

The effect of building formal schemata on EFL students' writing achievement

Parviz Maftoon

Professor, Islamic Azad University, Science and Research Branch

Hataf Mardani Babamiri¹

Ph.D. Student, University of Tehran

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Abstract

The purpose of the present study is to investigate the impact of building formal schemata on the improvement of Iranian EFL learners' writing performance. In so doing, the researchers selected two groups of upper-intermediate students at Islamic Azad University, Roodehen Branch, from two intact classes. One class served as the control class and one as the experimental class. In order to assess their general language proficiency, and also to ensure their homogeneity, Nelson English Language Test (Flower and Cow, 1976) was administered. Furthermore, at the beginning of the treatment, the participants of both groups were asked to write an essay as the writing pretest. Then, the experimental group received the treatment which was training on rhetorical organization to build formal schemata. However, the control group received the conventional instruction of the course. After 14 sessions of treatment, both groups were asked to write an essay as the

¹ Corresponding author at: University of Tehran
Email address: hatavmardani.b@gmail.com

writing posttest. Two raters rated the papers of the groups, using Hyland's (2003) rating scale. After estimating the inter-rater reliability of the scores, an independent t-test was used to compare the mean scores of the experimental and control groups. The results clearly indicated that there was a significant difference between the mean scores of the groups on the posttest of writing ($t= 4.46$, $df= 45$, $p< 0.05$). In other words, the experimental group ($M= 13.86$) outperformed the control group ($M = 9.80$) on the posttest of writing. Therefore, it can be concluded that the treatment offered by the researchers, that is, building formal schemata, had a statistically significant effect on the improvement of the writing performance of the experimental group.

Keywords: writing achievement, schema theory, formal schemata, content schemata

1. Introduction

Writers' cultural background influences their organization of writing, how they write in a foreign language, how they express their main ideas, and what they choose as evidence in supporting their main ideas. In fact, culturally transmitted rhetorical structures have a considerable impact on EFL writers. For instance, the rhetorical conventions of English texts (i.e., the structure, style, and organization) often differ from the conventions of Asian languages, and these cultural preconceptions can influence written communication (Hyland, 2003). EFL learners commonly do not have access to these cultural resources and lack knowledge of the typical patterns and possibilities of variation within the texts; as a result, they are forced to draw on the discourse conventions of their own cultures and may fail to produce texts that are either contextually adequate or educationally valued (Silva, 1993).

Hyland (2004) points out that part of one's cultural knowledge is an awareness of how genres are organized; and members of a speech

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community develop schemata, sets of expectations based on repeated experiences, for the rhetorical patterns of written genres. Hyland also believes that prior L1 writing instruction may be a factor influencing different aspects of EFL writing. In fact, the EFL text may seem to be organized inappropriately because the writer has either been taught different organizational schemata or has not mastered the organizational patterns to produce structures that are acceptable in a discourse community.

The findings of many studies have revealed that the schemata of L1 and FL writers differ in their preferred ways of organizing ideas, and different contextual and rhetorical schemata may result in ineffective EFL written communication (Carrell, 1983a; Carrell, 1984a; Carrell, 1985; Carrell, 1987b; Carrell, 1989; Hinds, 1990; Reid, 1996; Swales, 1990). According to Swales (1990), a foreign language learner who has developed rhetorical schemata in one language may be hindered in language processing at the discourse level in another language. Therefore, many problems that EFL learners encounter may be related to the interference between the formal rhetorical organization of foreign writing system and that of their first language (Badger & White, 2000; Flowerdew, 2000).

Hyland (2003) believes that some EFL learners lack the rhetorical schematic knowledge necessary to organize their ideas in English, or have limited background knowledge of academic text types. According to Lally (2000), some learners seem to have more problems with how to write (i.e., in terms of grammar, genre, and organization) than with what to write (i.e., the content area). That is to say, they have good ideas; but the problem is how to organize their ideas in English writing in a way that is accepted by the intended audience.

Regarding the problems mentioned above, Hyland (2008) points out that learning to write in a foreign language implies much more than acquiring the linguistic tools needed to communicate meaning. What is also required is knowledge of how different kinds of texts are conventionally organized and presented. He further states that composing is an advanced academic task that may not be developed

without instruction and teacher's assistance, and students may need to be explicitly and effectively taught about such rhetorical structures so that they learn how to organize the texts they write.

Along the same line, Carrell (1987b) advises that "teaching ESL writers about the top-level rhetorical organization of texts, how to choose an appropriate plan to accomplish specific communication goals, and how to signal a text's organization through appropriate linguistic devices should all function to make writing more effective" (p. 49). Closely related to this is Swales' (1990) view that emphasizes the importance of formal schematic knowledge in distinguishing the organization of genres as an important step on the road toward giving learners the skills they need to recognize the grammatical structures, stylistic markers, level of formality, and the way ideas are organized in different texts.

Furthermore, Hyland (2006) puts great emphasis on EFL writing instruction and asserts that a writing pedagogy that includes teaching the identification of text organization apart from the content, as well as providing practice in using different organizations on a variety of topics, actively fosters the construction of formal schemata in students. According to Becker (2006), "the more frequent the activation of schema mechanisms, the better the writing output becomes" (p.71). This is because of the fact that writers who are equipped with greater formal schemata tend to produce almost automatically texts that are more meaningful and well-organized.

Although the positive influence of prior schematic knowledge on writing development seems well documented in the L1, L2, and FL writing research literature, and much has been written about writing from the schema-theoretic perspective (Becker, 2006; Carrell, 1984a; Carrell, 1987b; Carrell, 1989; Carrell, 1991; Flowerdew, 2000; Gee, 1997; Hyland, 2003; Hyland, 2004; Hyland, 2006; Hyland, 2008; Paltridge, 1996; Paltridge, 2000; Swales, 1990), there are very few empirical studies applying schema theory to examine the indicated problems of EFL learners in the field of foreign language writing. Taking into account the EFL writers' problems with the rhetorical organization of English writing, the present study

attempted to investigate the impact of building formal schematic knowledge on the Iranian EFL learners' writing proficiency. To achieve the aims of the study, the following research question was proposed: Does building formal schemata have any significant impact on the writing achievement of the Iranian EFL learners?

2. Literature Review

Schema theory is a framework for the mental representation of knowledge. It describes how the knowledge of the world is organized in human memory and how it is retrieved or activated in the process of discourse understanding (Carrell, 1983b). Carrell (1987a) defines the term schema (plural schemata) as an abstract mental structure for representing concepts stored in memory, and also as a collection of organized and interrelated ideas, concepts, and prior knowledge. Further, Hyland (2003) believes that schemata are cognitive constructs by which people process, organize, and store information in their long-term memory.

Important is the distinction discussed by researchers such as Carrell (1987a), Carrell and Eisterhold (1983), and Swales (1990) between content schemata and formal schemata. According to Carrell (1987a), content schema refers to the background knowledge of the content area of a text, or the topic a text talks about. It includes what we know about people, cultures, and the universe. In fact, content schemata are all the information a person has gained through a life time of direct and indirect experience. On the other hand, Formal schema, as Carrell and Eisterhold (1983) define, is the background knowledge about particular rhetorical features of written texts. They believe that formal schema is the knowledge of formal organization of different text types and genres, whether the text type is narrative, expository, descriptive, or persuasive, and whether the genre of the text is story, drama, essay, or report. It also includes the knowledge that different texts use vocabulary, grammar, organizational structure, stylistic markers, and level of formality differently.

In addition, Swales (1990) explains that if, in a text, we can recognize the genre, the way it is used, the contexts it occurs in, and the roles and values associated with it, we are using our formal schema. It enables us to find out how a writer develops his ideas in a text, how they are related to one another to form a unit, or how he uses functional acts to organize his thoughts.

Many studies have been done on content and formal schemata on reading in EFL/ESL context. They have revealed that content and formal schematic knowledge have a significant effect on the improvement of EFL/ESL learners' reading comprehension (Ahmadi, 2001; Carrell, 1983b, 1984b, 1985, 1987a, 1989; Khadivinia, 1994; Nafar, 2002; Stockwell, 2003). Among the key figures working in this field, Carrell has written various papers on schema theory, as well as on ESL/EFL teaching (Carrell, 1983a, 1983b, 1984a, 1984b, 1984c, 1985, 1987a, 1987b, 1989, 1991; Carrell & Eisterhold, 1983). In one of her experiments, Carrell (1985) investigated whether she could facilitate ESL reading comprehension by teaching text structure based on schematic knowledge. The results of the experiment proved that explicit teaching of text structure could improve students' reading comprehension.

In another study examining the combined effects of both content and formal schemata, Carrell and Eisterhold (1983) found that when content and form were familiar, the readers were able to comprehend and memorize a text better; in contrast, unfamiliar content and form could cause trouble for the readers and affect reading speed and effectiveness. They further pointed out that content and formal knowledge might help the readers predict the organization and purpose of the text. Moreover, in her review of research on text analysis and reading, Carrell (1987b) brings to our knowledge that reading and writing are interactive meaning making processes, in which the writer utilizes his/her formal schemata to anticipate those of the readers', while the readers' formal schemata help them make sense of the text content. Therefore, she argued that there is a positive connection between teaching textual structure and effective

writing. In other words, shared formal schemata were helpful for the reader and writer to negotiate meaning of the text.

The introduction of schema theory into reading research was a notable advance and much research has been done on content and formal schemata in reading in EFL/ESL contexts. However, the research into formal schemata in the field of second and foreign language writing is a more recent area of study. The followings are three more relevant studies carried out by Hinds (1990), Reid (1996), and Swales (1990), which substantiate the need for proposing the notion of formal schemata construction in ESL writing instruction.

Using the approach of contrastive rhetoric, Hinds (1990) illustrated the differences of rhetorical structures between Western and East Asian languages. By examining Asian students' samples of ESL writing, Hinds (1990) noted that most of them could be classified as inductive writing in which the thesis statement appeared at the end. On the other hand, He argued that most of the English-speaking readers favor deductive writing in which the thesis statement appeared at the beginning. He also maintained that due to the difference of inductive-deductive preferences, Western readers might not understand competent writings of Asian writers appropriately.

Drawing upon recent research on reading-writing connection, Reid (1996) suggested that ineffective ESL writing may be partly due to the ESL writer's contextual and rhetorical schemata that differ from those of native English speakers (NESs). She conducted a study examining how well NESs and ESL student readers and writers could predict and produce appropriate second sentences that followed the topic sentence in a paragraph of academic American English. Findings showed that by using their schemata, NESs were able to predict the second sentences twice as often as ESL writers.

Along the same line, Swales (1990) maintained that teaching non-native speakers the rationale and conventions of a common type of genre could lead to the production of texts that sufficiently matched the reader's formal schemata to override particular

processing difficulties caused by non-standard language. He asserted that learners should be exposed to many examples of the same genre to develop their ability to write a particular genre; in fact, through exposure to similar texts, students can detect the specialized features and patterns of that genre, and also they can activate their formal schemata of prior reading or writing experiences whenever they encounter the task of writing a new text in a familiar genre.

Following a similar viewpoint, Hyland (2006) emphasizes that "it is necessary for writing instructors to tie the formal and functional properties of a language together in order to facilitate students' recognition of how and why linguistic conventions are employed for particular rhetorical effects" (p. 48). He further believes that if the rhetorical structure of the text is analyzed by students, some common patterns can be identified in each genre. Naturally, these patterns will form a kind of background knowledge or formal schemata that students can activate in the next learning situation. And eventually, the formal schematic knowledge will make it easier for students to produce acceptable structures in their writing tasks.

The current argument, based on the evidence surveyed in this section, is that making student writers familiarized with different types of rhetorical structures will form formal schemata in their minds, enable them to interpret English rhetoric, and make them ready to produce acceptable structures in their writing tasks. As many researchers assert (Badger & White, 2000; Carrell, 1989, 1991; Flowerdew, 2000; Hyland, 2003, 2006, 2008; Paltridge, 2000; Ramos, 2010), effective writing is critical for students in EFL/ESL contexts and it is a need for them to construct appropriate formal schemata in academic writing. In this regard, the present study aimed at investigating the effect of building formal schemata on the Iranian EFL learners' writing achievement.

3. Method

3.1 Participants

This study was conducted with two homogeneous groups of third-year undergraduates in Azad University, Roodehen Branch. They

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were upper-intermediate students of English Language Teaching, enrolled in Advanced Writing course. A group of 25 students served as the control group and a group of 22 students as the experimental group, in two intact classes. The same teacher taught both groups (the researchers were not the instructor). The classes met once a week for two hours per session for fourteen weeks. The course book was *The Practical Writer with Readings* for both classes although the researchers had also provided a lesson plan to be taught in the experimental class.

3.2 Instruments

The instruments in this study were Nelson English Language Test (Flower & Cow, 1976), writing pretest, and writing posttest. To ensure the homogeneity of the participants regarding their language proficiency, Nelson English Language Test was administered as a pretest prior to the treatment. Both groups took a pretest of writing in which they were asked to write on a topic familiar to all of them. The main purpose of the pretest was to ensure that there was no significant difference between the groups in terms of the subjects' ability in expository writing. The treatment of this study, conducted in the experimental group, included training on rhetorical organization to build formal schemata and using that knowledge as a basis for writing expository texts. The control group received the conventional instruction of the course which is described in "Procedure" section in detail. The posttest of the study for both groups was in the form of writing an expository essay to find out how much the learners achieved during the writing course. Hyland's (2003) rating scale (see Appendix A) was used to score all the writings in the pretest and posttest. This analytic scoring rubric was used by the researchers because its components were in line with the theoretical framework underlying the present study, and therefore, was a reasonable scale to assess the performance of the students on the points covered during the class.

3.3 Data Collection Procedure

In this study a pretest-posttest control groups design was used. The study is quasi-experimental since the researchers had to deal with intact groups and randomization was not feasible. To accomplish the purpose of the study, the following procedure was followed. First, both the experimental and control groups were administered a standard test of language proficiency (Nelson English Language Test, Flower & Cow, 1976) as a pretest during the class period in order to ensure the homogeneity of the subjects. It should be mentioned that the test was first administered to a group of 36 third-year undergraduate students in the same semester for the piloting phase to standardize the test. Then, the subjects of both groups were asked to write an essay on a familiar topic (by first brainstorming for ideas), without getting any instruction about formal schematic knowledge or getting any feedback, to ensure the homogeneity of the groups in terms of their ability in expository writing.

The treatment was then provided for the experimental group in the form of training on rhetorical organization to build formal schematic knowledge. Those formal schematic structures with which the subjects were to be familiar included different genre-types and text types, moves and their communicative purposes, cross-cultural differences influencing move structure, linguistic features associated with moves, the role of audience, topic sentences, controlling ideas, supports, conclusion, discourse markers, the role of transitions and cohesive ties, as well as coherence of the text.

For the treatment phase, students were first asked to select a topic that was of interest to all of them. Then, the teacher engaged students in a brainstorming activity to encourage them to think of what they already knew about the topic they were going to write about. The teacher also encouraged students to organize their ideas about the topic. They were then taught to limit their topics so that they addressed a suitable theme or problem that needed to be dealt with. The teacher was required to get students to write a text, considering purpose, organization, and audience. This stage focused on introducing a particular genre (essay genre) through a model of

text that dealt with the content the students had already explored in the stage of brainstorming.

The modeling phase made explicit all aspects of the genre from social context and vocabulary to grammatical features. The students tried to construct their formal schemata by analyzing model texts in terms of context, content, and form. The teacher then gave a lecture on expository type essays in academic writing and provided some sample texts. In the next step, he generated discussion by drawing attention to genre knowledge and generic features in the texts. In fact, the model texts highlighted certain features of grammar, vocabulary, and text structure and encouraged students to notice what they had previously ignored. In this stage, the teacher served as a co-writer with students and showed them the way to write a coherent text. He reinforced the use of generic structures and grammatical features in the meantime that the students were jointly constructing a text and revising vocabulary and language patterns. Exploring the genre cooperatively encouraged the students to share ideas for what they already knew about the features of a text such as text-type, author's purpose/ tone, text readership, text form, text organization, and grammatical items.

On the other hand, the control group received the conventional instruction of the course which included grammar exercises, sentence analysis, main and supporting sentences, work with discourse connectors, cohesion, punctuation, vocabulary, and the content of the model texts. In fact, the students were required to write a text based on what they had been taught. At the end of the course, both groups took a posttest which was in the form of writing an expository essay, to find out how much they had achieved during the writing course. The pretests and posttests of both groups were rated first by the teacher, and then by another experienced teacher who was teaching in the same university.

3.4 Data Analysis

Regarding the null hypothesis posed for this study as "building formal schemata does not have any significant impact on the writing

achievement of Iranian EFL learners," an attempt was made to reject it at 0.05 level of statistical significance. First, the ratios of skewness and kurtosis over their standard errors were calculated and the normality of variances of the pretests, posttests, and the proficiency tests were met. Then, an independent t-test was run to compare the mean scores of the experimental and control groups on the proficiency test, and on the pretests of writing in order to probe their general language proficiency, as well as their writing ability prior to the treatment. After conducting the treatment, another independent t-test was run to compare the mean scores of both groups on the posttest of writing in order to probe if building formal schemata had any significant and meaningful effect on the writing achievement of the experimental group. The pretest and posttest papers of the groups were rated by two raters using Hyland's (2003) rating scale; and then, the inter-rater reliability of the scores was estimated.

4. Results

In this study, the researchers considered how one aspect of learners' prior knowledge--the knowledge of formal schemata in expository writing--influenced their writing achievement at upper-intermediate level of language proficiency. In order to provide an answer to the research question, some statistical analyses were used to describe the obtained data. The results of these analyses are presented as follows.

4.1 Piloting the Proficiency Test

At the beginning of this study, Nelson English Language Test (Flower & Cow, 1976) was administered to a group of 36 third-year undergraduate students in the same semester for the piloting phase to standardize the test. Then, the Item Facility and Item Discrimination were calculated. The results showed that all items had proper ID and IF. Then, by calculating the reliability of the test, it was proved to be acceptable. The result is illustrated in Table 1.

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Table 1: Reliability statistics

Cronbach- α	K
0.81	50

Therefore, the researchers felt safe in employing the above piloted test for determining the homogeneity of the main subjects. Then, the piloted proficiency test was administered to both experimental and control groups. The assumption of homogeneity of variances is probed when reporting the results of the independent t-tests carried out to compare the experimental and control groups' mean scores on the proficiency test, pretest, and posttest.

4.2 Normality Assumption

In order to meet the normality assumption, the ratios of skewness and kurtosis over their respective standard errors should be within the ranges of $+ / - 1.96$. As displayed in Table 2, under the columns of normality test, the pretests, posttests, and the proficiency tests all have ratios between -1.96 to $+1.96$. That is to say, they enjoy normal distribution and can be analyzed through parametric tests.

Table 2: Normality of Proficiency Test, Pretests, and Posttests by Groups

GROUP		Mean	Variance	Skewness		Normality test of Skewness	Kurtosis		Normality Test of Kurtosis
		Statistic	Statistic	Statistic	Standard Error		Statistic	Standard Error	
EXPERIMENTAL	PROFICIENCY	25.05	13.57	0.12	0.49	0.24	-0.53	0.95	-0.55
	PRETEST	10.20	13.30	-0.16	0.49	-0.33	-1.02	0.95	-1.07
	POSTTEST	13.86	9.36	-0.08	0.49	-0.16	-0.82	0.95	-0.86
CONTROL	PROFICIENCY	26.36	23.32	0.04	0.46	0.09	-0.86	0.90	-0.95

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PRETEST	8.32	8.31	0.19	0.46	0.40	-0.28	0.90	-0.31
POSTTEST	9.80	10.00	-0.48	0.46	-1.03	0.43	0.90	0.47

Figure 1 displays the histograms for pretest, posttest, and proficiency test. Despite minor deviations, the overall shapes of the scores seem to be normal without any extreme skewed or peaked data. These facts also support the notion that the present data can be analyzed through parametric tests.

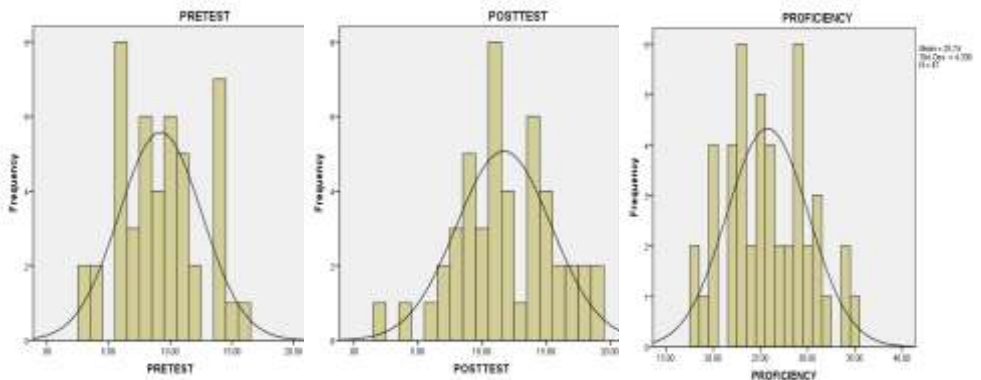


Figure 1: Pretest, posttest, and proficiency test

4.3 Proficiency Test

An independent t-test was run to compare the mean scores of the experimental and control groups on the proficiency test in order to probe their general language proficiency prior to the treatment. The results of the Levene’s test of homogeneity of variances are first probed to justify the application of independent t-test to analyze the students’ scores on the proficiency test. As displayed in Table 3, the Levene’s F-value of 2.37 is not significant ($p = .13 > .05$). That is

why the first row of Table 3, i.e., “Equal variances assumed” is reported.

In addition, the t-observed value is 1.03 (Table 3). This amount of t-value is lower than the critical value of 2 at 45 degrees of freedom. Based on these results, there is not any significant difference between the experimental and control groups’ mean scores on the proficiency test. Thus, it can be concluded that the two groups are homogenous in terms of their general language proficiency prior to the main study.

Table 3: Independent t-test for proficiency test by groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.372	.131	1.038	45	.305	1.31455	1.26653	-	3.86547
Equal variances not assumed			1.056	44.163	.297	1.31455	1.24488	-	3.82317

Table 4 and Figure 2 display the mean scores for the control (M = 26.36) and experimental groups (M = 25.04) on the proficiency test.

Table 4: Descriptive statistics for proficiency test by groups

GROUP	N	Mean	Std. Deviation	Std. Error Mean
CONTROL	25	26.3600	4.82942	.96588
EXPERIMENTAL	22	25.0455	3.68365	.78536

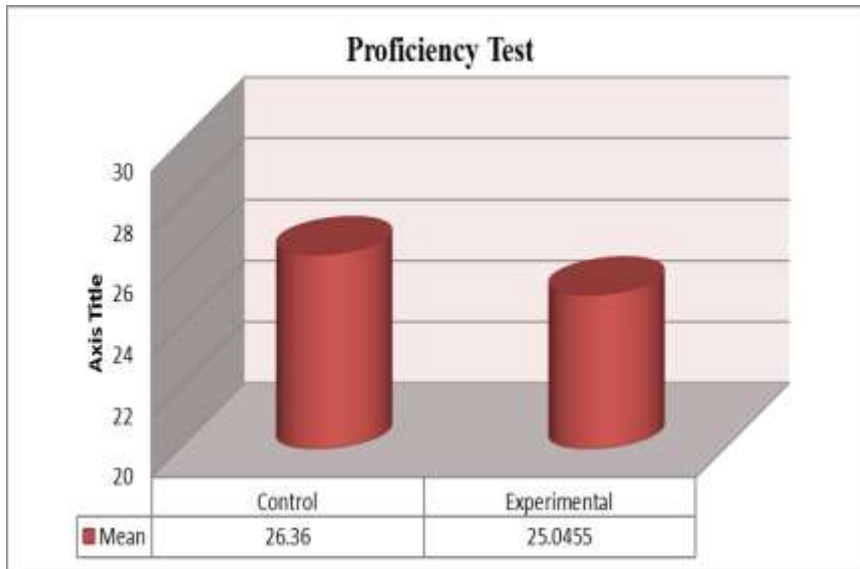


Figure 2: Proficiency test by groups

4.4 Pretest of Writing

An independent t-test was run to compare the mean scores of the experimental and control groups on the pretest of writing in order to probe their writing ability prior to the treatment. As displayed in Table 5, the Levene's F-value of 2.31 is not significant ($p = .13 > .05$). Also, the t-observed value is 1.97 (Table 5) which is lower than the critical value of 2 at 45 degrees of freedom. Based on these results, there is not any significant difference between the experimental and control groups' mean scores on the pretest of writing. Therefore, it can be concluded that the two groups are homogenous in terms of their writing ability prior to the treatment.

Table 5: Independent t-test for pretest of writing by groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	2.315	.135	1.976	45	.054	1.88455	.95351	-.03592	3.80501
Equal variances not assumed			1.947	39.889	.059	1.88455	.96799	-.07201	3.84110

Table 6 and Figure 3 display the mean scores for the control ($M = 8.32$) and experimental ($M = 10.20$) on the pretest of writing.

Table 6: Descriptive statistics for pretest of writing by groups

GROUP	N	Mean	Std. Deviation	Std. Error Mean
EXPERIMENTAL	22	10.2045	3.64711	.77757
CONTROL	25	8.3200	2.88271	.57654

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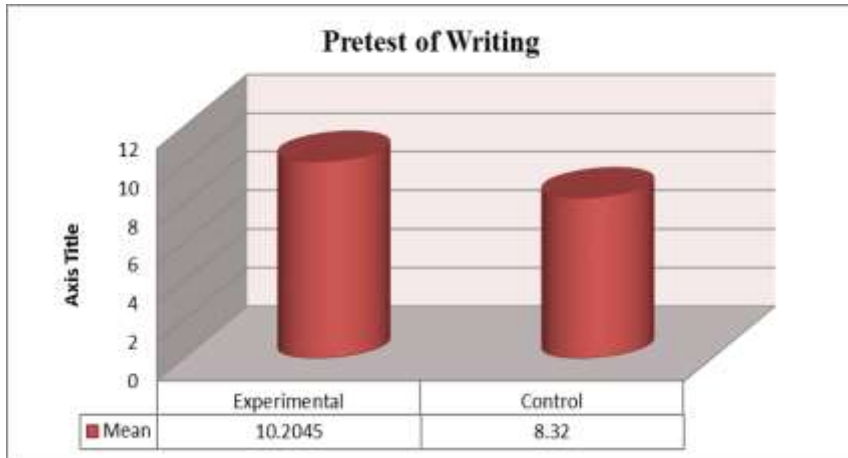


Figure 3: Pretest of writing by groups

4.5 Posttest of Writing

An independent t-test was run to compare the mean scores of the experimental and control groups on the posttest of writing in order to probe if building formal schemata had any significant effect on the improvement of the writing proficiency of the experimental group. As displayed in Table 7, the Levene's F-value of .09 is not significant ($p = .76 > .05$). Moreover, the t-observed value is 4.46 (Table 7). This amount of t-value is higher than the critical value of 2 at 45 degrees of freedom. Based on these results, there is a significant difference between the experimental and control groups' mean scores on the posttests of writing. As a result, it can be concluded that the null-hypothesis, stating that building formal schemata does not have any significant impact on the writing achievement of Iranian EFL learners, is rejected. In other words, the experimental group outperformed the control group on the posttest of writing after receiving the treatment. Therefore, it can be claimed that building formal schemata significantly affected the writing performance of the experimental group.

Table 7: Independent t-test for posttest of writing by groups

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Equal variances assumed	.090	.765	4.463	45	.000	4.06364	.91054	2.22972	5.89756
Equal variances not assumed			4.473	44.574	.000	4.06364	.90858	2.23317	5.89410

Table 8 and Figure 4 display the mean scores for the control ($M = 9.80$) and experimental ($M = 13.86$) on the posttest of writing.

Table 8: Descriptive statistics for posttest of writing by groups

GROUP	N	Mean	Std. Deviation	Std. Error Mean
EXPERIMENTAL	22	13.8636	3.05965	.65232
CONTROL	25	9.8000	3.16228	.63246

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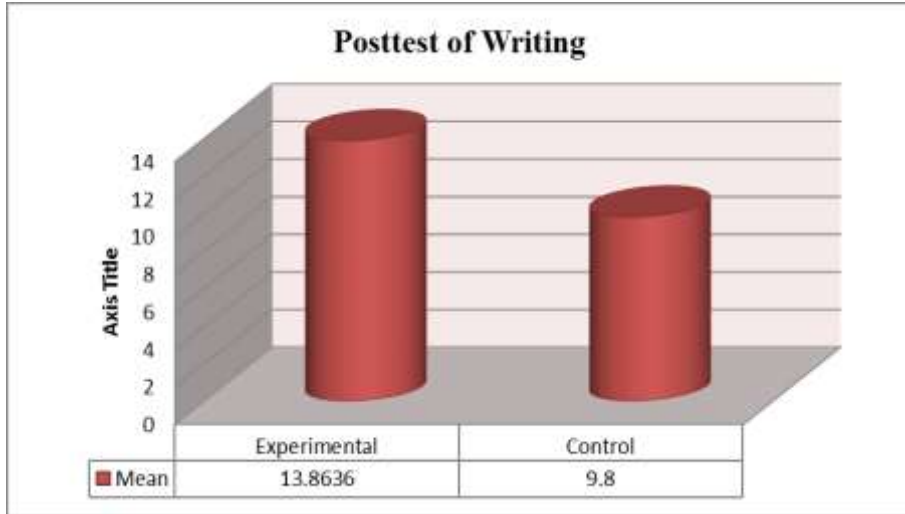


Figure 4: Posttest of writing by groups

4.6 Inter-Rater Reliability

The inter-rater reliability for the two raters who rated the students’ writings on the pretests (Table 9) is .85 ($P = .000 < .05$). These results indicate a high and statistically significant agreement between the two raters on the pretests of writing.

Table 9: Inter-rater reliability for pretests of writing

		PRETEST. R2
PRETEST. R1	Pearson Correlation	.854**
	Sig. (2-tailed)	.000
	N	47

** significant at .01

In addition, the inter-rater reliability for the students’ writings on the posttests (Table 10) is .93 ($P = .000 < .05$). These results show a statistically significant agreement between the two raters on the posttests of writing.

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Table 10: Inter-rater reliability for posttests of writing

		POSTTEST.
		R2
POSTTEST.	Pearson Correlation	.937**
R1	Sig. (2-tailed)	.000
	N	47

**.

Correlation is significant at the 0.01 level (2-tailed).

5. Discussion

In an attempt to minimize the difficulties of EFL learners with the rhetorical structure of written tasks, this study tried to examine the effectiveness of building formal schematic background knowledge on the improvement of learners' writing skill. According to the obtained results, the performance of the subjects in the experimental group was significantly better than that of the control group, supporting the argument that if the learners are exposed to organizational structure of different types of texts, their writing skill will improve.

The findings indicate that the treatment enabled the experimental subjects to recognize the discourse types and to use them in their writing tasks. After training, the experimental group significantly increased in the proportions of those who recognized and used the text's top-level organization. The posttest writing scores of the experimental group reflect their familiarization with the communicative purposes, rhetorical structures, and linguistic features that realize those structures. Therefore, it can be interpreted that text analysis is an important means for building formal schemata and improving writing skill. This is consistent with the findings of the previous related studies conducted by Hinds (1990), Reid (1996), and Swales (1990).

Some scholars have also suggested the same; for instance, according to Swales and Feak (2004) familiarity with different types of text will help reader and writer to exchange information

satisfactorily, and EFL learners need to practice different discursual functions to construct good, clear pieces of writing. They further state that readers have certain expectations about the content, structure, and development of different types of written texts. These expectations are used by both writers and readers in composing and reading, and when they coincide, clarity and comprehension are facilitated. As a result, comparing characteristics of text types helps the learners to succeed matching the reader's with the writer's expectations. In addition, Swales (1990) believes that familiarity with different genres can influence writing by providing access to an organized schema in long-term memory.

The findings of the current study also demonstrate that explicit, overt teaching of top-level rhetorical organization of texts can improve students' writing performance. Accordingly, it can be interpreted that the structure of a text is important and learners should be exposed to samples of different types of writing if they are to produce coherent texts. This interpretation is consistent with Meyer's (1982) research which suggests that "giving the students explicit instruction in how to structure texts differently according to particular purposes should lead to more effective written communication" (cited in Carrell, 1987b, p. 14).

A number of other researchers have supported the findings of the present study and shown that formal schematic knowledge has a marked effect on writing performance. For instance, Carrell (1985) illustrated that building or activating formal schemata is as important as content schemata in comprehension and production of written texts. Furthermore, Ramos (2010) conducted a study to determine whether the three strategies--schema activation, summarizing, and critical evaluation--predict writing proficiency. She found that, of the three, the technique that had the highest strength of relationship to writing proficiency was the technique of schema activation. She concluded that "the technique of schema activation has the most marked correlation with writing proficiency when compared to summarizing and critical evaluation. This supports the argument that formal schema contributes to writing development" (p. 36). And

finally, the pedagogical implications drawn from the findings of this study are in line with Hyland's assertion that knowledge of text type, genre, and generic features work as powerful pedagogical tools for improving writing skill (Hyland, 2008).

Usefulness of constructing formal schemata in teaching writing is the major outcome of this study. The findings clearly demonstrated that formal schema construction could benefit university students at the upper-intermediate level of English proficiency. Considering the resultant outcomes of the present study, there is no doubt in the correspondence of its findings to what has been found in the previous researches mentioned above.

At the end, it is important to stress that the EFL students need to construct appropriate formal schemata in academic writing, and one way to do this, as the present study suggested, is teaching rhetorical organization of different genres and text types in EFL writing courses.

6. Conclusion

Based upon the obtained results in previous sections, the researchers found that although both groups had improved in their writing performance, the experimental group outperformed the control group. In other words, the study reported a significant increase in writing performance of the experimental group due to the increased familiarity with the rhetorical organization of the texts. In fact, it was observed that the students who possess the appropriate formal schemata performed better on writing tasks, although to differing degrees.

The results of this study confirm that exposure to organizational structure of the texts improves the learners' writing skill and at the same time prepares them to analyze any text on the basis of text structure, as well as their formal schematic knowledge. In other words, the more subjects become familiar with how to use text structures, the better they will perform in writing courses.

Moreover, the results implies that studying text patterns, that is, discourse analysis, can help EFL learners develop a set of essential skills to use appropriate patterns for written communication, and decide when to use them. A further conclusion which can be drawn from this study is that since there had been constant supervision on the part of the teacher, the learners felt a strong sense of support. Such a state of mind is generally facilitative in language instruction and learning.

In short, what the present study can suggest is that writing skill can be improved via different ways, one of which is familiarity with the text structure or the formal schematic knowledge.

This study took into account just one of the factors in developing the writing skill, namely formal schematic knowledge, and it showed clearly that how formal schema can be a useful tool to apply to the demands of the writing courses. However, none of the research findings are absolute. Teachers have to be flexible in selecting teaching techniques, because adhering to one approach will not solve all the problems of their students. Teachers have to be creative and sensitive to such other variables as the learners' attitude, their background knowledge, as well as the situation of learning, and try to modify their teaching methods according to the needs of the learners.

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