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Enhancing Comprehension and Production of Argumentation through Critical Thinking Awareness-raising

1. INTRODUCTION

In the last quarter of the 20th century, language pedagogy witnessed a shift of methodological emphasis in language teaching away from independent skill development to integrated skills development as the core of the ability to communicate. This was accompanied by a parallel swing towards learner autonomy as the ultimate goal in progressive educational programs. Professional debate over strategic training of learners or learner investment (LI) and critical thinking (CT) training since then has reflected attempts to emancipate learners by enabling them to question the existing state of affairs, reason logically and make sound judgments of small and large scale issues relevant to their learning and their surroundings (Luke, Elkins 2002). The former term embodies various attempts to equip learners with numerous cognitive, metacognitive, and communication strategies to overcome restrictions in their learning and communication attempts whereas the latter denotes attempts to broaden their thinking and expand their logical analyses [1].

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[1] This article – in agreement with the Editor of this special "Noir" number – is published here, notwithstanding its different topic, because editorial problems prevented its publication in the previous issue of the journal. [Note of the Editor in Chief]

Both LI and CT aim at educating learners to operate eminently in the highly dynamic global era which, according to Kumaravadivelu (2012), is postmodern in that it is replete with differences, challenges, hegemonies and dominated by alternative forms of expression and interpretation. Individual identity of the postmodern learner is no more unified, singular, and bounded but fragmented, multiple, and expansive. Conceivably, critical pedagogy (CP), in general, and critical language pedagogy, in particular, were posited as educational responses to such profound changes (Freire 1972; 1989). The cornerstone belief in CP, according to Kincheloe (2009, 34), is empowering teachers to "cultivate the intellectual and enhance the socioeconomic mobility of students by […] conducting research into social and educational dynamics, design curricula around macro-knowledge of education and the micro-situation of their students". Extension of CP to language education, as suggested by Kumaravadivelu (2012), entails situational understanding of local contexts and targeting at enhancing the conditions through encouraging teachers to meticulously observe and explore ways of maximizing learning opportunities and transforming learners basically through critical language awareness.

What language learners require is not merely language skills but also lifelong thinking skills that are incorporated in various teaching sessions to enable them to acquire and process plethora of information bombarding them in the internet era. Albeit CP might seem ambitious in many contexts, a catalyst step to reform might be engaging learners in the learning and practicing thinking processes. CT as postulated by Crews-Anderson (2007), entails conscious attention to the process, asking the right questions, and rigorous practice. The most prevalent form of exposure in academic contexts is through reading which might be regarded as the most functional skill all learners are expected to develop particularly in foreign language contexts. Meanwhile, the ultimate goal in academic contexts is to enhance learners' writing skill so that they can argue logically and make their own contribution to the flow of scientific growth. Reading and writing, hence, might be regarded as two extremes or two vital requirements of professional and academic growth. In EFL contexts, reading comprehension is a means of promoting other language skills including writing, growing learners' thinking skills. Subsequent enhancement in individuals' critical analytic reasoning of reading texts can facilitate further social and cultural transformations. Thus, the focus on reading in educational contexts such as Iran seems legitimate.

1.1. Critical thinking and argumentation

Although thinking is a universal species-specific capacity, much of human thinking, as suggested by the CT community (2008), is biased, distorted, partial, uniformed and prejudiced. CT, as proposed by current philosophy, is the intellectually multi-layer disciplined process of thinking which requires active and adroit conceptualization. It starts off by gathering information through careful observation, experience, reflection, reasoning or communication and proceeds with application, analysis, synthesis, and evaluation of the collected information (Scriven, Richard 1992; 2007). This mode of thinking, they suggest, is self-directed, self-disciplined, self-monitored, and self-corrective and hinges on one's effective communication and problem solving abilities as well as a commitment to overcome negative egocentrism and sociocentrism.

As history shows, this advanced mode of thinking might be achieved intuitively by genius individuals who mark turning points in history. Such skills have been placed high on the instructional agenda in progressive educational systems for two purposes. The general aim is to step up the pace of development for ordinary citizens and to promote their problem solving skills so that they can address pervasive demands in everyday situations. At more elevated levels, however, the ultimate goal is to be responsive to the needs of students and writers to argue for different points of view or claims (Bowell, Kemp 2005). The pernicious effect of excluding such skills at graduate and postgraduate levels, hence, can create an endless ripple that stretches to the future generation.

A basic element of CT is deductive or inductive argument. Crews-Anderson (2007) defined an argument from the philosophical perspective as a group of two or more propositions that express an inductive or a deductive inference and a conclusion that is supported by the propositions. Yet, the objective in educational contexts is to enable learners to deal with linguistic forms of various argumentative language features that can illustrate or mask content or the propositional meaning expressed. What complicates interpretation and expression of arguments is the multiplicity of the relationships between form and content. For the same reason, learning to comprehend and produce argumentative texts is normally the most painstaking challenge facing many EFL and ESL learners. Therefore, it is necessary to train such learners how to understand the overt and covert assumptions implied in texts of various types through practicing a number of techniques that are assumed to promote critical thinking. According to Snyder (2011), teachers can promote learners' thinking skills through teaching them how to make questions while listening or reading

actively, raising problems to focus their thinking during cooperative conflict resolution where answers are not always readily available, and modeling the process of developing ideas and solutions through concept mapping or template filling.

1.2. *Critical thinking and critical reading*

Developing critical thinkers is a complex process and, among many different concepts related to the improvement of CT, Schallert and Reed (2004) underscore the eminence of self-awareness and reading comprehension since the latter can foster the former in language classes. That is, effective critical thinking can emerge as students develop appropriate skills in effective critical reading (CR). Ballard (1995) defines CR in terms of the technical comprehension and evaluation of the content by activating the right schemata and reasoning to interrogate the covert propositions. Likewise, Varaprasad (1997) highlights the link between CT and CR claiming that a combination of both will enable students to make arguments, give reasons, and judge a text at later stages. In other words, it is through CR skills of discovering information and ideas within a text by careful, active, reflective, and analytical reading (Kurland 2000) that readers learn to inspect the context with wider perspectives linked to their critical understanding (Wallace 2003) and evaluate it.

CR entails analyzing, evaluating, and making judgments on the basis of what is read. This type of reading, as posited by Ballard (1995), can broaden and deepen the meaning since critical readers who are engrossed in analyzing and interpreting the content become capable of proposing other ways of viewing similar ideas and arguments. For the same reason, Halpern (2003) accentuates reasoning as the shared feature of CR and CT. Yet, the opportunity to trigger thinking and reasoning while reading (Morgan, Ramanathan 2005) is usually skipped in English language classrooms owing either to linguistic, cultural, and ideological differences that may complicate or hamper the process or to contextual factors like class size, educational policy, and teaching methodologies that are not compatible with such practice.

Despite such defiant variables, CR still has, according to Wallace (2003), salient payoffs in foreign language learning in two notable ways of critical downward-looking and upward-looking. The former denotes the extended discussion of texts allowing learners to simultaneously draw more fully on their existing linguistic resources and stretch them. Improved grammatical accuracy

can be a possible outcome in this procedure, as learners search for clarity and precision. Critical upward-looking, however, persuades language learners to question the institutional skeletons of their classroom and their lives. Both of these approaches involve traces of CT because they invite learners to reflect on their linguistic resources and examine ways of expanding and maximizing them as well as on the teaching methods and learning activities carried out. The learners may extend their critical evaluation and modification of the learning context to further personal and social conditions.

Development of critical thinking for many language learners entails explicit training viable through critical downward looking in a reading course or a reading task at the pre-writing stage in a writing course. This option entails seeking to initially understand the information and subsequently compare, contrast, and evaluate it from various perspectives and sources. It represents a rudimentary level of critical thinking that allows the learners to apply evaluative techniques such as comparing and contrasting what was read in order to solve and confirm statements (Fisher 2001). It should be noted that such a critical approach is rarely taken by individual learners to whom the ultimate goal remains deciphering meaning unless it is designed as part of the syllabus and implemented cautiously by reflective teachers who tend to teach the learners how to comprehend a text and how to read between the lines.

Critical reading, according to Sousa (2004), might be regarded as a linear but complicated process entailing previewing, contextualizing, questioning, reflecting, outlining and summarizing, comparing and contrasting related ideas presented in a text, and evaluating them. During the pre-view, as proposed by Grabe (2004), readers make predictions about the content based on the headings and subheadings, contextualize the text by placing it in its historical, biographical, and cultural contexts, make inferences, and synthesize the content. Meanwhile readers raise questions about the content, reflect on answers, examine their own responses, and reflect upon the challenges to their personal beliefs and values through annotating, highlighting, and note taking. In outlining and summarizing, the readers should identify the main ideas and paraphrase them from their own perspectives before evaluating the main arguments based on the logic of the text and its credibility and emotional impact; readers are often asked to determine fact and opinion, find cause and effect relationships, and determine claim and support.

To handle this intricate process, as rightly accentuated by Richards and Renandya (2002), learners have to make a great effort in dealing with functional issues such as developing the right reading strategies and reflecting on the

content of the text. Furthermore, they have to overcome their problems with functional and authentic language use in various social contexts. Teachers are recommended to facilitate their students' reflective thinking and critical reading by identifying constructive strategies. Moon (2008) propounded that aligning critical thinking training with explicit teaching of answering implied questions which will optimize learners' chances of being more frequently exposed to the learned strategies and deploying them. Of course, reading critically will be truncated without engaging learners in reflective evaluation of their learning.

1.3. Literature review

A number of research studies have delved into CT, reading comprehension, and writing production. Condon and Kelly-Riley (2004) examined the possible relationship between college level writing and CT abilities. They found that CT could be overtly enhanced through writing. Moreover, Carroll (2007) found certain differences in types of writing assignments and the length of time that students use these techniques. The results showed that participants were more tentative at the beginning of the course.

In another investigation, Yagcioglu (2009) compared the effects of CT awareness-raising and task-based learning in teaching reading courses to 45 university students in Turkey. Both CT and task-based teaching were found to reinforce the effectiveness of instruction. More recently, Gorjan, Pazhakh and Parang (2012) probed the effect of CT instruction on Iranian EFL male and female students' descriptive writing. The participants in the experimental groups received instruction in CT while the control group was taught conventionally based on the exercises in their regular text books. The results indicated that CT instruction served to improve the participants' descriptive writing.

In the context of Iran, Vaseghi, Barjesteh, and Fahim (2012) explored the probable effect of CT strategy training on male and female EFL learners' reading comprehension based on the taxonomy of CT skills (Facione 1999). The findings supported the effect of CT training on reading comprehension. Yousefi and Mohamadi (2016) examined the effect of critical thinking skills on EFL learners' reading comprehension of 443 Iranian EFL postgraduate translation and English language teaching students across gender. The findings displayed that CT and reading comprehension were positively correlated with no significant effect from gender and proficiency level.

In another study, Rashtchi and Aghajanzadeh (2008) explored the effect of comparative critical reading strategy on 60 intermediate Iranian EFL learners' writing. The treatment in the experimental group comprised critical reading through text comparison while the placebo was limited to the conventional reading of a text and answering comprehension questions. The results supported the positive effect of comparative critical reading on the participants' writing in the experimental group with no significant effect on the groups' reading comprehension. More recently, Asadi and Mashhadi Heidar (2014) investigated the impact of critical thinking skill training on 60 intermediate students' application of achievement and reduction strategies. They reported a significantly more frequent use of achievement strategies in the critically trained experimental group.

2. THIS STUDY

A glance at the existing literature indicates that the effect of CT awareness-raising on postgraduate EFL learners' comprehension and production of argumentation has remained unexplored. The purpose of the present study was, hence, to extend the CT skills of Iranian English Language Teaching (ELT) postgraduate students' comprehension and production of argumentation by properly producing their arguments and to withstand persuasive attempts of those writers who rely on the persuasive power of certain words rather than reason. It was assumed that the participants needed to improve their critical reading and writing skills first and that CT awareness-raising would help them achieve this goal. The training was based on the teacher's presentation of CT skills and reading-based inferential questions during the active critical reading phase and template filling techniques offered by Snyder (2011) during the pre-writing phase of teaching in a two-credit Advanced Writing Course. The following null hypotheses were formulated to pursue the end of the investigation:
1. CT awareness-raising does not affect Iranian postgraduate TEFL students' reading comprehension of argumentation.
2. CT awareness-raising does not affect the accuracy, organization, and complexity of Iranian postgraduate TEFL students' argumentative writing.

3. Method

3.1. *Participants*

The participants were 50 Iranian postgraduate university students majoring in English at Islamic Azad University – Tabriz Branch, Iran. They were recruited from a population of 60 based on their scores on a TOFEL test. Those who scored 1 standard deviation above and below the mean were chosen. They were all freshmen including 15 males and 35 females, within the age range of 21 to 45. Furthermore, the participants in two intact classes were randomly assigned as the control group receiving no CT treatment and the experimental group who were explicitly taught CT through critical reading based on the methodology which will be described in the procedure section below.

3.2. *Instruments and materials*

Five tests were deployed to collect the research data. First, a Test of English as a Foreign Language (TOFEL) was utilized to verify the initial homogeneity of the groups. It included a reading comprehension subtest comprising 5 reading passages and 30 multiple-choice comprehension questions, and a grammar sub-test with multiple-choice and error-detection items.

We also employed two parallel reading comprehension tests, each including 5 texts with 50 questions focused on argumentation, to test the learners' initial reading ability at the onset of the study and the impact of the treatment at the end. Both tests were piloted and based on the item analysis results and reliability estimates, 20 mal-functioning items were excluded from each. All reading questions were weighted rendering a total score of 30. The estimation of F-ratio between the variances gained by the pilot group on administration of the two tests showed a value of (0.047) with p-value of (0.829), meaning that there was no significant difference between the variances of the two sets of scores and supporting the fact that the two tests were parallel. Then the results of the analysis for the 30-item parallel forms reading pre-test and post-test demonstrated that the tests had a reliability of 0.886 and 0.889 as measured by the Cronbach Alpha, respectively.

Third, a template focusing on the techniques and ways of answering implied questions was drawn from Cottrell (2005) and utilized. It included three parts; the first section which taught the participants how to identify the implied

question through examples like: "It is *implied* in the passage that …", "It can be *inferred* from the passage that …", "It is most *likely* that …", "What probably happened …". The second and third sections guided the learners where to find the answers within a text based on the order and by choosing appropriate key words, scanning the passage, careful reading of the sentence containing the key word and looking for an answer that *could* be true according to that sentence.

The fourth device used to collect the research data was an extract including eleven topics such as critical thinking, developing thinking skills, identifying arguments and non-arguments, how to argue. It was also adopted from Cottrell (2009). The last instrument employed were two writing tasks based on two argumentative topics. On the writing pre-test, the participants were required to write on the topic: "It is worth travelling by plane. Do you agree or disagree? Support your ideas based on sound reasons". The topic for the writing post-test was: "It is worth living in a city. Do you agree or disagree? Support your ideas based on sound reasons".

The participants' writings were scored for accuracy, complexity and organization by two raters. Following Ellis (2003), Accuracy was coded as the ratio of inaccuracy or by estimating the number of ungrammatical errors and dividing the sum by the total number of terminal units (T-units) which has been defined as "a finite clause together with any subordinate clauses dependent on it" (Bygate, 1999, 35). Complexity was measured as the proportion of subordination to the total number of T-unites produced by the participants and was estimated by dividing the number of subordinate clauses by the total number of T-units used in the text. The higher the measure was the more complex the text would be. Finally, organization was scored based on the scale offered by Jacobs, Zinkgraf, Wormuth, Hartfield and Hughey (1981). This scale comprises four separate sections; marks 16-20 were assigned to excellent to very good writers based on certain features of their writing such as fluent expression, ideas clearly stated/supported, succinct, well-organized, logical sequencing, and cohesiveness. Scores 11-15 were given to good to average writers whose writing was somewhat choppy, loosely organized but had outstanding ideas, offered limited support and reflected logical but incomplete sequencing. Marks 6-10 were assigned to fair to poor writers who were non-fluent, expressed confused or disconnected ideas, lacked logical sequencing and development. Scores 1-5 were for very poor writers who lacked organization, failed to communicate well, and thus could not be evaluated. Further, the inter-ratter reliability of scores were computed between the two sets of pre-test and post-test measures and proved to be acceptably high for the pre-test (0.95) and the post-test (0.96).

3.3. Procedures

Both the experimental and control groups underwent training using the same set of reading and writing materials for the same amount of time. The control group received instruction based on a two-phase methodology comprising reading and writing. The reading phase took approximately 25 minutes and comprised the normal pre-view, view, post-view methodology. The class started with pre-reading activities aimed at establishing and activating relevant schematic information interactively and highlighting text-based questions to make the reading purposeful; the participants were then given a reasonable amount of time to read the text and answer the questions through two successive silent reading activities the first focusing on skimming (three to four minutes) and the second on scanning (ten to fifteen minutes). During the post-reading stage (about five to ten minutes), the questions were answered and problems regarding difficult words, phrases, and sentences were resolved. The instruction, however, lacked any critical focus.

The teacher-centered presentation of the basic elements of the reading text introduced the shift from reading to the writing phase. This presentation took about 25 to 30 minutes and comprised reference to specific structural and organization characteristics of the reading text which represented a given genre. Then, a topic was selected and individual participants were invited to start the writing process in class by thinking about the content and deciding the features they wanted to include in their writing. Next, they were asked to complete their topic sentences in class and to complete the writing at home. The following session, a sample of the participants' writings was displayed on the projector screen to be interactively corrected and other papers were peer-corrected accordingly. Finally, the teacher would collect the whole papers for teacher correction. Every other session, the participants were given time to consult with the teacher about their writing problems.

In the experimental group, however, the treatment comprised an approximately thirty-five-minute initial CT awareness-raising phase that preceded the reading phase for 11 sessions of a 16 session course, each session lasting 90 minutes. At this stage, students received explicit training related to CT skills; the content of the training was extracted from a book called *Critical Thinking Skills: Developing Effective Analysis and Argument* (Cottrell 2009) and was implemented through interactive power-point presentation of the content. It started off with the introduction of CT skills and connecting them to the learners' personal lives and habits. Then sample sentences containing examples of the points

in question like arguments and non-arguments were displayed on the projector screen while students were invited to reflect on them and compare and contrast them. At the end of the presentation, the participants were asked to think about their reading experiences and recall instances of similar sentences. Then, a set of focused exercises were distributed and explained while the participants were given time to do the first few of each set cooperatively in class; the rest were assigned as homework. The same exercises were to be reviewed during the first 10 minutes the following session.

The reading phase started with a general introduction of implied questions and explicit presentation of ways of answering them; the template related to each genre was then distributed and explained to help the participants perceive the overall textual organization and note relevant transitional and structural features. The participants were then required to apply the template to the reading text and answer text-based implied questions. The final 10 minutes was spent on offering feedback on their performance. The shift from comprehension to production was achieved through highlighting textual characteristics of the new writing genre and emphasizing its overall function based on the template. A relevant topic was then introduced based on which the participants were invited to generate ideas using cooperative concept mapping and to outline their views on the topic. Individual learners were further engaged in initial drafting of writing which was to be completed at home. The writings were assigned as homework and were subject to peer-correction and teacher-correction the following session when a writing sample would be displayed on the projector screen to be interactively revised. Meanwhile, the teacher would draw the participants' attention to key concepts already presented and practiced in the class.

After 16 sessions, a reading comprehension post-test focusing on implied questions and a writing post-test with an argumentative topic was administered in both groups under similar testing conditions.

4. Results

To check the initial homogeneity of the groups an *F*-test was administered the results of which showed that the groups were normally distributed in terms of their language proficiency, $F(48, N = 50) = 1.23$, $p < 0.05$. Additionally, the results of the Independent Samples t-test indicated that there was no significant difference between the two groups' mean scores on the reading comprehension

of argumentation test prior to conducting the main study (t = -3.14, df = 48, p = 0.96 > 0.05).

The normality of the data was further checked through the Kolmogorov-Smirnov test and the results showed no violation of the normality (p > .05). Next, an Independent Samples t-test was run on the groups' pre-test and post-test reading and writing scores in order to find out the effect of CT awareness-raising on postgraduate TEFL students' reading comprehension of argumentative texts, as stated in the first research question, and to test the first null hypothesis. The results of the Independent Samples t-test are presented in *Table 1*.

Table 1. Results of the Independent Samples t-test in the pre-test
and post-test of reading comprehension in argumentation.

TESTS AND GROUPS	n	M	SD	t	df	p^*	CI (LL/UL)
PRE-TEST							
EXPERIMENTAL	25	11.51	2.83				
CONTROL	25	8.33	3.05	-3.14	48	.096	(-3.6/-1.02)
POST-TEST							
EXPERIMENTAL	25	13.52	1.29	-6.14	48	.000	(-6.14/-3.82)
CONTROL	25	8.40	2.94				

* p < .05

As *Table 1* indicates, assuming the homogeneity of the variances, there was no significant difference between the groups' pre-test mean scores, t (48) = 3.14, p = .096, implying their homogeneity in terms of comprehension of argumentative texts at the beginning of the study. In contrast, the results revealed a significant difference in their comprehension post-test mean scores, t (48) = 6.14, p = .000, indicating the superior performance of the experimental group. Therefore, the first null hypothesis of the study was rejected.

The second research question concerned the effect of CT awareness-raising on the participants' writing accuracy, complexity and organization. Comparison of the groups' pre-test writing features indicated no significant mean difference at the onset of the study (p > .05). Then, a one-way multivariate analysis of variance (MANOVA) was conducted to find out the effect of CT awareness-raising on the three features of the participants' post-test writing. The MANOVA preliminary assumption testing revealed no violations of the normality (Mahal. Distance = 14.5 < Critical Value = 16.27), linearity (scatterplots showed a linear line between the dependent variables), homogeneity of variance-covariance matrices (Box M = 6.942, p = .331), and multicollinear-

ity (the dependent variables were moderately correlated). The results of the MANOVA analysis are presented in *Table 2*.

Table 2. Summary of the MANOVA results for the groups' writing Organization, Complexity, and Accuracy.

Source	Dependent Variable	Type III Sum of Squares	df	Mean Square	F	p*	Partial Eta Squared
Group	Organization	.440	1	.440	.16	.927	.000
	Complexity	172.34	1	172.34	.15	.064	.008
	Accuracy	281.09	1	281.09	.10	.004	.019
Error	Organization	225.218	48	52.549			
	Complexity	214.08	48	49.865			
	Accuracy	144.12	48	33.696			

Group		Organization		Complexity		Accuracy	
		M	SD	M	SD	M	SD
Pre-test							
	Experimental	15	2.5	.15	.22	.26	.20
	Control	14	2.0	.17	.13	.18	.08
Pre-test							
	Experimental	16	2.5	.15	.09	.10	.21
	Control	15.65	2.0	.16	.08	.30	.20

* $p < .05$; n = 25 for each group

As illustrated in *Table 2*, the results of multivariate test indicated a significant difference between the groups in their overall writing performance (combined dependent variables), $F (3, 428) = 3.569$, $p = .014$, Wilks' Lambda = .976; Partial Eta Squared = .024. However, in order to determine which aspect of writing was significantly affected by the independent variable, the test of Between-subjects Effects was conducted and the results revealed a significant difference, $F (1, 48) = .10$, $p = .004$; Partial Eta Squared = .019, in the writing accuracy of the experimental group ($M = .10$, $SD = .21$) compared to the control group ($M = .30$, $SD = .20$). In other words, about 2% of the variance in the writing accuracy of the students was related to the CT awareness-raising. In contrast, no significant difference was found between the groups' mean organization measures ($p = .927$) and complexity measures ($p = .064$). This shows that teaching CT was only effective in improving the participants' writing accuracy.

5. Discussion

The research findings strongly suggest that explicit CT awareness-raising was effective in enhancing Iranian Postgraduate TEFL students' reading comprehension and accurate production of argumentative texts. As far as the participants' superior performance in reading comprehension is concerned, the findings from the present enquiry are in line with those of Fahim *et al.* (2012) who investigated and verified the effects of CT training on male and female EFL learners' reading comprehension. In another recent study carried out by Yagcioglu (2009) the effect of teaching CT and task-based learning approaches in teaching reading to 45 participants were compared and the findings suggested that CT and task-based learning could improve reading comprehension. Gray (2006) examined the possibility of improving CR and CT skills through pedagogy style and found that the participants' ability to analyze, synthesize, and evaluate written material, auditory input or life events was enhanced.

The positive effect of CT awareness-raising on the participants' reading comprehension might be justified in terms of increased intellectual involvement, engagement in raising and answering implied questions, and thereby, deeper processing of information. According to Cottrell (2009) one of the techniques to promote CR is to explicitly involve readers in answering implied text-based questions. The participants in the experimental group spent a long time dealing with such questions through text analysis and evaluation. As suggested by Goldman and Wiley (2002) and Thistlethwaite (1990), critical reading involves a wide range of effortful cognitive processes such as comprehension, analysis, and text evaluation. The longer time spent on text analysis and evaluation might have led to more developed semantic networks and other associative links ultimately facilitating a more profound comprehension of argumentative texts. Moreover, the explicitness of the instruction might be regarded as an additional benefit which, as proposed by Moon (2008), is the best way to teach CT. This claim is also verified by Ellis (1995) who advocated long-term deep processing over shallow processing techniques like oral rehearsal because, as he proposed, it is through deep processing techniques like elaboration that semantic associations become more accessible to the learner and the information is retained in the long-term memory.

As Stanovich (1986) states, the connection between reading comprehension and CT training is strong and unequivocal, although the precise nature of the causal relation between the two constructs is still under investigation. Moreover, drawing upon the studies conducted by Coady (1997), Meara (1997),

Nation (2009) and Newton (1995), who suggest more explicit teaching of CT at an early stage of language learning, it could be inferred that explicit awareness-raising provided a rich context for better comprehension because it was based on the participants' needs.

The research findings also bore out the positive impact of the awareness-raising program on the accuracy of the participants' writing of argumentative texts. The findings are in line with those of Gorjian, Pazhakh and Parang (2012) who investigated the effect of CT on learners' descriptive genre across gender.

The positive impact of CT awareness-raising on the accuracy of the participants' writing might be substantiated in terms of the connection between good thinking and good writing. As stated long ago by Chastain (1988), writing is the communicative process of converting thoughts to language. Improvements in thinking skills seem to be a prerequisite for the enhancement of writing. The participants' engagement in critical reading activities and template analysis seem to have triggered their analytic thinking and sensitized them to the overall textual requirements freeing their focal attention to concentrate on more formal features of writing.

In addition, as posited by Kurland (2000), production of sound writings entails following certain steps such as generating some content, putting forth assumptions, evidence, arguments and drawing conclusions, all of which call for thinking. The comprehension to production order that was observed in presentation of the CT content along with attempts to engage the participants in reflective activities during the reading and writing phases seem to have elevated their thinking skills, at least slightly, and as suggested by Alagozlu (2007), their thinking mind seems to have been reflected in their wring. Yet, the emphasis on accuracy seems reasonable within the socio-cultural context of Iranian EFL where the seeds of sensitivity to form is planted in Iranian EFL learners through years of formal instruction at public schools. This propensity could have burdened their focal attention and blocked due attention to complexity and organization. In addition, attending to complexity seems to call for higher levels of mastery over grammatical structures (Birjandi, Seifoori 2009; Seifoori, Fatahi 2014). The freshmen postgraduate ELT participants in this study might not have reached that level of mastery yet.

6. Conclusion

The current study, like any other study in the field of human sciences, suffered from a number of limitations and delimitations such as the short duration of the treatment, restricting the study to a single genre, and limiting the research data to quantitative data obtained from the pre-test and post-tests. For the same reason, the findings are merely tentative and further investigation of similar variables across different proficiency levels with different genders and with respect to various individual differences are needed to shed light on the whole issue of CT training. Yet, two basic conclusions might be drawn from the current study.

First, the supremacy of the experimental group might be attributed to their intellectual and interactive engagement in explicit presentations and their realization of the significance of the content presented. In other words, the awareness-raising activities seem to have directed the participants' attention to major practical concepts which might have remained unnoticed if not highlighted through explicit awareness-raising. The link they could establish between the teaching content and their academic needs might have triggered a sense of mental involvement and reinforcement. This meaningful learning experience, according to Waters (2006), could have generated from mental connections the participants could make between what they already knew and what was new. Iranian students who are majoring in TEFL are prospective English teachers who are expected to function as language models for their future students. They are supposed to develop a good command of general English that can lead to native-like performance in four language skills. Among the four skills, however, reading and writing play a crucial role with regard to the participants' academic needs. The improvement observed might underscore their propensity for explicit CT-oriented activities and is to be corroborated by future enquiry.

It can also be argued that through explicit CT awareness-raising comprising a reading to writing direction, Iranian learners can progress along the comprehension to production continuum of learning. Interactive introduction of key teaching concepts along with meticulously graded learning activities targeted at recognition and comprehension can help learners deeply process information. Subsequent logically sequenced productive activities based on a process writing approach seem to provide the opportunity for the learners to link their comprehension to production, notice the gaps in their performance, and through the feedback offered interactively by peers and the teacher learn to rectify their errors and achieve higher levels of accuracy.

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Abstract

Language pedagogy aims to equip learners with tools to cope critically with the complexity of the language input and rationally evaluate the authenticity of the data. An indispensable part of learning to read and write a foreign language should, hence, develop critical thinking skills that allow interpretation and accurate expression of overt and covert propositions. The purpose of this quasi-experimental study was to examine the impact of an eleven-session critical thinking (CT) awareness-raising (AR) mingled with an Advanced Writing Course on 50 male and female Iranian postgraduate TEFL students' reading comprehension and the accuracy, complexity, and organization of their writing of argumentative texts. The participants in two intact classes were randomly assigned as the experimental and control groups. The treatment followed a reading to writing direction with a stronger focus on explicit presentation and practice of reading-embedded argumentation elements and CT skills in the experimental group. The control group, however, started off with the same materials with now CT focus and proceeded to the detailed process-oriented writing phase. Comparison of the groups' reading and writing post-test scores verified superior performance of the experimental group in reading and writing of argumentative texts and offer pedagogical implications.