

The Effect of Critical Thinking and Brainstorming as Pre-Writing Stage Activities on EFL Pre-Intermediate Learners' Expository Writing

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Abstract

The present study aimed at investigating the effect of critical thinking (CT) versus brainstorming (BS) as pre-writing stage activities on English as a foreign language (EFL) pre-intermediate learners' expository writing. To achieve this aim, 100 pre-intermediate level participants studying at Naft Language Center in Ahvaz were selected based on convenience sampling method. They took part in Oxford Quick Placement Test (OQPT) and 60 of them were assigned into three equal homogeneous groups; two experimental groups of CT and BS compared to one control group (CO). They received three different kinds of treatments lasting 13 sessions of 90 minutes. The CT group received exercises on major CT skills (e.g., inferencing, recognition, deduction) and BS group go through think, pair and share steps to outline the writing tasks. Prior to the main study, students wrote a 150-word expository writing about one of the topics chosen from their textbooks as a pre-test. Finally, all groups were asked to write another 150-word expository writing as a post-test after the implementation of the proposed treatment. The results indicated that both CT and BS as pre-writing stage activities led to the enhancement of the participants' expository writing performance.

Keywords: brainstorming, critical thinking, pre-writing stage activities, expository writing

Introduction

In daily life, human languages play a vital role in facilitating diverse affairs. By using language, human beings not only communicate with other people to represent their ideas, but also simplify the thinking processes and extract the involved pieces of information (Klein, 1986). According to Brown (2007), language skills including listening, speaking, reading, and writing have mutual relationship with each other and they improve hand in hand. It is worth mentioning that reading and writing skills are considered as the improved stages of language development needing more attention and work.

As Ramet (2007) pointed out writing something, anything every day will make us able to build up the discipline and commitment that are needed to make sure that we can generate a complete manuscript in diverse forms. Writing can be considered as a process converting thought into language, it means that the writer should first think the content of writing and then arrange the ideas using appropriate language including grammar and vocabulary into a paragraph and accordingly, organizational skills in writing should be acquired as well (Hyland, 2009).

Therefore, it seems necessary to provide a short recap on writing, most importantly essay writing and its sub-components like expository writing style. Generally speaking, the essay is defined as a short literary composition on a subject expressing a personal view. It could be classified into four types: 1) Descriptive Essay; 2) Argumentative Essay; 3) Narrative Essay; and 4) Expository Essay. To put it simply, the descriptive essay is going to describe an object, person,

place, experience, emotion, situation, and etc. On the other hand, argumentative essay attempts to persuade the reader of the writer's point of view and various ideas. That is; the writer tries to convince the reader of the validity of his/her opinion. Regarding the narrative essay, it tries to tell a story. The narrative essay is conversational in style, and tells of a personal experience. This essay could tell a single, life-shaping event, or simply a daily experience. Finally, expository essay which is also called the analytical or information essay is that kind explaining and analyzing a specific issue requiring L2 learners to speculate an idea, evaluate evidence, develop on the idea, and set forth an argument concerning that idea. This can be accomplished through comparison and contrast, definition, the analysis of cause and effect, and so forth (Hyland, 2002, 2009). It should be pointed out that the present study aimed to investigate the effect of CT and BS as pre-writing stage activities on EFL pre-intermediate learners' expository writing.

The problem

Although many of EFL teachers usually get confused by these problems in their writing classes, they cannot find practical methods and strategies to help their students get better ways to generate relevant and interesting ideas. To overcome this dilemma, for example, English teachers may employ a product-based approach and just focus on description, contrast and comparison, and classification, and they have not been found useful way to overcome the raised problem.

In the literature of L2 writing, a number of strategies have been suggested to help L2 students generate relevant and efficient ideas while writing including fostering CT and using BS as pre-writing activities. However, it is worth mentioning that although so many studies have been carried out in this domain, there is not a comprehensive conclusion over the effectiveness of CT and BS as pre-writing stage activities on expository writing ability among EFL learners. Therefore, the present study tried to bridge this gap in the literature by shading light on the impact of the CT and BS when they are used as pre-writing activities to assist L2 learners to write better expository essays among pre-intermediate EFL learners.

Research Questions

This study tried to address the following research questions:

RQ1. Do critical thinking and brainstorming as pre-writing stage activities influence the performance of the Iranian EFL pre-intermediate learners in expository writing?

RQ2. Is there any statistically significant difference between the effectiveness of critical thinking and brainstorming as pre-writing stage activities on Iranian EFL pre-intermediate learners in expository writing?

Literature Review

Critical thinking

Research into CT is extensively examined, offering a variety of definitions to consider. Specialists, engaging in academic disciplines, have proposed various definitions that accompany with their field of study. Amongst the most well-known contributing fields are philosophy, psychology, and education. Although an all-encompassing definition is hard to achieve, the presented definitions are naturally similar in contents (Paul & Elder, 2005).

Recently, McGregor (2007) states working on the CT and its application in education have been established generally by Dewey's (1910) early writings. Dewey supposes that, in the best sense, the basis and foundation of all kinds of thoughts should be made by CT. Glaser (1941, as cited in McGregor, 2007) extends this early notion of CT to contain the knowledge of the methods of logical reasoning. Fisher (2005) recognizes the important universal nature of CT and

presents it as the foundation of any academic maneuver and skills at learning a language including reading and writing.

CT also refers to reflective thinking that places emphasis on knowing an issue, offering solutions, and producing knowledgeable options (Marzano, Pickering, & Pollack, 2001). Noddings (2006) refers to CT as the use of reason in a meticulous and skillful way on personal decision making, conduct, and certainty, which are matters of moral or social importance, whereas Cottrell (2005) regards CT as a cognitive activity which is integrated with using the mind.

Zainuddin and Moore (2003) note in particular that there are various definitions of CT, ranging from ones which regard CT as a general term dealing primarily with creative thinking and what to do or believe, while others refer to it more narrowly, limited to a certain content area. Kabilan (2000) also summarizes that creative and critical language learners are those who possess cognitive abilities to achieve their goals more successfully. They should be capable of carefully and deliberately determining to accept, reject or suspend judgments about certain claims. In the meantime, critical language learners should be able to provide reasonable accounts for their answers and opinions; they should also cope with regularities, uniformities, irregular circumstances, special limitations, constraints and over-generalizations. Supporting a democratic approach to education, Williams (2005) points out that CT is significant in all academic disciplines within democratic education, but it is central in the realm of educational teaching. Furthermore, he notes that given the number of students who go through schools, ultimately future teachers could influence the CT skills of the entire community.

Expository Writing

The expository essay, also called the analytical or information essay, is a kind of writing which explains and analyzes a specific issue. It requires students to explore an idea, assess evidence, expound on the idea, and set forth an argument with respect to the idea. This can be done through comparison and contrast, definition, the analysis of cause and effect, etc. (Ibnian, 2011). As a kind of writing, expository writing is used to clarify, express, give information, or notify. Around one topic, the text is formed and according to a pattern or merging of patterns, it is developed. The background knowledge of the reader or listener on the topic cannot be assumed by the writer of an expository text. Regards clarification needs strong organization, one of the most significant systems to make skills better in exposition is improving the organization of the text (de Oliveira, 2011).

Mahdian Mehr, Aziz Malayeri and Bayat (2016) examined the impacts of BS strategy on Iranian EFL learner's expository writings at an intermediate proficiency level. The researchers attempted to study in particular the effect of BS strategy in developing communicative effectiveness in a training environment. To this aim, the treatment included a narrative composition; the first observation and the performance of written tasks in the L2; sequencing expository compositions for later observations, as measured by accuracy and complexity. However, the researchers agreed that it was instructionally useful and also provides its good models of expository writing after the completion of the activity.

Teaching Writing: Core Approaches

Product-Oriented Approaches

Different approaches for teaching of writing have been developed and presented throughout the literature. According to Silva (1990), “a cycle in which particular approaches achieve dominance and then fade but never really disappear” (p.11). These teaching approaches

change concerning the degree of articulation of the curricular proposals that derive from them, and also concerning which of the three essential elements of writing constitutes the core of the pedagogical option, that is, texts, writers, or readers and contexts of writing (Hyland, 2009, 2016). Product-oriented approaches (including controlled or guided composition and current/traditional rhetoric) focus on the texts that L2 writers need or are required to generate in educational or professional settings or for community and workplace writing. Texts are regarded as “objects” (Hyland, 2002), and the goal of the program is to help students in producing various kinds of texts. The focus of instruction is on the patterns and forms of organization characteristic of various text types. Model compositions showing the features that students are expected to use in their own writing are presented, and students are instructed in, for instance, differences among text types, ways of organizing information in paragraphs, or correct sentence structures.

Process-Oriented Approaches

Process-oriented pedagogies, on the other hand, place emphasis on the writers themselves and result in more learner-centered classrooms. Based on a view of writing as a cognitively demanding and problem-solving task, the goal of the teaching program is to help L2 writers become good writers by providing them with the strategies deployed by expert writers and also by helping them to engage successfully in a variety of processes of characteristic expert writers’ composing behavior, such as generating ideas, planning, goal setting, monitoring, evaluating, and searching for language with which to express one’s intended meaning. Accordingly, the emphasis is not so much on the final product or text, but rather on the intervening processes that lead to the finished product, that is, on what the L2 writer does and should do from conception to completion of his or her own text. This explains the key role played by teacher scaffolding and peer interaction in this approach to the teaching of L2 writing (Hyland, 2009, 2016).

Post-Process Approaches

Finally, post-process approaches, according to Atkinson (2003), encompass a variety of pedagogies, including genre-based teaching, critical literacy, and social constructivist approaches. They vary from process and product approaches in, first, their conception of both texts (texts are seen as discourse) and writers (there is an emphasis on issues of ideology and agency), and, second, and very importantly, in having highlighted the social dimension of writing (hence the theoretical and pedagogical interest in the situations in which writing occurs).

Genre-based curricula are needs-oriented (i.e., the genres chosen for instruction are based on student needs), explicit (some forms of genre pedagogies include explicit and systematic explanations of genre characteristics), and goal-oriented (the aim of the teaching program is to empower students with the means to be able to use language for the production of texts that are appropriate for given social purposes and contexts). These three characteristics help explain the strong linguistic basis of genre teaching.

Empirical Studies

Haji Maibodi (2015) carried out a study on the influence of CT skills on reading English novels and also analyzed its influence reading proficiency of EFL learners. 60 Iranian EFL undergraduates were participants of the study who were divided into two groups. Beside their textbooks that they read, instructions on the unabridged short novels were given to them for one semester. For analyzing the differences between the two groups, two independent t-tests were done. The results of the study indicated that students in group B were less critically oriented than ones in group A. It was shown that using direct instruction in CT has positive effects on EFL

learners' reading proficiency. Finally, the researcher concluded that there was a significant improvement in confidence, attitudes, and interest of the students, especially, in their novel-reading ability.

Nikou, Bonyadi and Amirikar (2015) observed the relationship between CT skills and the quality of Iranian TEFL (Teaching English as a Foreign Language) students' writing. 114 students who were homogeneous in their language proficiency were non-randomly selected. The researchers asked students to participate in Nelson test (intermediate, 200B) which is considered as proficiency test and those students whose level was intermediate were chose as participants of the study. This study investigated the correlations. To measure students' CT skills (i.e., analysis, evaluation, and inference), California Critical Thinking Test was administered to intermediate students. Then the participants wrote on a given topic and two language teachers followed the rules of scoring in Quellmaz's scale evaluated their writings. To be sure about the objectivity and reliability of scores, the inter-rater correlation across all papers computed. The relationship between variables was investigated by the Pearson correlation test, furthermore multiple regressions was carried out in order to estimate the degree of their relationship. Their findings indicated that there was a statistically positive relationship between CT skills and writing quality. Moreover, it was shown that evaluation has the strongest degree of relationship with the quality of writing.

Mehdipour Kolour and Yaghoubi (2015) studied the influence of CT tasks on coherence in argumentative essay writing among Iranian EFL learners. They argued that lack of coherence in argumentative essays is attributed to a lack of CT abilities. Their study dealt in particular with teaching two major CT tasks: Identify-Cause-and-Effect-Relationships and Divergent Thinking. The researchers carried out a quantitative experimental research with two classes at Mofid high school. Their findings revealed that there was a significant difference in each class, before and after the treatment. Both classes improved considerably; however, the difference between improvement levels for each task was negligible. One of the implications of their study was that CT tasks of can make a valuable contribution to learners to become competent writers with regard to coherency.

Amoush (2015) directed a study to show the impact of using BS strategy on enhancing writing performance of English Major Students at Balqa Applied University in Jordan. Participants of the study were 80 male and female university students that were divided into two groups; experimental (had BS strategy) and control (had traditional strategy). Writing essay was the instrument which was used for collecting the data. T-test was used for analyzing the data. Results of the study indicated that using BS had positive impact on improving writing performance of the students.

It is worth considering that limited empirical research has been conducted in EFL setting to explore the efficacy of using CT and BS strategies on EFL learners' performance in expository writing. As a result, due to the fact that the traditional strategies in teaching writing are not effective in the field of enhancing the students' writing performance and their innovative thinking skill, the researchers will focus on the possible impact of the two innovative teaching strategies (i.e. CT and BS) on improving the Iranian pre-intermediate EFL students' expository writing performance. It is hoped to fill the existent gap in literature.

Methodology

Design of the study

In order to achieve the objectives of the study, a quantitative method including a quasi-experimental design was employed. The independent variables are critical thinking and brainstorming and the dependent variable is the performance of the learners in expository writing.

Participants and setting

In order to carry out the present study, first 100 pre-intermediate level participants learning English at Naft Language Center, in Ahvaz, Iran enrolled in summer classes were selected based on convenience sampling method. Then, they all took part in Oxford Quick Placement Test (OQPT) which was used as a homogeneity test and 60 students who achieved the band score of pre-intermediate level were chosen as the ultimate participants of the current study. They were non-randomly divided into three groups comprising two experimental groups (i.e., CT and BS) and one control group. Each group included 20 students with the range of 23 to 35 years of age joined the classes three times a week regularly. The whole term was five weeks, 15 sessions out of which 13 sessions were devoted to the treatment, excluding the first and final sessions since they were taken to administer the pre-test and post-test. It is worth considering that only female students were included in the study and because of logistical limitations male gender was put aside. It should be stated that the researcher was the instructor of all three classes. She did her best to teach in the same way throughout the term to make sure that apart from variables related to treatment, the writing instruction will be as same as possible.

Instruments

For the purposes of the present study, the following instruments were used:

Placement Test

Prior to conducting the treatment, the Oxford Quick Placement Test (OQPT) version 2 was administered to homogenize the selected participants in terms of their general language proficiency in English. It is worthy being noted that the test was designed and developed by Oxford University Press, University of Cambridge and Local Examinations Syndicate (2001) and it can be used for English learners of all levels and ages. OQPT has two parallel versions including computer-based version and paper-pencil version. It should be pointed out that the paper-pencil version was used in the current study due to its ease of administration and logistical considerations. In fact, the test included 60 items in multiple-choice format taking approximately 30 to 45 minutes to be answered; it comprised of two parts about reading, grammar, and vocabulary. This test is a standard test and its reliability and validity were reported by Oxford University Press Web Site (2001) as high to be used as a placement test. It should be noted that the students who got the pre-intermediate band score (i.e., from 20 to 37) were selected to take part in the main study.

Pre-test

One week before starting the treatments, the participants were asked to compose a 150-word expository essay about one of the three given topics from their current textbook, Head Way Pre-intermediate Fourth Edition by John and Liz Soars (2012), in 30 minutes. This piece of writing served as the pre-test of the study. The purpose of administering the pre-test was to measure the participants' proficiency level on expository writing prior to receiving the treatments. Two raters scored the essays and the inter-rater reliability of scoring was calculated through Pearson correlation analysis as ($r = .761$).

Post-test

At the end of the treatment, a post-test was administered on which the participants were asked to write another 150-word expository essay in 30 minutes about one of the three given topics to measure the improvement of the participants' performance on expository essay after receiving different kinds of treatments. The topics were taken from the participants' textbooks which had the different topics with similar level of difficulty. All the students' essays were scored by two raters and the inter-rater reliability of scoring was estimated via Pearson correlation analysis as ($r = .805$).

Writing Rubric

The other instrument employed in the study was Writing Rubric is a standardized checklist published by National Council of Teachers of English, NCTE (2004). It has been designed and developed to measure writing ability of L2 learners. It evaluates the essays in terms of content/idea, organization, vocabulary/word choice, voice, sentence fluency, and conventions. Each of this trait is rated as follows: 1) Does not meet 1; 2) Partially meet 2; 3) Does not fully meet 3; 4) Meet 4; 5) More than meets 5; 6) Exceeds 6. It should be mentioned that the participants' essays were scored from 0 to 36.

Data collection procedure

The following steps were taken to carry out the present study including homogenizing, pre-testing, treatment, and post-testing. As noted earlier, 100 EFL learners at pre-intermediate level were selected from Naft Language Centre through convenience sampling method. Prior to running the main study, Oxford Quick Placement Test (OQPT) was employed to determine the homogeneity of the participants in terms of their language proficiency. Based on the participants' performance on the test, 60 students who met the band score from 20 to 37 were chosen as the pre-intermediate learners. Next, one week before offering the treatments to each group, the pre-test was administered in the form of writing a 150-word expository essay about one of the three given topics chosen from the students' textbook. It should be noted that the researcher selected three classes non-randomly and labeled them as CT, BS and CO.

The treatment phase lasted 13 sessions and each session was hold in 90 minutes and three times a week for the groups. The teacher introduced one of the basic instructional patterns of expository writing such as compare and contrast, cause and effect, problem and solution, sequence and classification in every other session to all groups. She taught these structures step by step separately and gave assignments to them. In fact, while all groups experienced the same regular writing class with the same writing exercises and assignments, the researcher applied different kinds of treatment for teaching expository writing through using CT and BS strategies as pre-writing stage activities for expository writing in both experimental groups.

At the end of the treatment phase, the researcher administered the post-test including writing another 150-word expository essay about one of the three given topics from their textbook. Both pre-test and post-test were assessed by two raters; the teacher/instructor and one of her colleagues based on Writing Rubric. The average score of the two raters was considered as the score of each participant. An inter-rater reliability analysis was run using Pearson product-moment correlation in order to estimate the extent of go-togetherness between two sets of participants' scores on the pre-test and post-test .

Data analysis

In order to examine the effect of CT and BS as pre-writing stage activities on expository writing in the experimental groups compared to the control group, One-way ANOVA was run to

contrast the three groups' pre-test and post-test. In addition, a post hoc Scheffé test was run to investigate whether there was any significant statistical difference between the CT and BS groups in terms of their performance on the post-test writing.

Results

The results of Oxford Quick Placement Test

As pointed before, in order to homogenize the participants and have a number of students with the same level of language proficiency in both experimental and control groups, 100 participants took OQPT. The results of the descriptive statistics are shown in Table 1. It is worth to mention, the students who got the pre-intermediate band score (i.e., from 20 to 37) were selected to take part in the main study as the ultimate participants.

Table 1. *Descriptive Statistics of Oxford Quick Placement Test Results*

N	Minimum	Maximum	Mean	Standard Deviation
100	2	60	33.44	14.67

The Results for the First Research Question

In this study, all the data came from the scores of the pre-test and post-test which were two sets of 150-word expository essays. They were rated by two teachers based on the Writing Rubric NCTE (2004). To determine the degree of accuracy and objectivity between the two ratings, inter-rater reliability coefficient was computed through Pearson product-moment correlation analysis. They were .761 and .805 respectively which are considered high and reliable for the purpose of the current study. Then, the average of the raters' scores was taken as the raw data for forthcoming computations. At first, the normality distribution of the scores for the pre-test and post-test was calculated in Table 2.

Table 2. *One-Sample Kolmogorov Smirnov Test of Normality (Pre-test and Post-test)*

		Pre-test control	Post-test control	Pre-test brain	Post-test brain	Pre-test critical	Post-test critical
N		20	20	20	20	20	20
Normal Parameters ^{a,b}	Mean	11.6000	14.0500	12.2000	23.7500	13.3500	22.8000
	Std. Deviation	3.36233	3.36350	3.50338	4.39946	3.77352	6.47749
Most Differences	Extreme Absolute	.088	.179	.135	.110	.133	.083
	Positive	.088	.179	.135	.110	.133	.071
	Negative	-.062	-.111	-.065	-.095	-.119	-.083
Kolmogorov-Smirnov Z		.392	.800	.604	.491	.596	.371
Asymp. Sig. (2-tailed)		.998	.544	.859	.969	.869	.999

a. Test distribution is Normal.

b. Calculated from data.

Table 2 displays the results of One-Sample Kolmogorov Smirnov Test of normality for the expository writing scores of all groups in the pre-test and post-test. As noticed in Table 4.2,

the significance values are both above the critical value of 0.05 and the test distribution is normal. Thus, the data are parametric and One-way ANOVA and post hoc Scheffe can be used for analyzing data. Descriptive statistics of the pre-test is shown in Table 3.

Table 3. *Descriptive Statistics (Pre-test Phase)*

Group	N	M	SD	Std. Error	95% CI		Min	Max
					LL	UL		
Control	20	11.6000	3.36233	.75184	10.0264	13.1736	6.00	19.00
Brainstorming	20	12.2000	3.50338	.78338	10.5604	13.8396	6.00	19.00
Critical thinking	20	13.3500	3.77352	.84379	11.5839	15.1161	7.00	20.00
Total	60	12.3833	3.56581	.46034	11.4622	13.3045	6.00	20.00

Note. CI= confidence interval; LL= lower limit; UL= upper limit.

Table 3 shows the basic descriptive statistics of the three groups' pre-test scores on the writing test employed in this study. As it can be seen, the CT group's M (13.35), SD (3.77), and the BS group's M (12.20), SD (3.50) were calculated. Concerning the CO group, M (11.60) and SD (3.36) were reported. As it is noticed, the means and standard deviations of the three groups were approximately similar on the pre-test.

Table 4. *One-way ANOVA for the Pre-test (Experimental and Control Groups)*

		Sum of Squares	Df	Mean Square	F	Sig.
Pre-test	Between Groups	31.633	2	15.817	1.255	.293
	Within Groups	718.550	57	12.606		
	Total	750.183	59			

Table 4 shows there is not a statistical significant difference among the experimental and control groups' pre-test at the beginning of the study since the *P* is 0.29, and far above the .05 level of significance. Therefore, it was concluded that if there would be a significant difference between the groups' performance on the post-test, it could be attributed to the effect of the different instructions offered to them. The results are presented in Table 5.

Table 5. *Descriptive Statistics (Post-test Phase)*

Group	N	M	SD	Std. Error	95% CI		Min	Max
					LL	UL		
Control	20	14.0500	3.36350	.75210	12.4758	15.6242	9.00	20.00
Brainstorming	20	23.7500	4.39946	.98375	21.6910	25.8090	16.00	32.00
Critical thinking	20	22.8000	6.47749	1.44841	19.7684	25.8316	12.00	35.00

Total	60	20.2000	6.54010	.84432	18.5105	21.8895	9.00	35.00
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Note. CI= confidence interval; LL= lower limit; UL= upper limit.

Table 5 indicates the basic descriptive statistics of the three groups' post-test scores on the writing test. As it can be seen, the CT group's M (22.80), SD (6.47), and the BS group's M (23.75), SD (4.39) were calculated. Concerning the CO group, M (14.05) and SD (3.66) were reported. The groups' post-tests were compared through One-way ANOVA in Table 6.

Table 6. One-way ANOVA for the Post-test (Experimental and Control Groups)

		Sum of Squares	Df	Mean Square	F	Sig.
Post-test	Between Groups	1143.700	2	571.850	23.622	.000
	Within Groups	1379.900	57	24.209		
	Total	2523.600	59			

Table 6 shows there is a significant difference (Sig = 0.02, $p < 0.05$) among the experimental and control groups on the post-test scores. Therefore, it could be suggested this difference may be accredited to the impact of the different instructions offered to the groups, so the first null hypothesis was rejected.

The Results for the Second Research Question

In the previous section, the basic descriptive statistics for the control and experimental groups were presented. In order to precisely locate the existing differences between the control and experimental groups on one hand, and the two experimental groups (i.e., BS and CT) on the other hand, a post hoc Scheffé test was run in Table 7.

Table 7. Post hoc Scheffé Test (Three Groups in the Post-Test)

(I) VAROO 001	(J) VAROO 001	Mean Difference (I-J)	Std. Error	Sig.	95% CI	
					LL	UL
Control	Brainstorming	-9.70000*	1.55592	.000	-13.6108	-5.7892
	Critical thinking	-8.75000*	1.55592	.000	-12.6608	-4.8392
Brainstorming	Control	9.70000*	1.55592	.000	5.7892	13.6108
	Critical thinking	.95000	1.55592	.830	-2.9608	4.8608
Critical thinking	Control	8.75000*	1.55592	.000	4.8392	12.6608
	Brainstorming	-.95000	1.55592	.830	-4.8608	2.9608

Note. CI= confidence interval; LL= lower limit; UL= upper limit

* The mean difference is significant at the 0.05 level.

Since the significance level was set at 0.05, according to Table 7, it can be seen that there is a significant difference between the means of the experimental and control groups. The

participants in the BS and CT groups performed better than those of the CO group on the post-test.

Discussion

The first research question

The first research question asked whether CT and BS as pre-writing stage activities influence the performance of Iranian EFL pre-intermediate learners' expository writing. To answer this research question, the results obtained from the pre-test and post-test of the experimental and control groups were compared. Results revealed that the means and standard deviations of the experimental and control groups were not similar on the post-test. Moreover, the results of One-way ANOVA indicated that statistically there was a meaningful and significant difference among the experimental and control groups' performance on the post-test. In order to precisely locate the existing differences between the control and experimental groups, the post hoc Scheffe test was run. The results uncovered a statistically significant difference between the experimental and control groups. The participants in the CT group outperformed the CO group on the post-test. The same deduction was obtained for the BS group compared with the CO one. In other words, there was not a significant difference between the mean scores of CT and BS. In opposite, all participants with the adjacent proficiency level performed approximately the same before utilizing CT and BS strategies as the pre-writing stage activities in the pre-test. Therefore, it can be inferred that the present difference might attributed to the impact of the diverse instructions offered to the groups and these findings may provide enough support to reject the first null hypothesis.

Considering the interrelationship of BS and writing development, the results are aligned with Rao's (2007) conclusion who emphasizes on the measurable influence of BS on writing performance through explicit instruction. Further, he states that the students felt positive about the implementing BS strategies in learning how to write. This also goes in line with Al-khatib's (2012) deduction about the effectiveness of using BS strategy in enhancement of creative thinking skills. The present findings are technically supported through the same status for the importance of BS as the pre-writing stage affecting both content and organization of the writing reported by Ibnian (2011). In line with the similar investigation (e.g., Osborn, 1953), there is an agreement on the practical effects of BS mainly assisting language learners to transfer their ideas from the mind to the tongue which indirectly can enhance their motivation. Another dimension of BS application in teaching writing is the conventional focus on creation of ideas in writing skill. Thus, BS taps onto the ability to create ideas which by itself is a primary step to the growth of writing ability.

In brief, instructing learners based on either CT or BS strategies may have given a helping hand to students to write better through generating new ideas when they are engaged in writing a piece of writings in the foreign language.

The second research question

The second research question was concerned with if there is any statistically significant difference between the effectiveness of CT and BS as pre-writing stage activities on Iranian EFL pre-intermediate learners in writing expository essay. It is worth mentioning that the success of CT in the realm of language skills depends not only on learners to think critically, but also on several other factors like learners' self-esteem and autonomy. If they have self-esteem, they may think individually to arrive at a meaningful decision making process on how to organize their ideas in a creative manner. This may lead them to autonomy which helps them to think and decide through relying on themselves rather than their teachers.

Findings of the present research are confirmed by Manalo, Watanabe and Sheppard (2013) who worked on different cultural background and mental structures of the native language contributed to CT. This hypothesis may be in relation to “Sapir-Whorf Hypothesis” which suggests that languages vary in the relative ease with which they can be used to convey certain ideas. Manalo, Watanabe and Sheppard (2013) also support the results of this study and note that CT enables the learners to actively engage with a study as they note information, think deeply about such information, analyze, review, and apply knowledge, as well as create new ideas can develop language skills.

To sum up, this study may provide a better picture of the related link between CT and BS in an EFL context. It may reveal that the students who possess a considerable degree of CT/BS, creativity and engagement, they can exhibit optimal performance in their writings. Accordingly, the BS group could display better than the CT in their tasks.

Conclusion

The purpose of the present study was two-fold. First, it examined the effect of CT and BS as pre-writing stage activities on EFL pre-intermediate learners' expository writing. Second, it was attempted to determine whether there was statistically significant difference between the effectiveness of CT and BS in expository writing. Summarizing the findings of the present study, it was proved that teaching writing skill to the students of the experimental groups by the help of proposed strategies (i.e., CT and BS) was more successful than the same teaching to the control group but training traditional product-based writing strategies. In other words, the mean scores of the students' performance on the post-test showing statistically significance variation between the experimental and control groups. Therefore, it could be concluded that CT and BS as pre-writing stage activities had a positive effect on the development of the pre-intermediate students' expository writing. In this case, the results could reject the first null hypothesis presented by the researcher. Although the results highlighted the fact that BS group outperformed the CT one, there existed no statistically significant difference between the mean scores of two experimental groups regarding the second research question. Consequently, the second null hypothesis was accepted.

All in all, if students can write critically, they may better understand how a foreign language is learned and they can encounter the problems posed while attempting to self-regulate the second language. Therefore, if classroom setting is critical-oriented, students can have a high level of brand-new reflections and this, in turn, can influence other variables including their interest and motivation to learn English as a foreign language in general and writing skill in particular. It is worth to mention, there are other factors which may affect writing skills and needed to be surveyed.

In line with the findings of the study, some suggestions are offered to the English teachers that it is wiser to place more emphasis on teaching writing as a process and not a mere product. The pre-writing stage which occurs at the beginning of writing process is a discovery process and can contribute students to deeper insights into the topics that they intend to write. It can, however, push students on a journey through the writing process with a firmer foundation upon which to produce a stronger end product. Therefore, teachers need to be well acquainted and comfortable with various pre-writing activities (i.e., CT and BS), model them effectively and plan carefully to accomplish specific goals. The instructors are encouraged to reconsider the importance of both CT and BS strategies, creativity and engagement, to enhance their students' confidence in writing.

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