

Probing into the Relationship of Computer Assisted Language Learning (CALL) and Emotional Intelligence in Iranian EFL Learners

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Abstract

The aim of this study, find the relationship between Iranian EFL learners' use of computer assisted language learning (CALL) and the degree of involved emotional intelligence. To this end, 150 EFL learners were selected as participants from four English language institutes in Shiraz, Iran. To collect data, standard questionnaire for EQ level (Bradberry & Greaves, 2004), and standard language test (TOEFL) were used. The participants took part in TOEFL pre and post-tests after undergoing instruction through CALL. Collect data was analyzed via Statistical Package for Social Science (SPSS) version 22. According to analyze data, ANOVA test was used to show differences. The results showed that Iranian EFL learners' with high and middle scores in emotional intelligence test performed better in the proficiency test of TOEFL as post-test and no difference was observed between scores of TOEFL pre and post-tests in Iranian EFL learner's with low scores of emotional intelligences. Thus, CALL has proved to be useful at least for two of the EQ groups. Accordingly, EFL teachers and educators need to take into account factors and tools such as computers and software and programs to help learners improve language learning.

Keywords: EFL Learners, Language Learning, CALL, and Emotional Intelligence

Introduction

The necessity in foreign language research and teaching to investigate learner's affective variables as a means of explaining differences in one's ability to learn a new language has been emphasized in recent years. Savignon (1983), completed a review of several affective studies and recommended that such affective factors better contribute to the result of foreign or second language learning than do similar factors such as "aptitude, intelligence, method of teaching used in the classroom, or time spent learning the language" (Cited in Kennedy, Nelson, Odell, & Austin, 2000, p. 279). The effect of learners' emotions on language learning is essential issue in the realm of education. The important event in "interdisciplinary fields" of study especially in the scope of education during the last twenty years is emotional intelligence. Psychologists of education believed the basic goal of teaching and learning especially in the higher education is incorporating emotional intelligence (Vandervoort, 2006). Emotional intelligence, which may be taken to mean a person's capacity to behave appropriately in differing social situations, has received increasing interest since the term's popularization by Goleman (1995).

Review of Literature

Computer Assisted Language Learning (CALL) grew out of the field of Computer Assisted Instruction (CAI) and draws on other related fields such as Educational Psychology, Artificial Intelligence (AI), computational linguistics, instructional design, Human Computer Interaction (HCI) and SLA (Second Language Acquisition). More recently, CALL has been influenced by advances in the field of WBI (Web Based Instruction). Actually, there are a lot of crossover programs between CALL and WELL (Web Enhanced Language Learning). Researchers have examined the association of emotional intelligence with many characteristics among students. These studies have revealed that emotional intelligence of students has an impact on their stress management, deviant behavior, and problem solving abilities. Similarly, emotional intelligence plays an important role in students' academic life.

-CALL

The use of a computer in the language learning process is the following branches of CALL. The aim of CALL programs is to teach aspects of the language learning process during the use of computer. In fact, CALL programs can be developed for the many parts of the language learning process. Some of the important factors which determine the characteristics of any CALL program include:

- "the language taught,
- the language of instruction,
- the language writing system (both roman and non-roman character based),

- the level of the language to be taught (from absolute beginners to advanced),
- what is to be taught (grammar, informal conversation and pronunciation) and
- How it is to be taught”.

The fields of computing and language learning straddle by CALL. One of the criticisms that language teachers generally have about CALL programs is that they are generally driven by the technology (or by those who have mastered the technology). They debate that in the rush to use the latest “great feature”, pedagogical considerations are often ignored. Just because a computer can endlessly drill a student about subjunctive verbs in Spanish does not mean that it is the correct way to teach them. Even if a computer can have several different flashing images on the screen at once to make a screen “more interesting”, it does not mean that it enhances the learning process. The main difference between the acronyms is the focus given to the computer as part of the language learning process. CALL will be used as a general term throughout this chapter to cover all of the above, unless otherwise stated. CAI refers to the use of the computer for instruction, regardless of what is being taught. ICALL refers to the integration of techniques from the fields of Artificial Intelligence and Computational Linguistics to enhance CALL applications. CELL effectively means the same thing as CALL. TELL is an acronym that is mainly used in North America that covers the same domain as CALL. WELL refers specifically to the use of the web (or Internet) in the language learning process. It is more specific than CALL but as computer technology becomes more internet-focused, it will cover a greater part of the CALL domain.

-Emotional Intelligence

Emotional intelligence is not a new notion and has actually been around since 1990 in the theory and research of different forms of psychology. Prior to 1970, research interests focused solely on cognition and intelligence testing, since psychologists’ analyzed intelligence as a measurable ability to solve cognitive problems (Hedlund & Sternberg, 2000). However, in the twentieth century, theorists like Thorndike (1920), Wechsler (1972), and Gardner (1983), have challenged these purely cognitive approaches. Thorndike presented the idea of social intelligence, which he presented as a separate form of intelligence from mechanical and abstract. Thorndike suggested that social ability was an important factor of intelligence and that it is through the ability to understand, influence, and manages other people. A half a century later, Wechsler (1972) also examined this idea further and suggested additional forms of intelligence that complemented cognitive forms: (a) emotional, (b) personal, and (c) social. Gardner (1983) also has viewed non-cognitive forms of intelligence as being important. These forms include intrapersonal intelligence, the ability to understand one’s own emotions, and interpersonal intelligence, the ability to have a good relationship with others (Hedlund & Sternberg, 2000). This concept of non-intellective aspects of general intelligence was thus introduced an essential direction to the definition of emotional intelligence (Law, Wong, & Song, 2004; Mayer & Cobb, 2000). Combining both intelligence

and emotion, Mayer and Salovey (1990) were the first to use the phrase emotional intelligence and defined it as “the subset of social intelligence that involves the ability to monitor one’s own and others’ feelings and emotions, to discriminate among them and to use this information to guide one’s feelings and actions” (p.189). However, in 1997, Mayer and Salovey reconstructed their model and described four hierarchical types of abilities: (a) the ability to access or generate feeling so as to facilitate thought, (b) the ability to understand emotion and emotional knowledge, (c) the ability to regulate emotions, and (d) the ability to promote emotional and intellectual growth. Mayer and Salovey (1997), considered emotional intelligence a factor of measuring people’s intelligence. Theorists and scholars view emotional intelligence with slight variation, although it is usually agreed upon that emotional intelligence is the ability to intelligently control one’s emotions as well as work with the emotions of others. Positive results derive from the ability to ethically and intelligently know, control and encourage oneself, to be able to feel empathy for others while interpreting and understanding their feelings, and to achieve one’s goals. That is similar to Ciarrochi, Chan, and Cuputi (2000), commented in a review of the emotional intelligence literature that “while the definitions of emotional intelligence are often varied for different researchers, they nevertheless tend to be complementary rather than contradictory” (p. 540).

Importance of Emotional Intelligence in Language Learning

With the media attention, a high level of interest across language teaching and learning also developed, as there are some research studies conducted to investigate the relationship between emotional intelligence and language performance (Sucaromana, 2004). The extent to which emotional intelligence can be implemented and used to improve language teaching and learning needs consideration. One question that can be asked is, are intelligent people more successful at learning languages? When learning languages, the interaction between the teacher and learner is important for both communication and the physiological aspects between the two. An important factor in learning languages is the ability to be emotionally intelligent by showing the capacity to recognize, employ, comprehend, and manage emotions. These characteristics are much more important than simply being intelligent. Every genius is not guaranteed to become successful in life, and vice versa; the possession of a high IQ rating is not the sole indicator when it comes to being successful in all fields (Goleman, 1995). It is even claimed that emotional intelligence is a more important key to success, and not cognitive intelligence, more accurately predicts success in school.

Empirical Studies

First time the term of “emotional intelligence” was coined by Salovey and Mayer in 1990, and had since continued to conduct research on the significance of the construct. The key ideas from the fields of intelligence and emotion were integrated by pure theory of emotional intelligence. From intelligence theory comes the idea that intelligence involves the capacity

of abstract reasoning was carried out. According to emotion research comes the notion that emotions are signals that convey regular and discernible meanings about relationships and that at a number of basic emotions are universal (Mayer, Salovey, & Caruso, 2002). They suggest that individuals different in their ability to process information of an emotional nature and in their ability to relate emotional processing to a wider cognition. They then suppose that this ability is seen to manifest itself in certain adaptive behaviors (Mayer, Salovey, & Caruso, 2000). Mayer and Salovey's conception of emotional intelligence is based within a model of intelligence, that is, it strives to define emotional intelligence within the confines of the standard criteria for a new intelligence (Mayer, Salovey, Caruso, & Sitarenios, 2003). By other words, the study of EI developed through the area of cognition and affect, looking at how emotion affected thought. First of all, it was believed that emotion had a detrimental effect; however, in time it was considered that emotion could also be adaptive to thought (Mayer, 2000), and that they could complement each other (Mayer, Salovey, 1990, Mayer, Dipaolo, & Salovey, 1990; 1990 as cited in Mayer, 2000). Mayer and Salovey (1990), developed their first theory of EI, which subsequently became popularized by Goleman (1996). Goleman proposed that EI was integral for life success. Since then, several theories have emerged with conflicting views, and subsequently, different measures (Matthews et al., 2004). Bayani (2014), in his work about emotional intelligence as a predictor of test anxiety in secondary education students examined the relationship between emotional intelligence and test anxiety in 335 secondary education students (154 boys, 181 girls). Their ages ranged from 14 to 17 ($M= 15.85$, $SD=1.47$). All respondents completed a questionnaire booklet containing two self-report measures: The Test Anxiety Inventory and the Emotional Intelligence Appraisal. Analysis confirmed a significant positive association between emotional intelligence and test anxiety. A significant negative correlation has been found between the scores on the Emotional Intelligence and the Test Anxiety. Ketabdar et al., (2014), in their research about 'The Relationship between Emotional Intelligence and Willingness to Communicate among Iranian EFL Learners' has been presented: 'English has changed into an international language after second world war and over a million people speak into it as their first, second or third language across the world. However, knowing a language is accompanied with speaking skill and the ability to communicate with it. Therefore, the purpose of this study is to find the factors which affect EFL students' willingness to communicate (WTC). To find the relationships between willingness to communicate and students' emotional intelligence (EQ- i) two questionnaires were used and 130 intermediate students were selected randomly from 6 language institutes in Saveh. Their level of language proficiency was determined through administering Cambridge Language Proficiency Test (Language, PET) and results of the Person Correlation Test showed a positive relationship between EFL Learners' WTC and four factors of the EQ-i named: Interpersonal Relationship (IP), Empathy (EM), Assertiveness (AS), and Emotional Self-Awareness (ES) and emotional intelligence'.

Methodology

-Design of the study

The study employs a survey along with a quasi-experimental design since after checking the participants` EQ level by means of a questionnaire, the differences among those EQ levels in English proficiency is evaluated upon applying CALL to classrooms. Finally, the qualitative section of interview investigated the students` viewpoints regarding background knowledge.

-Participants

The participants were 150 EFL learners of English in four language institutes in Shiraz, Iran (75 male and 75 female learners, *Mage* = 19.7 years old). So, researchers asked them to fill related questionnaires and after that, collected data analyzed by SPSS software (version 22). The participants have been selected through cluster sampling.

-Instruments

Considering the objective of the study, a number of instruments had been prepared and used. Standard questionnaires used by the researcher to collect data needed to undertake the study. Likert scale has been used in these questionnaires. The reliability and validity of the questionnaire computed through expert views and reliability measure (using Cronbach alpha). Proposed instruments are: Background knowledge interview questions, Standard language test (TOEFL pre-test) and EQ standard questionnaire (Bradberry & Greaves, 2004). After reviewing these base questionnaires, researcher-made interview has been used for background knowledge which was going to be validated by three experts and also piloted for better confirmation and for CALL, using a language learning software such as Rubi software (version 3.2) has been used. The questions of the mentioned test were taken from 'Oxford University Press and University of Cambridge Local Examinations Syndicate' by Fisher (2001). The OPT was administered to categorize participants into the higher and lower levels of English proficiency. OPT consists of 70 multiple-choice items.

Data Analysis and Findings

-Descriptive Statistics of the emotional intelligence in pre-test

In this study, the emotional intelligence test was administered to 150 EFL learners in pre-test. The participants answered emotional intelligence test, with a maximum possible score of 168 points. The results of the emotional intelligence test for 150 learners are presented in Table 1.

Table 1. Statistics for the Emotional Intelligence Tes

Emotional Intelligence Test	
	Valid
N	150
Mean	94.25
Middle	99
Mode	89
SD	18.88
Sum	451.13

Table 1, reflected the results of group statistics for the emotional intelligence test scores in pre-test. Measures of central tendency (mean, middle, mode, and SD) were computed for the emotional intelligence test. Table 2 shows mean Score participants in questions emotional intelligence test.

Table 2. Participant Scores in Emotional Intelligence Test

Question	Mean	Minimum	Maximum
Questions 1	3.28	1	5
Questions 2	3.03	1	6
Questions 3	3.36	2	6
Questions 4	3.15	1	6
Questions 5	2.93	1	6
Questions 6	5.12	1	6
Questions 7	3.39	2	6
Questions 8	4.17	1	6
Questions 9	3.34	1	6
Questions 10	2.87	1	6
Questions 11	3.15	1	6
Questions 12	2.81	1	5
Questions 13	3.24	1	6
Questions 14	4.16	1	6
Questions 15	2.45	1	6
Questions 16	3.21	1	6
Questions 17	3.19	1	6
Questions 18	3.49	1	6
Questions 19	2.70	2	6
Questions 20	3.10	1	6
Questions 21	3.36	1	6
Questions 22	3.19	1	6
Questions 23	4.14	1	6

Questions 24	2.99	1	6
Questions 25	4.05	2	6
Questions 26	3.81	1	6
Questions 27	3.10	1	6
Questions 28	3.47	1	6
Sum	3.35	53	125

-Descriptive Statistics of the emotional intelligence in participants with High score

In this study, 36 EFL learners how take scores 111 and above in emotional intelligence questionnaires, arrangement in group with high scores by cluster analysis. The results of the emotional intelligence test for 36 learners with high scores are presented in Table 3.

Table 3. Statistics for the Emotional Intelligence Test

Emotional Intelligence Test	
	Valid
N	36
Mean	114.92
Middle	113.50
Mode	111
SD	4.39
Sum	379.81

Table 3, reflected the results of group statistics for the emotional intelligence test scores in for 36 learners with high scores. Measures of central tendency (mean, middle, mode, and SD) ere computed for the emotional intelligence test.

-Descriptive Statistics of the emotional intelligence in participants with Middle scores

In this study, 78 EFL learners how take scores between 85 and 110 in emotional intelligence questionnaires, arrangement in group with middle scores by cluster analysis. The results of the emotional intelligence test for 78 learners with middle scores are presented in Table 4.

Table 4. Statistics for the Emotional Intelligence Test

Emotional Intelligence Test	
	Valid
N	78
Mean	97.88
Middle	99
Mode	89
SD	7.47
Sum	371.35

Table 4, reflected the results of group statistics for the emotional intelligence test scores in for 78 learners with middle scores. Measures of central tendency (mean, middle, mode, and SD) were computed for the emotional intelligence test.

-Descriptive Statistics of the emotional intelligence in participants with low scores

In this study, 36 EFL learners how take scores below 79 in emotional intelligence questionnaires, arrangement in group with low scores by cluster analysis. The results of the emotional intelligence test for 36 learners with low scores are presented in Table 5

Table 5. Statistics for the Emotional Intelligence Test

Emotional Intelligence Test	
	Valid
N	36
Mean	65.67
Middle	1.35
Mode	68
SD	55
Sum	226.02

Table 5, reflected the results of group statistics for the emotional intelligence test scores in for 36 learners with low scores. Measures of central tendency (mean, middle, mode, and SD) were computed for the emotional intelligence test.

-Descriptive Statistics of the TOEFL test in pre-test and post-test

In this study, a TOEFL test was administered to 150 EFL learners in pre-test and posttest in 3 groups with different scores in emotional intelligence test. The results of the TOEFL test for each group are presented in Tables below.

Table 6. TOEFL Test for High EQ Score

Source	Mean	SD	Minimum	Maximum
scores of TOEFL in pretest	68.92	9.40	50	85
scores of TOEFL in posttest	84.75	5.02	78	94

Table 6, reflected the results of group statistics for the TOEFL test scores in pretest and posttest for 36 learners with high scores in emotional intelligence test.

Table 7. TOEFL test for Mid EQ Score

Source	Mean	SD	Minimum	Maximum
scores of TOEFL in pretest	66	9.43	49	81
scores of TOEFL in posttest	78.77	7.32	66	91

Table 7, reflected the results of group statistics for the TOEFL test scores in pretest and posttest for 78 learners with middle scores in emotional intelligence test.

Table 8 TOEFL test for Low EQ Score

Source	Mean	SD	Minimum	Maximum
scores of TOEFL in pretest	55.92	4.76	45	63
scores of TOEFL in posttest	57	6.82	40	67

Table 8, reflected the results of group statistics for the TOEFL test scores in pretest and posttest for 36 learners with low scores in emotional intelligence test.

-Inferential Analysis of the Data

To determine whether there is a difference between the pre-test and post-test in Iranian EFL learner's scores of TOEFL test, a paired samples statistics was run on the pre- and post-test scores of the learners. Difference between the pre-test and post-test in Iranian EFL learner's scores of TOEFL by paired samples statistics test for 36 learners with high scores in emotional intelligence test is presented in Table 9.

Table 9. Paired Samples t-test for High EQ Group

Source	df	Mean difference	T	Sig.
pre-test & Post-test	35	15.83	-14.66	0.000

Table 9, summarizes the inferential analysis of the data TOEFL test before and after the treatment in learners with high scores in emotional intelligence test. It is clearly shown that Iranian EFL learners with high scores in emotional intelligence test that received the treatment performed better results in post-test than the pre-test who no received treatment. Difference between the pre-test and post-test in Iranian EFL learner's scores of TOEFL by paired samples statistics test for 78 learners with mid scores in emotional intelligence test is presented in Table 10.

Table 10. Paired samples t-test for Mid EQ Group

Source	df	Mean difference	T	Sig.
pre-test & Post-test	77	12.76	-24.17	0.000

Table 10, summarizes the inferential analysis of the data TOEFL test before and after the treatment in learners with middle scores in emotional intelligence test. It is clearly shown that Iranian EFL learners with middle scores in emotional intelligence test that received the treatment performed better results in post-test than the pre-test who no received treatment. Difference between the pre-test and post-test in Iranian EFL learner's scores of TOEFL by paired samples statistics test for 36 learners with low scores in emotional intelligence test is presented in Table 11.

Table 11. Paired samples t-test for Low EQ Group

Source	df	Mean	T	Sig.
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difference				
pre-test & Post-test	35	1.08	-1.16	0.25

Table 11, summarizes the inferential analysis of the data TOEFL test before and after the treatment in learners with low scores in emotional intelligence test. It is clearly shown that no difference between scores TOEFL test in pre and posttest in Iranian EFL learners with low scores in emotional intelligence test. In the qualitative phase of the study, participants responded to eight questions in the structured interview. These questions were about their ability in English language and their use of computers and English programs. In this study, 68 percent of participants claimed that they easily learn the English language. 21 percent of participants believed they have an excellent performance in English language tests while 28 percent believed in a good performance only. 39 percent believed they had average performance and 12 percent had a poor one. In this study, 46% of interviewees stated that they used the computer programs to promote language and 54 percent had not used them at all. In this study, 57 percent of interviewees stated that computer games frequently used English phrases and 43 percent had not used them. Finally, 79 percent of participants in the part of answering the meaning of words mentioned them correctly and 21 percent answered incorrectly. Analysis of every question and the result of answers are as follows:

1. Do you easily learn the English language?

In this study, 68 percent of participants said in the interviews that easily learn the English language.

2. When using English language, do you think (believe) in Persian and translate your mind into English or do you think in English?

In this study, 47 percent of participants said that they think (believe) in Persian and translate their mind into English and 53 percent said that they think in English.

3. What have been your English test scores in different exams? excellent? Good? Fair? Poor?

In this study, 21 percent of participants said in the interview in English language tests had excellent performance, 28 percent believed a good performance, 39 percent believed that average performance and 12% had a poor performance.

4. Have you ever used a computer program to strengthen the language?

In this study, 46% of interviewees stated that the computer programs used to promote language and 54 percent had not used.

5. Did you use the computer games that are frequently used English phrases?

In this study, 57% of interviewees stated that the computer games that are frequently used English phrases to use and 43% had not used.

6. Did games and computer programs help you to learn English vocabulary?

In this study, 68 percent of participants said in the interviews that games and computer programs help them to learn English vocabulary better.

7. Tell me the meaning of the following words:

Skill, Emotion, Program, Wonderful, Win, etc.

In this study, 79% of participants in the part of answering the meaning of words mentioned in the interview answered correctly and 21 percent were answered incorrectly.

8. Tell me the names of programs or games that you have done say.

Most of the answers are: Clash of Clans, Clash of Queens, Minions rush, Asphalt, Age of lords, Nitro nation and etc.

English students to answer the questions mentioned some points like:

- I can use English words in my dialogs with my friends in games.
- I like to work with English menu of programs and games.
- I want to speak English like persons in games.

Conclusion

According to both descriptive and inferential data analyses, Iranian EFL learners' with high and middle scores in emotional intelligence test who received the Background knowledge performed better in TOEFL test in post-test and no difference between scores TOEFL test in pre and posttest in Iranian EFL learner's with low scores in emotional intelligence test. Since the significance level was smaller than .05 the null hypotheses of the study are rejected, this implies that Background knowledge does not have any significant effect on emotional intelligence and TOEFL Iranian EFL learners' ability. In this study almost all participants felt that Background knowledge and computer assisted language learning (CALL) could help in improving their emotional intelligence and languages ability.

Suggestions and Recommendations

Based on the findings and limitations of the present study, the following motivations and suggestions may provide interested researchers with new lines of research in this area:

1. Future researchers can focus on the relationship between Iranian EFL learners' computer assisted language learning (CALL) and their other factors affecting learning English.
2. Future research can focus on the relationship between Iranian EFL learners' emotional intelligence and their other factors affecting learning English.
3. Finally, future researchers can explore EFL learning tools and factors affecting learners' ability to learn English better.

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