مجله دانشکده ادبیات و علوم انسانی دانشگاه شهرکرد، سال پنجم، شماره ۱۶ و ۱۷، بهار و تابستان ۱۳۸۹

بررسی رابطه میان تفکر انتقادی و خودکارآمدی معلمان زبان انگلیسی در آموزشگاه ها

فاطمه معافیان
دانشگاه آزاد اسلامی واحد مشهد
f.moafian@gmail.com
افسانه غنی زاده
دانشگاه آزاد اسلامی واحد مشهد
ghanizadehafsaneh@yahoo.com

چکیده

در این مطالعه، ابتدا، رابطه میان تفکر انتقادی و خودکارآمدی معلمان زبان انگلیسی در آموزشگاه های زبان مورد بررسی قرار گرفت. سپس، نقش سابقه ی تدریس در توانایی تفکر انتقادی معلمان بررسی شد. در پایان، رابطه میان سن و تفکر انتقادی معلمان مورد مطالعه قرار گرفت. بدین منظور، ۹۴ نفر از معلمان زبان انگلیسی آموزشگاه های مختلف سطح شهر مشهد در پژوهش حاضر شرکت کردند. از آنان خواسته شد که به «آزمون تفکر انتقادی واتسون-گلیزر» و «مقیاس خودکارآمدی معلم» پاسخ دهند. نتا یج بدست آمده از تحلیل واریانس یک سویه و آزمون همبستگی پیرسون بر روی داده ها نشا ن داد که رابطه معنا داری میان تفکر انتقادی معلمان زبان انگلیسی و خودکارآمدی آنا ن در سطح معناداری ۰.۰۵ وجود ندارد. علاوه بر این، همبستگی معناداری میان تفکر انتقادی معلمان، سابقه ی تدریس و سن آن ها در سطح معناداری ۰.۰۵ مشاهده نشد . در پایان، با توجه به نتایج بدست آمده، پیشنهاداتی جهت آموزش زبان انگلیسی ارائه گردید.

واژگان کلیدی: تفکر انتقادی، خودکارآمدی، سابقه تدریس، سن

تاریخ دریافت مقاله: ۱۳۸۸/۱۰/۲۰ *تاریخ پذیرش مقاله: ۱۳۸۸/۱۲/۲۴*

On the Relationship Between Critical Thinking and Self-Efficacy: A Case of EFL Teachers in Language Institutes

Fatemeh Moafian
Islamic Azad University, Mashhad Branch
f.moafian@gmail.com

Afsaneh Ghanizadeh
Islamic Azad University, Mashhad Branch
ghanizadehafsaneh@yahoo.com

Received Date: January 10, 2010 *Accepted Date: March 14, 2010*

Abstract

The present study sought to investigate, primarily, the relationship between Iranian EFL teachers' critical thinking and self-efficacy in language institutes. Secondly, the role of the teachers' years of teaching experience in their critical thinking ability was examined. Finally, the relationship between the teachers' age and their critical thinking was studied. To this end, 94 EFL teachers participated from the different language institutes in Mashhad. The teachers sat through the "Watson-Glaser Critical Thinking Appraisal" and the "Teachers' Sense of Efficacy Scale." The statistical calculations via ANOVA and correlation revealed that there was no significant relationship between the teachers' critical thinking and their self-efficacy. Furthermore, no significant correlation was found between the teachers' critical thinking, their teaching experience, and age. The discussion and conclusions of the research are further presented with reference to earlier findings.

Keywords: Age; Critical Thinking; Teaching Experience; Self-Efficacy

1. Introduction

The proponents of reflective teaching believe that professional growth is not merely governed by experience, but is best manifested in the association of experience with reflection (Richrads & Nunan, 1990). This notion of reflection is closely associated with the concept of criticism, since as advocated by Dewey (1933), there is a distinction between critical reflection and reflection: "An individual who is not sufficiently critical may reach a hasty conclusion without examining all the possible outcomes" (Leung & Kember, 2003, cited in Phan, 2007, p. 790). Accordingly, a

critically reflective teacher is one who moves beyond the implementation of instructional techniques to a search of answers for "what" and "why" questions. These questions contribute teachers to enhance their teaching effectiveness (Richrads & Nunan, 1990). Ennis (1985, p. 46) defines critical thinking (CT) as "reasonable, reflective thinking that is focused on deciding what to believe or do" (cited in Yang, Newby, & Bill, 2007). It is apparent that these beliefs are not confined to external world. They can refer to one's internal world as an individual, that is, people's internal beliefs such as self-acceptance, self-actualization, self-esteem, self-efficacy, and so on. The focus of this study is on one of these internal beliefs, that is, self-efficacy.

Self-efficacy beliefs have been defined as an individual's beliefs about his or her capabilities in certain areas or certain tasks (Bandura, 1986). In the realm of teaching, plethora of studies demonstrated the relationship between teachers' self-efficacy and their instructional behaviors. Gibson and Dembo (1984), for example, indicated a high correlation between teachers' sense of efficacy and their persistence in the presentation of lessons, feedback presentation, and support scaffolding for weaker students. In a similar study, Pajares (1992) found a strong relationship between teachers' educational beliefs and their planning, instructional decisions, classroom practices, and subsequent teaching behaviors. He concluded that "beliefs are far more influential than knowledge in determining how individuals organize and define tasks and problems and are stronger predictors of behavior" (Pajares, 1992, p. 311). On the other hand, teachers with low level of efficacy have been found to be cynical not only of their own abilities, but also of the abilities of their students and colleagues (Siebert, 2006). They also tend to undermine students' cognitive development as well as students' judgments of their own capabilities (Pajares & Schunk, 2001, cited in Siebert, 2006). In L2 contexts, identical results have been reported. For example, Ghanizadeh and Moafian (in press) found a positive relationship between teachers' sense of self-efficacy beliefs and their pedagogical success.

Consistent with the importance of teachers' self-efficacy beliefs in effective teaching (Ghanizadeh & Moafian, in press; Pajares, 1992; Tschannen-Moran, Woolfolk Hoy, & Hoy, 1998) and in line with the fact that the ultimate goal of every educational system is effective teaching and learning, exploring the factors which may have some relationships with teachers' efficacy beliefs is imperative. CT is one of the factors that seems to have a significant relationship with teachers' self-efficacy beliefs.

Mezirov (1998), extending the previously-mentioned work of Dewey (1933), argued that any act of critical reflection involves a degree of change to personal beliefs. Phan (2007) also contended that "reflection entails active, persistent, and careful consideration of assumptions or beliefs grounded in consciousness" (p. 4). Furthermore, as evident in the Ennis's (1985) definition of CT, mentioned above, decision-making is an indispensable part of CT ability (Fisher, 2001). Without any doubt, if teachers' decisions are made discreetly and tactfully, it will plausibly lead to the desired outcomes. This achievement, in turn, may enhance teachers' beliefs about their abilities; in other words, their self-efficacy will be boosted. Of course, what was mentioned is all based on logical reasoning and no study to date has formally investigated the relationship between teachers' self-efficacy beliefs and CT. This gap in the field calls for investigations to examine the relationship between teachers' CT and self-efficacy. Thus, an attempt is made in the current study to investigate the possible relations between these two elements among EFL teachers.

2. Literature Review

2.1. Theoretical Foundations of Self-Efficacy

In *Social Foundations of Thought and Action*, Bandura (1986) proposed a social cognitive theory that emphasized the role of self-referent phenomena and adopted an agentic view of personality. According to this agentic sociocognitive perspective, the underlying features of personal agency include intentionality, forethought, self-reactiveness, and self-reflectiveness. Bandura (2001) describes intention as "representation of a future course of action to be performed" (p. 6), that can originate actions for given purposes. The manifestation of forward looking plans, nevertheless, calls for more than an intentional state. What is needed is the exercise of forethought through which individuals are motivated and their actions are shaped in anticipation of future events (Bandura, 2001). Successful implementation of intentions and plans, of course, entails not only the intentional ability to make choices and action plans, but also the ability to motivate and regulate the implementation of desired actions. According to Bandura (1986), this metacognitive ability is realized through self-regulatory processes that link thought to action and includes self-monitoring, performance self-guidance via personal standards, and corrective self-reactions. The last distinctive core feature of Bandura's

agentic sociocognitive theory pivots on individuals' capability to reflect on themselves, their thoughts, and actions. For Bandura (1997), perceived self-efficacy, that is, "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (p. 3), is the most fundamental and ubiquitous mechanism of personal agency. He also asserted how people behave can often be better predicted by the beliefs they hold about their own capabilities than by what they are actually capable of accomplishing.

2.2. Definitions of CT

The literature related to CT reveals that the definition of CT encompasses many dimensions. Historically, Dewey (1933) described CT from a philosophical perspective whereby education was meant to provide conditions to cultivate habits or training of the mind. In his view, aspects of CT included inquiry, discrimination, testing beliefs, and considering alternatives. Paul (1988) viewed CT as learning how to ask and answer questions of analysis, synthesis and evaluation, and "the ability to reach sound conclusions based on observations and information" (p. 50). More recently, CT has been viewed as more than cognitive skills. Halpern (1998) regarded CT as the type of thinking used in problem solving, determining probable outcomes, formulating inferences, and making decisions. Simpson and Courtney (2003) notes that CT is a complex process rather than a method to be learned. It is an orientation of the mind including both cognitive and affective domains of reasoning, and attitude is significant in influencing an individual's abilities to question assumptions. Watson and Glaser (2002) associate CT with the following abilities:

> Inferences drawn from factual statements; recognition of assumptions in a series of statements; interpreting whether conclusions are warranted or not; determine if conclusions follow from information in given statements, and evaluating arguments as being strong and relevant or weak and irrelevant. (pp. 21-23)

In sum, CT involves many different types of abilities, such as problem-solving, intellectual skills, evaluation, and cognitive strategies.

2.3. Areas of Influence

The abovementioned definitions of CT ability seemingly demonstrate that CT can be influential in every discipline and occupation, due to its association with facets such as problem-solving and decision-making. In

educational settings, it is widely accepted that learning to think is one of the most important goals of formal schooling. Dewey (1933) stated that the central purpose of education is learning to think. As part of that education, learners need to develop and learn to apply CT skills to their academic studies effectively (Keeley, Holland, & Watson, 2005), to the complex problems that they will face in their professions (Yeh, 2004), and to the critical choices they will be forced to make as a result of the information explosion and other rapid technological changes (Oliver & Utermohlen, 1995).

In L2 contexts, it seems that attention to CT deserves the additional considerations due to the position of problem-solving, attitudes, self-regulation, and metacognitive abilities in L2 classes. Besides, as Davidson (1998) noted, since "part of the English teacher's task is to prepare learners to interact with native speakers who value explicit comment, intelligent criticism, and intellectual assertion" (p. 121), introducing learners to CT is even more essential for L2 teachers than L1 teachers (Davidson, 1998).

Likewise, more recently, ways in which CT might be interpreted and taught have become highly debated questions for L2 learning scholars and practitioners (Thompson, 2002). A shift has occurred from viewing learning primarily as rote training to conceptualizing learning as a constantly evolving process of discovering, questioning, reformulating hypotheses (Pennycook, 1994), and thoughtful mentoring (Facione, Facione, & Giancarlo, 1997).

A diverse body of educational research on CT provides support for integrating CT skills into L2 educational curriculum (e.g., Dam & Volman, 2004; Davidson & Dunham, 1997; Frijters, Dam & Rijlaarsdam, 2008; MacBride & Bonnette, 1995).

Similarly, there are different studies in the scope of teacher education focusing on CT. Harrington, Quinn-leering, and Hudson (1996) investigated the impact of the use of case-based pedagogy on developing CT in future teachers. After analyzing the students' written analyses of dilemma-based cases, they found patterns showing the evidence of open-mindedness, sense of professional responsibility, and eagerness among students in their approach to teaching. Dinkelman (2000) studied the extent, nature, and development of CT in three social studies of preservice teachers. The results revealed that teacher educators could be influential factors in changing preservice teachers to more critically reflective ones. Considering critical reflection as a practical aim of preservice teacher education was also

supported by the findings of the study. Yeh (2004) studied the effect of a computer simulation program on improving preservice teachers' reflective teaching. The findings revealed that computer simulation was an effective instrument for teaching general CT skills in order to improve preservice teachers' reflective teaching. In a qualitative study, Yang (2005) argued the importance of the role of a critically reflective teacher in language teaching and learning processes. She explained that being enthusiastic, creative, and informative in L2 teaching and learning are three features that a critically reflective teacher should posses.

Reviewing the literature on CT reveals that none of the CT-related studies to date have considered the relationship between teachers' CT and their sense of self-efficacy beliefs, although there are some reasoning indicating that there may be a significant relationship between teachers' CT and their efficacy beliefs. For example, Bandura (2001) contends that CT ability is associated with other cognitive variables such as motivation and self-efficacy beliefs. He states individuals assess their motivation, beliefs, and values through critical and reflective practices which, in turn, may lead to "verification of soundness of one's thinking" (p. 10). This metacognitive ability, he asserts, contributes to the development of people's beliefs in their capabilities, that is, their sense of efficacy beliefs. Phan (2010) found students' academic self-efficacy beliefs were predictive of reflective thinking. He believed this would justify the previous findings that self-efficacious learners are more likely to engage in reflective thinking practice. As far as teachers' CT and its association with their efficacy beliefs are concerned, identical contentions are conveyed. Yang (2005) argues, "being a critically reflective teacher involves the fact that we should integrate our teaching beliefs [including teachers' sense of efficacy] with our teaching activities through which we develop ourselves individually and collectively" (p.31). Reynolds (1992, p.25, cited in Jenkins & Lloyd, 2001) states that "competent teachers evaluate their own teaching effectiveness by reflecting on their own actions and student responses in order to improve their practice." It is clear that improvement in teaching practice can enhance teachers' beliefs about their own abilities. Jenkins and Lloyd (2001) also consider teachers' thinking critically as a vehicle to facilitate the progression from a novice (usually with low-efficacy beliefs) to an autonomous (usually with high efficacy beliefs) teacher. So, it appears that there may be a relationship between teachers' CT and efficacy beliefs. The dearth of investigation into the possible relations between teachers' CT and

their beliefs, in particular the sense of self-efficacy, does echo a clear need to undertake a research exploring such a relationship. In summary, the present study primarily seeks to investigate the relationship between EFL teachers' CT and their self-efficacy beliefs. To this end, the following research questions were posed and investigated in this study:

1. Is there any relationship between EFL teachers' CT and sense of self-efficacy beliefs in language institutes?
2. Is there any relationship between EFL teachers' CT and years of teaching experience in language institutes?
3. Is there any relationship between EFL teachers' CT and age in language institutes?

3. Method

3.1. Participants

Ninety-four Iranian EFL teachers participated in the study. There were 65 females and 23 males; six participants did not specify their gender. Their age varied from 20 to 54 years old (M = 26.83, SD = 5.93) and their teaching experience varied from 1 to 30 years (M = 5.51, SD = 4.71). They mostly majored in the different branches of English—English Literature (26 B.A., 2 M.A.), English Teaching (19 B.A., 13 M.A.), English Translation (8 B.A.)—and those teachers who didn't major in English were duly qualified to teach it.

3.2. Instruments

3.2.1. Watson-Glaser's Critical Thinking Appraisal (Form A)

To evaluate the teachers' CT ability, the "Watson-Glaser Critical Thinking Appraisal" (CTA; Form A) was employed. This test comprises 80 items and consists of 5 subtests as follows (Hajjarian, 2008, pp. 87-88):

Test 1. Inference: Discriminating among degrees of truth or falsity of inference drawn from given data.

Test 2. Recognizing Unstated Assumptions: Recognizing unstated assumptions or presuppositions in given statements or assertions.

Test 3. Deduction: Determining whether certain conclusions necessarily follow from information in given statement or premises.

Test 4. Interpretation: Weighing evidence and deciding if generalizations or conclusions based on the given data are warranted.

Test 5. Evaluation of Arguments: Distinguishing between arguments that are strong and relevant and those that are weak or relevant to a particular question at issue.

The reliability of the Watson-Glazer test has been determined in three ways: estimates of the test's internal consistency, stability of the test scores over time, and the correlation between scores on alternate forms. Internal consistency was measured by using split-half reliability coefficients. Testing stability over time indicated an acceptable level of stability (0.73). Regarding validity, the Watson-Glaser test enjoys all areas of face, content, criterion, and construction validity (Hajjarian, 2008).

In this study, the total reliability of the questionnaire was calculated via Cronbach's alpha, which was found to be 0.83.

3.2.2. Teachers' Sense of Efficacy Scale (Long Form)

Reviewing the existing measures on teacher's self-efficacy such as Webb Efficacy Scale developed by Ashton, Olejnik, Crocker and McAuliffe (1982), Teacher Efficacy Scale by Gibson and Dembo (1984), and Bandura's Teacher Efficacy Scale (1997), the researchers decided to utilize the *Teachers' Sense of Efficacy Scale* designed by Tschannen-Moran and Woolfolk Hoy, due to its comprehensiveness, integrity, and ease of administration. Teachers' Sense of Efficacy Scale, also called *Ohio State Teacher Efficacy Scale* (OSTES), encompasses two versions: long form (including 24 items) and short form (including 12 items). In the current study, the long form was applied, which includes three subscales: 1) efficacy in student engagement, 2) efficacy in instructional strategies, and 3) efficacy in classroom management. Each subscale loads equally on eight items, and every item is measured on a 9-point scale anchored with the notations: "nothing, very little, some influence, quite a bit, a great deal." This scale seeks to capture the multi-faceted nature of teachers' efficacy beliefs in a concise manner, without becoming too specific or too general.

The total reliability and the reliability of each individual factor—reported by Tschannen-Moran and Woolfolk Hoy (2001)—are depicted in Table 1:

Table 1
Reliability Reports of OSTES

	Mean	*SD*	Alpha
OSTES	7.1	.94	.94
Student Engagement	7.3	1.1	.87
Instructional Strategies	7.3	1.1	.91
Classroom Management	6.7	1.1	.90

In this study, the total reliability of the questionnaire was calculated via Cronbach's alpha, which was found to be 0.95.

3.3. Data Collection

The study was conducted in several private language institutes (Danesh, Sohravardi, Golestan, Ariyanpur, Zabansara, Allameh, Marefat, Kish, Kish Air, College, Jahad-e-Daneshgahi, and ILI) in Mashhad between September 2008 and March 2009. The institutes were selected based on credibility and feasibility criteria. Besides, because the researchers themselves or their colleagues were teaching in the aforementioned institutes, they benefited from the voluntary and warm participation and cooperation of the teachers. The participants were asked to take the Teachers' Sense of Efficacy Scale and the Watson-Glaser Critical Thinking Appraisal. They took the questionnaires home, filled them in, and submitted them to the researchers within a week. Two hundred and fifty four questionnaires (127 CT questionnaires and 127 Efficacy questionnaires) were distributed, out of which one hundred and eighty eight were returned to the researchers. To receive the reliable data, the researchers explained the purpose of completing the questionnaires and assured the participants that no one, except the researchers, would have access to their answers on the questionnaires. In other words, endevor was made to observe the confidentiality and anonymity considerations.

3.4. Data Analysis

To ensure the normality of the distribution, descriptive statistics was employed. Then, based on Watson-Glaser's (2002) classification, the participants were divided into three groups: The subjects who scored 35 and below comprised the low CT group, those scoring between 36 and 55 were placed in the mid CT group, and those who got between 56 and 80 formed the high group (see Table 2). To see the difference among the three mean

scores on self-efficacy scale, a one-way ANOVA was conducted to the data.

Table 2
Group Membership Based on the CT Scores

	N	Score
High CT	14	56-80
Mid CT	69	36-55
Low CT	11	0-35

To discover if there was any relationship between any of the five different constructs of CT and the teachers' self-efficacy scores, Pearson product-moment correlation coefficients were run. To examine the relationships between the teachers' CT, their teaching experience, and age, Pearson product-moment correlation coefficients were conducted, as well.

4. Results

Table 3 summarizes the descriptive results of the two instruments (i.e., CT and Self-Efficacy questionnaires) used in the study (see Table 3):

Table 3
Descriptive Statistics of CT and Self-Efficacy

	N	Minimum	Maximum	Mean	Std. Deviation
CT	94	24	66	46.34	8.41
Self-Efficacy	94	65	210	166.31	24.39

To compare the mean scores of the three groups on the data gathered from the second instrument of the study (i.e., the Teachers' Sense of Efficacy Scale) a one-way ANOVA was run. The *F*-observed value was .059. This amount of *F*-value at 2 and 91 degrees of freedom was lower that the critical value of *F*, that is, 3.10 (see Table 4):

Table 4
One-Way ANOVA Self-Efficacy by CT

	Sum of Squares	*df*	Mean Square	*F*	*Sig.*
Between Groups	72.15	2	36.07	.059	.94
Within Groups	55288.27	91	607.56		
Total	55360.42	93			

Therefore, it can be concluded that there was no significance difference between the mean scores of the three groups of teachers on the Sense of Efficacy Scale.

As displayed in Table 5, the result of the Leven's test of homogeneity of variance revealed that the three groups enjoyed homogenous variance; hence, the results of the one-way ANOVA were reliable. The *F*-value of 3.07 at 2 and 91 degrees of freedom was lower than the critical value of 3.10. Thus, the underlying assumption of one-way ANOVA was met, that is, there was not any marked difference between the variance of the three groups (see Table 5):

Table 5
Levene's Test of Homogeneity of Variance

Levene's Statistic	*df1*	*df2*	*Sig.*
3.07	2	91	.051

The data analysis revealed that there was no significant relationship between the teachers' CT and the scores they obtained from the self-efficacy scale. Therefore, the researchers decided to analyze the constructs of CT separately to discover if there was any noteworthy relationship between any of the five different constructs of CT and the teachers' scores on efficacy scale. To this end, a Pearson product-moment correlation was employed.

The results of correlation revealed that there was no significant correlation between the EFL teachers' CT and their scores in self-efficacy. All the levels of significance of the correlation coefficients were greater than .05 (see Table 6):

Table 6

Correlation Between Components of the Teachers' CT and Self-Efficacy

	Self-Efficacy
Inference	-.091
Recognizing Unstated Assumptions	.047
Deduction	-.009
Interpretation	-.037
Evaluation of Arguments	-.109

To determine the role of teaching experience in the teachers' CT, a Pearson product-moment correlation was run. The findings indicated that there was no significant correlation between the teachers' years of teaching experience and the total scores of CT at the level of .05. No significant relationship was also found between the teachers' teaching experience and the five constructs that compose the total CT (see Table 7):

Table 7

Correlation Between the Teachers' Years of Teaching Experience and CT Scores

	Years of Teaching Experience
Inference	-.136
Recognizing Unstated Assumptions	-.018
Deduction	.071
Interpretation	.137
Evaluation of Arguments	-.076
Total CT	-.012

To examine the relationship between the teachers' CT and age, a Pearson product-moment correlation was employed. The results showed that, at the level of .05, there was no significant correlation between the teachers' age and their CT. The correlation between the teachers' age and the components of CT was not significant as well (see Table 8):

Table 8
Correlation Between the Teachers' Age and CT Scores

	Age
Inference	-.039
Recognizing Unstated Assumptions	-.073
Deduction	.037
Interpretation	-.014
Evaluation of Arguments	-.058
Total CT	-.046

5. Discussion

The first objective of the study was to investigate the relationship between the teachers' CT and sense of self-efficacy beliefs. According to Nunan and Lamb (1999, p. 202, cited in Yang, 2005):

> Reflective teachers are ones who are capable of monitoring, critiquing and defending their actions in planning, implementing and evaluating language programs. They are sensitive to a range of learner needs and able to use these as a basis for selecting and organizing goals, objectives, content, and learning experiences of language programs; they are able to analyze and critique their own classroom behavior and the behavior of their learners; they are able to encourage learners to self-monitor and self-assess and evaluate the effectiveness of teaching.

As Nunan and Lamb (1999) argued, critically reflective teachers respond thoughtfully to the stimuli they receive from educational environments. They think about whatever they are going to act and choose, evaluate the results of their actions in teaching and learning processes and through these continual assessments, they choose the best choice in order to achieve the goal. Thus, they are exact and considerate in selecting and arranging their activities. Through these well-considered practices, the teachers increase the percentage of their effectiveness and success in their profession. It can be contended that this, in turn, may enhance teachers' sense of efficacy beliefs, because as Bandura (1997) postulated, the most prevailing and powerful influence on efficacy is mastery experience through which successfully performing a behavior increases self-efficacy for that behavior. In other words, the perception that a performance has been successful enhances perceived self-efficacy and ensures future proficiency and success. Furthermore, critically reflective teachers are sensitive to the

judgments they receive about themselves from their students and colleagues. They reflect carefully and critically about what they hear and try to enhance the positive points and remove the negative ones or modify them to the positive points in themselves. As a result, their self-efficacy is boosted.

On the other part, reconsidering the proposed definitions of CT would reveal that a trace of efficacy beliefs is discernible in almost most recent definitions of CT. Giancarlo and Facione (2001) characterized CT as a purposeful and self-regulatory judgment about one's beliefs. They noted that a person engaged in CT used a set of cognitive skills to form that judgment and to monitor and improve the quality of that judgment. Huitt (1998) believed that a sound model of CT must include some component of beliefs. Accordingly, he defined CT as the disciplined mental activity of evaluating arguments or propositions based on which people make judgments and these judgments can guide the development of their beliefs and action taking.

Based on these logical reasoning, the researchers of this study presumed that there might be a relationship between teachers CT and sense of self-efficacy beliefs. Nevertheless, the results did not support this hypothesis. The findings indicated that there is no significant relationship between teachers' CT and self-efficacy. The results of the present study confirm the findings of Phan (2007) that among the components of reflective thinking, CT is not associated significantly with learners' self-efficacy, although the other components (habitual action, understanding, and reflection) were found to relate positively to self-efficacy. Phan (2010) himself deemed the lack of bivariate association between CT and self-efficacy perplexing and called for more research on this area of enquiry. The current study revealed that the same also goes for EFL teachers. This finding, nevertheless, is in contrast with what was hypothesized in this study based on the aforementioned theoretical contentions. Contemplating the possible reasons for such an unexpected outcome, the researchers came across the following main reason: In this study, there was not much variation among CT scores, and the scores were mostly close to each other. This lack of variation may be a possible reason for not finding any possible relationship between the teachers' CT and efficacy beliefs, because correlational studies require a variety of levels to reveal accurate results. As Bachman (1995) states, when there is little variation among scores, investigating the relationship between the two set of scores will show a very low estimate of correlation.

Regarding the second research question which inquired whether there was any significant relationship between teachers' CT and teaching experience, the results indicated that there was no significant relationship between teachers' CT and teaching experience. In other words, the teachers who enjoyed high levels of CT were not necessarily the ones who had many years of teaching experience.

Scholars in the field of CT believe that the ability to think critically and reflectively is a function of one's experience as well as one's intellect (Dewey, 1933). It has been also argued that prior knowledge and life experiences are prerequisites for the ability to analyze life situations reflectively (Kurland, 2000). Glaser (1941) contends that the ability to think critically involves three things, one of which is the ability to consider the problems and subjects in a reflective way. He believes that this ability is influenced by one's range of experiences. Contrary to the expectation, the results of the present study revealed that teaching experience was not correlated with teachers' CT ability, that is, novice and experienced teachers did not display any significant difference in their ability to think critically. This can be explained in the view of the fact that in the post-method era of EFL teaching with its emphasis on reflectivity and divergence, teachers from the very beginning of teaching practices must equip themselves with the ability to evaluate and think critically. It can also be argued that the setting of this study (language institutes) might have contributed to this unexpected result. In Iranian institutional contexts, all teachers who are supposed to start teaching in English institutes are required to pass a teacher training course. Through such courses, teachers are encouraged to integrate aspects of critical theory into their classes in order to benefit from reflecting on their own teaching practices and outcomes, and developing competence in self-assessment.

Furthermore, the complexity of modern life necessitates developing and applying CT abilities. Complicated situations cannot be solved by simple thinking; they need higher-order intellectual or cognitive abilities including complex critical kind of thinking as Wright (2002) put it. These abilities underpin our perceptions of the world and the subsequent decisions we make, irrespective of the profession we have and the amount of time we have engaged in that job.

Regarding the third research question which intended to examine whether there was any relationship between the teachers' CT and age, the

results revealed that there was no significant relationship between the teachers' CT and age.

CT has been viewed as a skill that may be improved in everyone, and does not necessarily develop with maturity and so can be taught to all ages (Walsh & Paul, 1988). For example, Lipmann (1988) found that the mean scores of college freshmen on the New Jersey Test of Reasoning Skills did not differ significantly from those of six graders.

Viewing from everyday life perspective, it is apparent that the world is changing rapidly and that the new issues arise and the old ones are revisited. According to Wright (2002), we should respond to these by making reflective and reasonable decisions that will affect our lives. He believed that this ability should not be restricted to any particular age or gender group, especially if we want children to become independent decision makers.

This finding of the present study may also be attributed to the fact that CT (whether regarded as a skill or disposition) is under the influence of wide array of other factors and aspects such as truth-seeking, open-mindedness, analyticity, systematicity, inquisitiveness, and cognitive maturity (Facione, Giancarlo, Facione, & Gainen, 1995), cultural background and social context (Atkinson, 1997), family and educational settings and the degree of exposure to CT training and nurturing (Wright, 2002). Thus, it can be argued that in this study factors and features other than age might have had more determining roles in shaping the teachers' CT abilities.

6. Conclusion and Limitations

On the basis of this study, it was revealed that there was no significant relationship between Iranian EFL teachers' CT and their sense of self-efficacy beliefs. Furthermore, it was found that there was no significant correlation between teachers' CT, teaching experience, and age. The findings of the present study have some implications for EFL teachers, practitioners, and materials developers. The teachers who are older and have higher years of teaching experience should not be biased towards their age and teaching experience. They should be flexible towards the helpful and valuable views they receive. Every constructive and effective ideas about teaching profession should be welcomed by all teachers without considering the age and teaching experience of the ones who express these views. EFL practitioners and materials developers should arrange some

friendly meetings where teachers with different ages and varying range of teaching experience participate and through which they can properly exploit the potentials of teachers with higher CT ability in improving and choosing instructional materials, teaching practices, and evaluation processes.

The findings lead to several recommendations for further research. To the researchers' knowledge, no studies examined the relationship between EFL teachers' CT and self-efficacy and this is the first attempt to explore the relationship between these two variables among EFL teachers; therefore, the study should be replicated to find out whether similar results can be obtained. In this research, the participants were selected according to available sampling. The study should be replicated using procedures that allow a higher degree of randomization and ultimately more generalizability. Furthermore, teachers' gender was not considered. In terms of the relationship between EFL teachers' CT and self-efficacy with respect to their gender, the research should be done with sufficient numbers of participants in each sex. Because this study was conducted only in private language institutes, further research is needed to be carried out at high schools in order to compare the results.

References

Ashton, P. T., Olejnik, S., Crocker, L., & McAuliffe, M. (1982). *Measurement problems in the study of teachers' sense of efficacy.* Paper presented at the annual meeting of the American Educational Research Association, New York.

Atkinson, D. (1997). A critical approach to critical thinking in TESOL. *TESOL Quarterly, 31*(1), 72-95.

Bachman, L. F. (1995). *Fundamental considerations in language testing.* Oxford University Press.

Bandura, A. (1997). *Self-efficacy: The exercise of control.* New York: Freeman.

Bandura, A. (1986). *Social foundations of thought and action: A social cognitive theory.* Englewood Cliffs, NJ: Prentice-Hall.

Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review Psychology, 52*, 1-26.

Dam, G. T., & Volman, M. (2004). Critical thinking as citizenship competence: Teaching strategies. *Learning and Instruction, 14*(4), 359-379.

Davidson, B. (1998). A case for critical thinking in the English language classroom. *TESOL Quarterly, 32*(1), 119-123.

Davidson, B., & Dunham, R. (1997). Assessing EFL student progress in critical thinking with the Ennis-Weir Critical Thinking Essay Test. *JALT Journal, 19*(1), 43-57.

Dinkelman, T. (2000). An inquiry into the development of critical reflection in secondary student teachers. *Teaching and Teacher Education, 16*(2), 195-222.

Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educational process*. Lexington, MA: D.C. Heath.

Ennis, R. H. (1985). A logical basis for measuring critical thinking skills. *Educational Leadership, 43*(2), 44-48.

Facione, P. A., Giancarlo, C. A., Facione, N. C., & Gainen, J. (1995). The disposition toward critical thinking. *Journal of General Education, 44*(1), 1-25.

Facione, P. A., Facione, N. C., & Giancarlo, C. A. (1997). The motivation to think in working and learning. In E. Jones (Ed.), *Preparing competent college graduates: Setting new and higher expectations for student learning* (pp. 67-79). San Francisco, CA: Jossey-Bass Publishers.

Fisher, A. (2001). *Critical thinking: An introduction*. Cambridge University Press.

Frijters, S., Dam, G. T., & Rijlaarsdam, G. (2008). Effects of dialogic learning on value-loaded critical thinking. *Learning and Instruction, 18*(1), 66-82.

Ghanizadeh, A., & Moafian, F. (in press). The relationship between Iranian EFL teachers' sense of self-efficacy and their pedagogical success in language institutes. *Asian EFL Journal, 5,* 115-135.

Giancarlo, C. A., & Facione, P. A. (2001). A look across four years at the disposition toward critical thinking among undergraduate students. *Journal of general education, 50*(1), 29-55.

Gibson, A., & Dembo, M. (1984). Teacher efficacy: A construct validation. *Journal of Educational Psychology, 76*(4), 569-582.

Glaser, E. (1941). *An experiment in the development of critical thinking*. New York: J. J. Little and Ives Company.

Hajjarian, H. (2008). *The relationship between critical thinking ability of Iranian EFL students and their performance on open and closed reading tasks.* Unpublished master's thesis, Islamic Azad University of Tehran, Science and Research Campus, Tehran, Iran.

Halpern, D. F. (1998). Teaching critical thinking for transfer across domains: Disposition, skills, structure training, and metacognitive monitoring. *American Psychologis*t, *53*, 449-455.

Harrington, H. L., Quinn-leering, K., & Hudson, L. (1996). Written case analyses and critical reflection. *Teaching and Teacher Education, 12*, 25-37.

Huitt, W. (1998). Critical thinking: An overview. *Educational Psychology Interactive*. Retrieved April 10, 2009, from the World Wide Web: http://chiron.valdosta.edu/whuitt/col/cogsys/critthnk.html

Jenkins, K., & Lloyd, L. (2001). *Partnerships, reflection, assessment and teacher development: Attempts to facilitate teacher development through assessment.* Paper presented at 24th International Conference of the Higher

Education Research and Development Society of Australasia Inc., University of Newcastle, 8-11 July.

Keeley, B. T., Holland, J., & Watson. M. (2005). Preliminary evidence on the association between critical thinking and performance in principles of accounting. *Issues in Accounting Education, 20*(1), 33-49.

Kurland, D. J. (2000). What is critical thinking? Retrieved May 10, 2007 from the World Wide Web: http://www.criticalreading.com

Leung, D. Y. P., & Kember, D. (2003). The relationship between approaches to learning and reflection upon practice. *Educational Psychology, 23*, 61-71.

Lipman, M. (1988). *Philosophy goes to school.* Philadelphia: Temple University Press.

MacBride, R., & Bonnette, R. (1995). Teacher and at-risk students' cognitions during open-ended activities: Structuring the learning environment for critical thinking. *Teaching and Teacher Education, 11*(4), 373-388.

Mezirov, J. (1998). On critical reflection. *Adult Education Quarterly, 48*,185-198.

Oliver, H., & Utermohlen, R. (1995). *An innovative teaching strategy: Using critical thinking to give learners a guide to the future*. Retrieved May 15, 2008, from the World Wide Web: www.siencedirect.com

Nunan, D., & Lamb, C. (1999). *The self-directed teacher: Managing the learning process.* Cambridge University Press.

Pajares, M. F. (1992). Teachers' beliefs and educational research: Cleaning up a messy construct. *Review of Educational Research, 62*(3), 307-332.

Pajares, F., & Schunk, D. (2001). Self-beliefs and school success: Self-efficacy, self-concept, and school achievement. In R. Riding & S. Rayner (Eds.), *Perception* (pp. 239-266). London: Ablex Publishing.

Paul, R. (1988). Critical thinking in the classroom. *Teaching K-8, 18*, 49-51.

Pennycook, A. (1994). *The cultural politics of English as an international language*. London: Longman.

Phan, H. P. (2007). An examination of reflective thinking, learning approaches, and self-efficacy beliefs at the university of the South Pacific: A path analysis approach. *Educational Psychology, 27*(6), 789-806.

Phan, H. P. (2010). Critical thinking as a self-regulatory process component in teaching and learning. *Psicothema, 22*(2), 284-292.

Reynolds, A. (1992). What is a competent beginning teacher? A review of the literature. *Review of Educational Research, 62*(1), 1-35.

Richards, J. C., & Nunan, D. (1990). *Second language teacher education*. The United States of America: Cambridge University Press.

Siebert, M. C. (2006). *An examination of students' perceptions of goal orientation in the classroom and teachers' beliefs about intelligence and teacher efficacy.* Unpublished doctoral dissertation, Kansas State University, UMI Number: 3244639.

Simpson, E., & Courtney, M. (2003). Critical thinking in nursing education: Literature review. *International Journal of Nursing Practice*, *8*(2), 89-98.

Thompson, C. (2002). Teaching critical thinking in EAP courses in Australia. *TESOL Journal, 11*(4), 15-20.

Tschannen-Moran, M., Woolfolk Hoy, A., & Hoy, W. K. (1998). Teacher efficacy: Its meaning and measure. *Review of Educational Research, 68*, 202 - 248.

Tschannen-Moran, M., & Woolfolk Hoy, A. (2001). Teacher efficacy: Capturing and elusive construct. *Teaching and Teacher Education, 17*, 783-805.

Walsh, D., & Paul, R. (1988). *The goal of critical thinking: From educational ideal to educational reality*. Washington, D.C.: American Federation of Teachers.

Watson, G. B., & Glaser, E. M. (2002). *Watson-Glaser Critical Thinking Appraisal UK*. London: The Psychological Corporation.

Wright, I. (2002). *Is that right? Critical thinking and the social world of the young learner*. Toronto: Pippin Publishing.

Yang, S. (2005). How to be a critically reflective teacher in language teaching and learning. *Sino-US English Teaching, 2*(5), 31-35.

Yang, Y. C., Newby, T., & Bill, R. (2007). Facilitating interactions through structured web-based bulletin boards: A quasi-experimental study on promoting learners' critical skills. *Computers & Education, 50*(4), 1572-1585.

Yeh, Y. C. (2004). Nurturing reflective teaching during critical-thinking instruction in computer simulation program. *Computers and Education, 42*(2), 181-194.