Investigating Iranian EFL Teachers' Reflective Teaching and their Critical Thinking Abilities

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Abstract: *Reflective teaching as a relatively new concept within mainstream education has caught a great deal of attention. There is theoretical evidence on the close link between reflective teaching and critical thinking. In fact, reflective teaching has been considered a requisite dimension of developing critical thinking skills. However, despite the existence of theoretical evidence, there is little, if any empirical evidence on the link between critical thinking and reflective teaching, to fill this gap. The present study aimed to examine the role of reflective teaching in critical thinking ability of Iranian EFL teachers. A number of 101 EFL institute teachers participated in this study. The Persian version (Faravani, 2006) of the Watson–Glaser Critical Thinking Appraisal-Form A (1980) and the teacher reflectivity questionnaire developed by Akbari, Behzadpour and Dadvand (2010) were distributed among the teachers. The results of the Pearson product moment correlation coefficient and two-way ANOVA revealed that that there was a significant relationship between the two variables. However, there was no significant difference between reflective teaching of male and female high and low critical thinkers. The study has some implications for teacher trainers to consider the effective characteristics of reflectivity and critical thinking when holding teacher training courses.*

Keywords: reflective teaching; critical thinking ability; reflection; EFL teachers; TEFL

1. Introduction

Teaching as a complex activity requires qualified teachers. Teachers are considered the main factors for the success in any educational system. As Campbell (2000) states, teacher is one of the influential factors in the process of language teaching and learning. According to Vegas and Umansky (2005; cited in Talebi and Shirmohammadi, 2012), experts of teaching profession have been concerned with providing qualified teachers with necessary knowledge and having optimum function. In response to the need for highly qualified teachers, reflective teaching has been introduced. It has been stated that reflection as a key component of teacher development has received considerable attention in teacher education and teachers' educational development (Clarke and Otaky, 2006; Jay and Johnson, 2002; Richards, 2000). Moreover, the significant role of reflection in EFL/ESL context cannot be denied. As Farrell (1999a) mentions, reflective practice has influenced the whole field of education and ESL/EFL context is no exception.

The literature shows that reflective teaching has been studied in relation to critical thinking. According to Dewey (1933), reflective thinking enhances critical thinking. "It is part of the critical thinking process specifically referring to the processes of analyzing and making judgments about what has happened" (cited in Choy and Oo, 2012, p. 168). Langley and Brown (2010) also state that reflection is a key concept in critical thinking.

Despite the existence of some theoretical studies on the link between reflective teaching and critical thinking, practically however very little if any empirical research exists on the importance of reflection in order to enhance critical thinking.

To fill the gap, the present study aims to tap into the relationship between reflective teaching and critical thinking which have been noted by many scholars (e.g. Dewey, 1933; Cornford, 2002; Hillier, 2005; Choy and Oo, 2012; Minott, 2009 Newman's, 1999). More specifically, the following research questions were addressed in this study: (1) Is there any significant relationship between Iranian EFL teachers' reflective teaching and their critical thinking ability? (2) Is there any significant difference between reflective teachings of high and low critical thinkers with regard to their gender?

Concerning the above mentioned research questions, the following null hypotheses were formulated: *H*01: There is no significant relationship between Iranian EFL teachers' reflective teaching and their critical thinking ability, and *H*02: There is no significant difference between reflective teachings of high and low critical thinkers with regard to their gender.

2. Review of Literature

2.1 Reflective teaching

The origin of reflective teaching dates to John Dewey (1933), and Schon (1983; 1987; 1991). Dewey introduced three different types of actions: impulsive action, routine action, and reflective action. 'Trial and error' drawing on biological/instinctive principles features impulsive action, while routine action has 'authority,' 'tradition,' 'preconception,' and 'prejudice' as its requisite components (Griffiths, 2000; Pollard et al., 2006,). Reflective action, on the other hand, is "the active, persistent, and careful consideration of any belief or supposed form of knowledge in the light of the grounds that support it and the further conclusions to which it tends" (Dewey, 1933, p. 118).

Paper ID: OCT14769

776

Schon made a distinction between reflection-in-action and reflection-on-action. Reflection-in-action is about "questioning the assumed structure of knowing-in-action", giving rise to an "on-the-spot experiment" (1987, p. 25). As Griffiths (2000) explains, reflection-in-action happens when ''professionals are faced with a situation which they experience as unique or containing an element of surprise. Rather than applying theory or past experience in a direct way, professionals draw on their repertoire of examples to reframe the situation and find new solutions''(p. 542). Reflection-on-action, on the other hand, is according to Schon "teachers' thoughtful considerations and retrospective analysis of their performance in order to gain knowledge from experience" (cited in Leitch and Day, 2000).

Literature shows that reflective teaching has been studied in relation with critical thinking. Some scholars believe that the cornerstone of reflective teaching and thinking critically originated from critical thinking (Cornford, 2002; Hillier, 2005). Van Manen (1991; cited in El-Dib, 2007, p. 25) defines reflection as "the process by which teachers engage in aspects of critical thinking such as careful deliberation and analysis, making choices, and reaching decisions about a course of action related to teaching".

Jackson (2006) mentions that critical thinking "implies we are open to all aspects, and willing to see issues from a multitude of views, always questioning and challenging the current state" (p. 3). Similarly, Brookfield (1993) believes it is quite possible to liberate ourselves from the confinements of our classroom by "questioning and then replacing or reframing an assumption which is accepted as representing dominant common sense by a majority" (cited in Hillier, 2005, p. 14). Zeichner and Liston (1996) mention that "not all thinking about teaching constitutes reflective teaching," They (1996) clarify the contrast between reflective teaching and technical teaching believing that ''if a teacher never questions the goals and the values that guide his or her work, the context in which he or she teaches, or never examines his or her assumptions, then this individual is not engaged in reflective teaching" (p. 1).

For teachers of adult English language learners, Richards (1990) mentions that self-inquiry and critical thinking can "help teachers move from a level where they may be guided largely by impulse, intuition, or routine, to a level where their actions are guided by reflection and critical thinking" (p. 5). Reflective thinking acts as a means of problem solving as it causes the thinker to step back and think of the best strategies to achieve goals (Rudd, 2007). Researches(Choy and Cheah, 2009; Rudd, 2007; Black, 2005; Vaske, 2001) note that students may not be able to think critically since integrating critical thinking sufficiently requires a certain amount of reflection, so teachers who are able to use reflective practices are more likely to use this strategy to help students think critically (Shermis, 1999; cited in Choy and Oo, 2012).

2.2 Critical thinking ability

Many scholars have emphasized the significant role of critical thinking in education. (Atkinson 1997; Burbules and Berk, 1999; Moon, 2008). Gelder (2005) and Willingham (2007) believe that enabling students to think critically is a primary goal of education. According to Moon (2008), critical thinking is a core of higher education and is a fundamental goal of learning. Along the same line, Akyuz and Samsa (2009) state that teaching critical thinking skills to students is the aim of higher education. Various definitions for this concept have been proposed. Ancient Greek philosophers such as Socrates and Aristotle encouraged early forms of critical thinking and reflection upon ones ideas. Through probing questions, Socrates found out people display confusion and irrational thought when attempt to justify their knowledge" (Paul, Elder, & Bartell, 1997; cited in Forood and Farahani, 2013). To Dewey (1933), learning to think as the central purpose is considered to be purposeful, self-regulatory judgment which ends in interpretation, analysis, evaluation and inference. John Dewy (1993) suggested a five-phase critical thinking model as follows: 1) suggestions, 2) problem definitions, 3) hypothesis generation, 4) reasoning, and 5) hypothesis testing.

According to Facione (2006), critical thinking encompasses important factors such as analysis, evaluation, inference, interpretation, explanation, and self-regulation.

Other scholars believe that critical thinking is related to one's constant inquiry, reconsidering one's thought processes and the propensity to be a lifelong learner (Facione, 1991; Romeo, 2010; Scheffer and Rubenfeld, 2000; Tanner, 1997).

Robert Ennis, as an influential person in developing critical thinking theories, defined critical thinking as "reasonable, reflective thinking that is focused on deciding what to believe or do" (Ennis,1987, p.10).He focused on decision making about belief and action, the process of reflection and the rationality of reason. Ennis (1985) also mentions that creative acts like formulating hypothesis, alternative ways of viewing a problem, questions, possible solutions, and plans for investigating things all belong to critical thinking.

Michael Scriven and Richard Paul(1987) defined critical thinking as the intellectual process of actively conceptualizing, applying, analyzing, synthesizing, and/or evaluating information generated by observation, experience, reflection, reasoning or communication as a guide to belief and action.It is based on universal intellectual standards of clarity, accuracy, precision, consistency, relevance, sound evidence, good reasons, breadth and fairness.

Critical thinking includes a number of skills such as being able to (i) focus on the problem, (ii) uncover assumptions underlying a problem, (iii) reason inductively and deductively, and (iv) judge the validity and reliability of

assumptions and sources of information (Pithers and Soden, 2000).

Recently, critical thinking has been regarded as consisting of higher order thinking skills. For instance, Halpern (2003) defined critical thinking as thinking that is " purposeful, reasoned, and goal-directed and the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions "(p. 6).

2.3 Metacognitive Nature of Reflection and critical thinking

Many scholars have referred to reflective teaching and critical thinking as higher order mental processes. For instance, Hatton and Smith (1995) define reflective teaching as the use of higher-level thinking, such as critical inquiry and metacognition, which allow one to move beyond a focus on isolated facts or data to perceive a broader context for understanding behavior and events.

Along the same line, Schön (1983) states that reflection is a higher order mental process that goes beyond technical rationality. He also mentions that reflection involves intuition, insight and artistry; similarly Mezirow (1990) states that reflection involves the following activities: "making inferences, generalizations, analogies, discriminations, evaluations, feeling, remembering, problem solving, using beliefs to make an interpretation, analyzing, performing, discussing, and judging."(p. 15).

Kuhn (1999; cited in Lai, 2011) is one of the researchers who view the relationship between critical thinking and metacognition. She distinguishes three forms of metacognition. Metacognitive understanding is thinking based on declarative knowledge; it is concerned with what an individual knows and how that individual comes to know it. Meta-strategic knowing is thinking based on procedural knowledge. this type of cognition is concerned with monitoring and evaluating strategy use, answering questions such as, "Am I making progress?" and "Is this strategy working?" Finally, epistemological understanding is concerned with philosophical questions, such as, "How does anyone know anything?" (Cited in R. Lai, 2011). Gelder (2005) and Willingham (2007) consider metacognition subsumed under critical thinking, they argue that a component critical thinking skill is the ability to deploy the right strategies and skills at the right time as part of the construct of metacognition (Kuhn and Dean, 2004; Schraw et al., 2006)

Some researchers note that the link between critical thinking and metacognition is self-regulation. For instance, the APA Delphi report included self-regulation as one component skill of critical thinking (Facione, 1990). Schraw et al. (2006) defined self-regulated learning as the connection between metacognition, critical thinking, and motivation and as "our ability to understand and control our learning environments" (p. 111).

3. Methodology

3.1 Participants
Participants of the study consisted of 101 EFL institute teachers. Teachers ranged from 22 to 48 years of age.They had BA degrees in TEFL, English literature or linguistics, and their experience in teaching ranged from 1 to 23 years. Both male and female teachers participated in the study.

3.2 Instrumentation
3.2.1 Teacher reflectivity questionnaire
The teacher reflectivity questionnaire used in this study was developed by Akbari, Behzadpour and Dadvand (2010). The questionnaire includes 29 items on a 5-point Likert format ranging from 1 = never to 5= always. It includes affective, cognitive, metacognitive, practical and critical dimensions. The questionnaire enjoys high reliability and validity as a measuring instrument for teacher reflectivity.

3.2.2 Watson and Glaser critical thinking Appraisal
To measure teachers' critical thinking ability, the Persian version (Faravani, 2006) of the Watson-Glaser Critical Thinking Appraisal-Form A (Watson and Glaser, 1980) is used. It includes 80 items each followed by two to five alternatives, which is to be completed in 60 minutes. Watson-Glaser Critical Thinking Appraisal comprises five subsections that practically measure the five aspects of critical thinking as defined by Watson and Glaser as drawing inferences based on factual statements, recognition of assumptions in a number of assertive statements, making deductions, to determine if conclusions follow from information in given statements, interpreting evidence to decide if conclusions are legitimate or not, and evaluating arguments as being strong or weak

3.3 Procedure
Teacher Reflectivity Questionnaire, and Watson and Glaser Critical Thinking Appraisal were administered to 101 EFL teachers in language institutes of the Iranian cities of Zahedan (capital center of Sistan and Baluchestan Province), and Khorramabad (capital center of Lorestan Province). Since Watson and Glaser Critical Thinking Appraisal was a lengthy test with 80 items, the researcher asked the respondents to answer the questionnaire and the test in two separate time intervals at home to prevent teachers' answering items feeling bored. The respondents were supposed to answer the critical thinking ability test in 60 minutes. Having collected the questionnaire and the test, the researcher analyzed the data and extracted the results.

3.4. Data analysis
Pearson correlation coefficient was used to determine whether there was any significant relationship between Iranian EFL teachers' reflective teaching and their critical thinking ability. To determine whether there was any significant difference between reflective teaching of male and female high and low critical thinkers, two-way ANOVA was used.

Paper ID: OCT14769
778

4. Results

In order to test the two hypotheses, we needed to make assure of the normality of the distribution of the data. The present data enjoyed normal distribution. As displayed in Table 1, the ratios of skewness and kurtosis over their respective standard errors were within the ranges of +/- 1.96 (Filed 2009).

Table 1. Testing Normality Assumption

	Skewness			Kurtosis		
	Statistic	Std. Error	Ratio	Statistic	Std. Error	Ratio
Reflective Teaching	0.19	0.24	0.80	0.33	0.48	0.68
Critical Thinking	-0.32	0.24	-1.35	0.06	0.48	0.12

Testing the first hypothesis

In order to test the first hypothesis, i.e., "there is no significant relationship between Iranian EFL teachers' reflective teaching and their critical thinking ability", Pearson's product-moment correlation was used. The results are shown in Table 2.

Table 2. Pearson Correlation; Critical Thinking with Teaching Reflection

		Critical Thinking
Reflection	Pearson Correlation	0.368**
	Sig. (2-tailed)	0.000
	N	101

**. Correlation is significant at the 0.01 level (2-tailed). Note. The figure 99 is the degree of freedom, which equals sample size minus two.

As Table 2 shows, there is a significant correlation between reflective teaching and critical thinking ability of teachers. (r (99) =.36, P <.05). It represented a moderate to large effect size. Thus, the first null-hypothesis was rejected.

Testing the second hypothesis

In order to test the second hypothesis, i.e., " there is no significant difference between reflective teachings of high and low critical thinkers with regard to their gender", a two-way ANOVA was run. Before discussing the results, it should be noted that the assumption of homogeneity of variances was met (Levene's F =.66, P >.05) (Table 3)

Table 3. Levene's Test of Homogeneity of Variances

F	df1	df2	Sig.
0.669	3	93	0.573

As displayed in Table 4, the means for low and high critical thinking groups on the reflective teaching were 31.41 and 33.06, respectively.

Table 4. Descriptive Statistics; Reflective Teaching by Critical Thinking Levels

CT Level	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low Critical Thinking	31.411	0.821	29.780	33.042
High Critical Thinking	33.069	0.864	31.354	34.785

The gender of the EFL teachers did not have any significant effect on the reflective teaching (F (1, 93) =.107, P >.05, Partial η^2 =.001 it represented a weak effect size). As displayed in Table 5, the means for male and female EFL teachers on the reflective teaching were 32.43 and 32.04, respectively.

Table 5. Descriptive Statistics; Reflective Teaching by Gender

CT Level	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Female	32.045	0.662	30.731	33.360
Male	32.435	0.991	30.467	34.404

Table 6 below represents the effects of the critical thinking levels and gender on the Iranian EFL teachers' reflective teaching.

Table 6. Tests of between-subjects effects. Dependent variable: Reflective teaching by critical thinking level and gender

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
CT* Level	56.817	1	56.817	1.936	0.167	0.020
Gender	3.145	1	3.145	0.107	0.744	0.001
CT Level Gender	0.011	1	0.011	0.000	0.985	0.000
Error	2729.204	93	29.346			
Total	102997.027	97				

*Note: CT stands for Critical Thinking

The results of the two-way ANOVA (F (1, 93) = 1.93, P >.05, Partial η^2 =.020 it represented a weak effect size) indicated that the levels of critical thinking did not have any significant effect on the reflective teaching of the Iranian EFL teachers.

Based on these results, it can be concluded that the second null-hypothesis was supported. The critical thinking levels and gender of the EFL teachers did not have any significant effect on the reflective teaching.

779

5. Discussion

The results of the present study showed a positive significant correlation between reflective teaching and critical thinking ability of teachers. (r=.36, P <.05, table 2). These results can best be manifested through Minott's (2009) statement. He refers to critical thinking as a co-requisite to reflective teaching. He emphasizes the substantial role of critical thinking to the extent that reflective teaching cannot occur without it.

Minott (2009) cites two similar ideas of Newman (1999) and Cole (1997). Newman uses synonyms of critical practice and critical practitioner for reflective practice and practitioner. Minott infers from his idea that critical thinking is an integral, compulsory aspect for any teaching to be considered reflective teaching. Cole also is of the opinion of critical thinking as a co-requisite to reflective practice. He furthermore believes in 'self-directed ongoing critical inquiry'. According to him, critical thinking is regarded as an integral aspect of teachers' self-directed ongoing critical inquiry.. From Cole's idea, Minott assumes that "ongoing critical inquiry of one's practice is a feature of reflective teaching."(Minott, 2009, p.4).

Brookfield (1987) also believes that reflective dimension is one concept closely related to critical thinking. To him Critical thinking involves a reflective dimension. Cole & Knowles, (2000) explain the aim of reflective practice as thinking critically about oneself, one's assumptions, and one's teaching choices and actions.

The importance of the present findings is in the fact that the relationship between reflective teaching and critical thinking has been theoretical and this study sheds empirical light on the issue.

The results of the present study also indicated that there is no significant difference between reflective teaching of high and low critical thinkers with regard to their gender. In other words, critical thinking levels and gender of Iranian EFL teachers did not have any effect on their reflective teaching. Based on the theoretical evidence, it was expected that high critical thinkers would have more reflectivity upon their teaching and conversely low critical thinkers possessed less reflectivity. However, the finding is at odds with the theoretical discussions about the issue and reveals a discrepancy between theory and practice. Despite the critical role of reflectivity in developing critical thinking, there was no difference between high and low critical thinkers' reflection. These results imply that teachers may not have possessed the necessary skills or expertise for reflection and reflective practice and so their levels of practicing reflective teaching may have been low. These results can be justified through the following reasons:

Firstly, teachers' levels of background knowledge regarding reflection and reflective practice may have been low. Secondly, teachers may not have had positive attitudes towards reflective teaching.

The reasons behind teachers' lack of skill or expertise for practicing reflection may be concerned with teachers' low level of background knowledge towards reflective teaching, since reflective teaching is considered a fairly recent approach within the methodology of language teaching and it hasn't been dealt with in depth especially in EFL context.

Reflective teaching as a means of professional development of teachers in mainstream education focuses on teachers' reacting, examining and evaluating their teaching. Reflective teaching also needs enhancing teachers' professional knowledge and skills, their self-awareness as they engage in teaching. Furthermore, reflection and reflective practice is possible when teachers feel responsibility towards their profession as well as devoting time to reflection as a cyclical process. However, many EFL teachers see reflection as an overload job that requires time and effort, this view discourages some teachers not to reflect.

These justifications can be best explained with reference to Ferwana's research in 2006. In his study, he explored student teachers' levels of reflective teaching. He examined student teachers' levels of background knowledge towards reflective teaching, their attitudes towards reflective teaching and their levels of practicing reflective teaching. The results of his study showed that they their level of background knowledge was low, their attitude towards reflection was positive and their degree of practicing reflection was low.

In another study by Al-Jabri and Region (2009), they examined post- basic schoolteachers' attitudes towards reflection and in detail they examined the extent that teachers of English said they reflected on their teaching, the extent that teachers felt it was important to reflect upon their teaching, and the factors that hindered their reflection. Teachers gave positive responses in both their reflective practices and in their attitudes towards reflection. They also cautioned when interpreting results, since the very positive responses were influenced by the Ministry's position on reflection and its value. In answering hindrances to their reflections, teachers referred to teachers' workload as a key factor. The other factors were the stressful nature of observation, the students' level and the lack of cooperation among teachers as they were busy during their work hours, classroom management problems which made reflection during lessons difficult.

Another justification related to teachers' lack of skill in practicing reflection and their low levels of practicing reflection can be concerned with the lack of consensus on the terminology for reflective practice that leads to methodological effects. The literature of reflective teaching is replete with different definitions, models, and frameworks for reflective teaching that make reflective practice difficult. Loughran (2002) asserts that "Challenging this distinction between theory and practice is important, and a conceptualization of effective reflective practice is one way of beginning to help teacher preparation programs integrate in meaningful ways".(cited in Ferwana, 2006, p.109).

This justification is concerned with the views of Collin, Karsenti and Komis (2013). In their critiques of initial teacher training, they state that the absence of a clear terminology or definition for reflective practice has both practical and methodological effects. In terms of theory, they point to clarifying the concept of reflective practice. They suggest for a sufficiently inclusive definition that is not too general, so that they can "gather works on reflective practice under the same roof" (p. 115).In terms of methodology, they point to observation and evaluation problems. The instruments of observation and evaluation in reflective practice should themselves be continuously and thoroughly evaluated. In terms of practice, they suggest for a combination of clear theoretical concepts and the results of empirical studies based on sound, validated methodologies.

6. Conclusion

The present study led to the conclusion that developing reflective teaching is deemed necessary in enhancing critical thinking abilities of teachers. Thus if teachers apply reflection and reflective practice in their classes, they will improve their critical thinking abilities more effectively. The second conclusion derived from the findings of the study proved that the levels of critical thinking and gender did not have any effect on reflective teaching; and even high critical thinkers were not different in their degree of reflective teaching and practicing it from low critical thinkers. This result at first sight may seem in contrast with the first conclusion of the correlation between reflection and critical thinking but the results did not show a very strong correlation. There was a moderate to large effect size between the two constructs. ($r=.36$, $P < .05$, table 2). The second results suggest that Iranian EFL teachers may not have been skillful at reflective teaching and they have had low levels of practicing reflection because of the lack of consensus on the terminology of reflective teaching, low background knowledge, low attitudes towards reflection and reflective teaching, and demanding time and effort on the part of those familiar with it.

The findings of this research have some implications for teacher trainers and EFL teachers. Teacher trainers should familiarize teachers with the concept of reflection and reflective teaching and foster it in their student teachers if they want to enhance their critical thinking abilities. The results of the study also would help teachers become aware of the importance of reflection and practicing it in their classes to enhance the quality of their teaching.

The findings of the study must be treated with caution. This study was conducted only in institutes. Further research is needed to be done in other educational environments such as universities. since reflective teaching is a professional development activity, it is needed to be examined in environments such as universities in which training professional and high quality teachers is of high importance.

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