prediction, changed considerably. In the Saklofske, Austin, & Miniski' classification only Utilization had meaningful proportion in the prediction power of learning vocabulary. But Salovey & Mayer's dimensions are not meaningful in prediction of learning vocabulary. In Salovey & Mayer's classification with LI, ERS (Emotional Regulation of the Self), and AEO (Appraisal of Emotions in Others), AES (Appraisal of Emotions in the Self), and EE (Emotional Expressions) had a predictive power in LI, and the Saklofske, Austin, & Miniski's dimensions only Optimism and Social had a predictive value in LI. As a result both dimensions of EI had a better prediction power in LI than in vocabulary knowledge.

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