

## Incorporation of Discourse Coherence Strategies into Writing Skills Instruction

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### Abstract

Discourse, as an object being studied nowadays in many disciplines of humanity and social sciences, plays a special role in applied linguistics, in both theory and practice. It is characterized mainly by cohesion and coherence; the former is created by some cohesive devices while the latter is established using certain strategies rarely incorporated into and investigated in language skills development. Therefore, this study is concerned with investigating the effect of discourse coherence strategies incorporated into writing instruction on developing writing skill. To this end, 50 Iranian female EFL learners assigned in 5 groups (4 experimental, 1 control) were exposed to four coherence-based strategies, including: 1) Given/New Strategy (GNS), 2) Direct Matching Strategy (DMS), 3) Bridging Strategy (BRS), 4) Reinstating Old Information Strategy (ROIS), 5) Control group conventional instructions of writing skills, respectively. Results of the One-Way ANOVA statistical analysis revealed that using discourse coherence-based strategies in the classroom, compared to mainstream instruction, can more significantly enhance writing ability of EFL learners. In parallel, the Give and New strategy-based instruction proved to be the most effective in developing the target skill. However, cross-strategically, no significant difference was seen among the investigated discourse coherence-based strategies. The findings offer pedagogical implications for L2 practitioners, teachers, materials developers, and autonomy seeking learners. They also provide further research insights in teaching writing beside all other language skills.

### Keywords

Discourse; Coherence Strategies; Writing Discourse; Discourse Instruction

## 1. INTRODUCTION

Discourse has been addressed from various vantages and approached differently. However, Carroll defines it very simply and clearly as “units of language larger than the sentence” (2008, p. 158), characterized mainly by cohesion and coherence. Halliday and Hassan (1976, p. 230) identify cohesion as “the range of possibilities that exist for linking something with what has gone before”,

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and Carroll (2008) approaches coherence as “the degree to which different parts of a text are connected to one another” (p. 423). In other words, coherence is a feature of language which makes chunks of language standing as self-contained units distinguished from random collections of utterances.

The importance of discourse, as Carroll (2008) notes, is because of three main reasons: First, because “we rarely speak in isolated sentences, discourse seems to be a more natural unit of language to investigate” (p.158). Likewise, sentences can be ambiguous or obscure in terms of discourse. Hence, understanding discourse structure is necessary to appreciate sentence processing. Finally, because discourse provides rich source materials for those interested in how language works cognitively. Discourse is understood to be any set of statements - oral or written - interconnected in such a way as to generate a structured verbal fabric to build a unit of global meaning (van Dijk & Kintsch, 1983).

Features of discourse are realized and established differently so that discourse can be meaningful. Cohesion as an “abstract underlying semantic notion denoting the overt surface linkage obtaining between sentences and parts of texts within a given discourse” (Halliday & Hassan, 1976, p. 229) is realized through cohesive devices. While, coherence, is created by a number of strategies such as Given information, Given/New Strategy, Direct matching, Bridging, reinstating old information, and Identifying New Topics of discourse (Carroll, 2008, pp. 162-165).

*Direct Matching* is a process where new information in a target sentence is directly matched to antecedents in a context sentence. Once we have this information, we attach it to the sentence (Carroll, 2008, p. 163). *Given Information* refers to a type of information provided by the speaker or author when presuming that the reader already knows about it, whereas new information assumes that the reader doesn't know anything (Carroll, 2008, p. 162). Given and New Strategy is more concerned with the fact that the purpose of understanding a sentence in discourse context is accomplished through three stages, namely: “1. identifying the given and new information in the current sentence. 2. Finding an antecedent in memory for the given information. 3. Attaching the new information to this spot in memory” (Carroll, 2008, p. 162). *Reinstating Old Information* refers to the information in the background (Carroll, 2008, p. 164). It is simply a process of activating the background to facilitate the foreground which altogether make the comprehension easier.

It is believed that discourse processing revolves around four main aspects, as follows: First, there are a whole set of processes responsible for identifying the exact content of the clauses and sentences that makes up the text itself. Second, there are processes connecting the actual words in the text with the ideas, objects, or events they refer to, called referential processes. Third, there are processes responsible for connecting the different pieces of the text to one another; these are the processes that establish textual cohesion or coherence. Finally, there are processes responsible for building a representation of what the text is about (Traxler, p.188). However, all these interrelated processes can be approached by Walter Kintsch's construction- integration theory, Morton Ann Gernsbacher's structure building framework and Rolf zwaon's event indexing model (Traxler, 2011).

*Constructor- integration Theory*: The main goal of the construction- integration system is to build a situation model describing relevant aspects of what a text is about. The system builds a surface form representation, converts that to a text-base, and then builds a situation model that reflects the contents of the text-base combined with information from general world knowledge. A surface form representation is built, propositions are extracted, and knowledge is activated to the degree associated with the words in the text and the activated propositions (Tabossi, 1988, cited in Traxler, 2011). *Structure-Building Framework*: suggested by Gernsbacher (1990 as cited

in Traxler, 2011), this theory “explains how comprehends build mental representations of extended discourse”. The *Event Indexing Model* (EIM) is first and foremost a theory about how people build situation models from narrative texts. According to the EIM, the purpose of discourse comprehension system is to understand the “goals and actions of protagonists... and events that unfold in the real world or some fictional world” (Zwaan et al., 1995, p.292 in Traxler, 2011).

### Cohesion and Coherence in Focus

According to Halliday and Hassan (1976), “texture involves more than the presence of semantic relations we refer to as cohesion” (p. 23). In addition, “texture involves much more than merely cohesion. In the construction of text, the establishment of cohesive relations is a necessary component. However, it is not the whole story” (p. 324). Cohesion is a system in itself, yet being only one component of the complex set of relations that accumulate to form texture or coherence. A text is a semantic unit composed of sentences linked by cohesive ties. Cohesive ties are defined by a dependency between two elements separated by at least one sentence boundary. The function of cohesion is to link linguistic elements across sentences to distinguish text from context. “How an edifice is constructed” is what determines cohesion according to Halliday and Hassan (1976, p. 26). An example of this is the text “Ali had been feeling depressed lately. He committed suicide yesterday”. In this case, “he” is understood to refer to “Ali”. In terms of textual structure, this textual linkage makes these two sentences “a unified whole”, or a text. The first sentence and the second sentence are called cohesive because the subject matter of the first sentence is continued in the second sentence. Therefore, “cohesive relations are classified into five main types: reference, lexical, conjunction, substitution, and ellipsis” (Meurer, 2003, p. 149).

### Strategy and Discourse Strategies

**Strategy:** Oxford (2003) defined language learning strategies as “specific actions taken by learners to make learning easier, faster, more enjoyable, more self- directed, more effective and more transferable to new situations” (p.8). More technically and academically, “it involves optimal management of troops, ships or air-crafts in planned campaign” (Abbasian, Birjandi and Mirhassani, 2006, cited in Oxford, 1990, p. 7). This implies that teaching by itself is a strategic action in which teacher makes a lot of strategic and on-the-spot decisions depending on the situational expediencies, i.e., teaching resembles the decisions a war commander makes in battle front; sometimes attacks, sometimes withdraws or even under certain circumstances he may conceal his troops for optimal commandment.

As a result of discourse comprehension research, four main strategies have been identified useful for understanding and memorizing discourse, including *Actively Processing Discourse*, *Connecting Propositions in Discourse*, *Identifying the Main Point*, *Building Global Structures*, and *Tailing Comprehension* Activities to Tests. According to Carroll (2008), *Actively Processing Discourse* “refers to a collection of activities that includes relating new information to information we have in permanent memory, asking questions of the material, and writing summaries or outlines of the material”. *Connecting Propositions in Discourse* refers to a situation in which “sentences overlap in content and the given information is used to introduce new information” (pp. 185-7). Carroll adds that “all of this implies that we would benefit from a strategy of explicitly looking for relationships between concepts in discourse. This includes such actions as paying close attention to anaphoric references and noting where inferences have to be drawn. This strategy leads to several beneficial results” (187). *Identifying the Main Point* is more concerned with macro level of discourse as paying attention to the local structure of discourse helps relatively (Curran, Kintsch & Hedberg, 1996). In the same vein, *Building Global Structures* focuses on the importance of detecting important points even when they are not explicitly marked (Fletcher, 1994). Finally,

*Tailing Comprehension* Activities to Tests is a principle dealing with any attempts to match the types of comprehension activities to the types of exams one takes (Tulving & Thomson, 1973, as cited in Carroll, 2008).

Discourse features realisation may be a function of language skill types as each skill, despite some similarities, is featured specifically as well. Skills like reading (Abbasian & Nalkoubi, 2018) and speaking have been addressed to some extent. However, writing and listening skills have been relatively left intact.

Effective writing instruction includes strategy training, providing support system, and teacher response. Teaching and learning writing is a daunting task for learners who are learning a language as a second or foreign language. As Ruan states, leaning how to write requires “much more than technical achievement in orthography, vocabulary, and syntax” (2014, p. 80). Having the ability of putting thoughts and ideas into words in a foreign/ second language in an accurate and coherent way is a great success (Celce-Murcia, 2014). Therefore, teaching writing to both native and non-native speakers of English is known as a valuable endeavor.

Writing can be known as an interactive process between the writer and the reader through the text (Olshtain, 2001). Therefore, as a communicative activity, writing needs to be developed during language teaching. Additionally, as a social phenomenon, it should be counted as a collaborative skill (Ede & Lunsford, 1992). Kellogg (2001) considered writing as a cognitive task, requiring a test of memory, language, and thinking ability simultaneously.

On developing skills, it is argued that teaching discourse focuses on “the skills needed to put the knowledge into action and to achieve successful communication.” (Cook, 1989, viii). In addition, “discourse analysis provides a new window toward teaching and learning oral language” (Wu, 2013, p. 88). Furthermore, Khabiri and Hajimaghsoodi (2012) found that discourse analysis-based instruction has a significant effect on EFL learners’ reading comprehension. Contrary to a rich literature on discourse, majority of the studies revolve around discourse analysis. There are rare empirical studies implementing discourse features in practice to develop language skills and their components.

Considering the importance of writing skill, the main problem addressed revolves around the widely researched but less explored areas of learning-teaching strategies. It has long been believed that effective language learning requires the use of learning strategies. Language Learning Strategies (LLSs) have been extensively studied (e.g., Rubin, 1987; Stern, 1975; Naiman et al., 1978; Oxford & Nyikos, 1989).

### **Writing Skill: Nature and Structure**

Writing is an interactive process between the writer and the reader through the text (Olshtain, 2001). Therefore, this skill, as a communicative activity, needs to be developed during language teaching. Writing, as a way of communication, goes beyond orthographic signs for speech, in that the writer should predict the reaction of the reader and try to supply them with a text relevant to Grice’s (1975) cooperative principle. By taking into account this principle, an effective piece of writing should be produced in a clear, relevant, informative, and interesting way. On the other hand, the reader should interpret the text through the writer’s intention. As a result, to make a piece of writing more communicative, some elements such as linguistic accuracy, clarity of presentation, and organization of ideas should be considered as well (Olshtain, 2001). Learning strategies have been explored explicitly through the use of a communicative philosophy oriented toward teaching learners how to learn and empowering them to become independent and autonomous learners (Wenden & Rubin, 1987). In other words, teaching and strategies are two sides on one coin in that teachers try to find their teaching strategies on the learners’ learning strategies. This notion, as being discussed in the following section, holds true with teaching writing skill.

## Teaching Writing Strategies

It has been demonstrated that students can become better language learners when knowing language learning strategies. There have been some early studies suggesting that successful students employ a number of learning strategies when they learn a second/ foreign language (Naiman, Fröhlich, Stern, & Todesco, 1996). As discovered by O'Malley and Chamot (1990), effective L2/FL learners are aware of the types of learning strategies they employ. A student attempts to integrate new knowledge into existing knowledge based on Ausubel's (2000) theory of meaningful learning. When learners integrate knowledge, they are able to find more paths to retrieve it since they have a larger network of knowledge. Strategy training entails three approaches: "[It is a] learning strategy training program intended to improve the effectiveness of learners". It can be done 1) explicit or direct training, 2) embedded strategy training, and 3) combination strategy training (O'Malley & Chamot, 1990, p. 355).

Using data from lower secondary students in Years 5 and 8 ( $n = 868$ ) in Hungary, Habók and Magyar (2018) examined the use of LLSs in relation to language attitudes, proficiency and general school performance. The results of their study revealed that Hungarian students were mostly engaged in metacognition in both years. Furthermore, more proficient language learners and those with less proficiency used different strategies. Charoento (2017) investigated Thai EFL learners' strategies and how individual differences, including gender and level of English proficiency affected their use of language learning strategies. The study revealed that compensation strategies were most commonly used, while cognitive strategies were least common. Moreover, compared to male participants, the female ones used all six strategy categories more frequently. The results also showed that their proficiency in English was positively correlated with their use of metacognitive strategies. Nasihah and Cahyono (2017) investigated the correlation between LLSs and writing achievement and motivation.

Shifting from learning strategies in general to what makes a discourse coherent can also be attributed to employing and using a number of discourse coherence strategies. Language production and comprehension can be realized in the light of discourse strategies; however, their pedagogical values have rarely been subject to empirical investigations in developing language skills in general and promoting writing skill in an EFL setting in particular.

Regarding the purpose of teaching learning strategies, it is argued that the goal is "to enable learners attain a specific learning goal and accomplish a task more easily" (Rubin, 2013). Thus, exploring and identifying discourse strategies in general and those of coherence in particular can be considered along with LLS as their pedagogical applications seem to facilitate the development of writing ability as LLSs do. However, despite Carroll's (2008) emphasis on the role of general discourse strategies in improving comprehension and memory, few studies (e.g. Coertze, 2018, Shaw & McMillion, 2008, Watanabe, 2003, Cekiso, Tshotsho, & Somniso, 2016) have been done in the literature on the role of the coherence strategies. In other words, the effect of focusing on discourse coherence strategies while teaching on the development of writing performance is unclear. Moreover, the difference in the extent of such an effect while focusing on different strategies requires investigations. Solidly, these points can be realized in the form of the following research questions:

*RQ1.* Is discourse coherence strategy-based instruction more significantly effective than conventional teaching in developing EFL learner's writing ability?

*RQ2.* Are there any significant differences among the discourse coherence strategies-based (Given & New; Direct Matching; Bridging; and Reinstating Old Information strategies) instructions in developing learners' writing ability?

## 2. METHOD

### Participants

The participants of this study were 50 Iranian female intermediate EFL learners whose age ranged from 15 to 40 years old, selected out of 80 learners based on an Oxford Placement Test (OPT). Then, they were assigned into five groups of 10 learners, four experimental and one control group.

### Instrumentation

Oxford Placement Test (OPT): A version of OPT possessing ( $r=809 > 0.05$ ) as its reliability index was administered whereby 50 relatively homogenous learners were selected.

*Researcher-made Writing Pre-test and Post-test:* To test the writing ability of the learners before and after the course, a writing pre-test and post-test were used. The tests were designed based on Top Notch Third Edition as a course book. Each test was composed of two tasks the learners had to write about for at least 120 words. For assessing the writing tests, a Cambridge FCE rubric was used. The reliability of the writing pretest and posttest was also calculated through investigating the parallel from correlational analysis ( $r=704$ ).

### Procedure

The sample first received OPT followed by the Writing pretest. Then, they were randomly divided into four experimental groups corresponding to the number of the coherence strategies and one control group.

For the first experimental group, writing instruction based on Given/New Strategy (GNS) was used as a discourse strategy. In this group, the learners went through mainly understanding the sentences in a discourse context with three sub-processes or stages, including: 1) identifying the given and new information in the current sentence, 2) finding an antecedent in memory for the given information, and 3) attaching the new information to this spot in memory. Therefore, they were helped to go ahead with these three processes in the course of the writing task.

For the second experimental group, the writing instruction based on Direct Matching Strategy (DMS) was used. In working with this group, first, attempts were made so that the group members could identify the given and new information in topics provided for them for writing and directly match them to an antecedent in the context sentence. Then, they were encouraged and helped to search their memory for a previous reference to any target lexical items and find them in the context sentence. Finally, the information related to the topic was attached to each.

For the third group, writing instruction was done based on Bridging Strategy (BRS). In this group, attempts were made to raise the participants' attention to the situations in which there were no direct antecedents for the given information in the text while the hidden antecedents could tie the sentences together. The learners were helped to make bridging inferences to understand the inter-sentence and intra-sentence relationships.

Finally, for the fourth group, the writing instruction based on Reinstating Old Information Strategy (ROIS) was used. In working with this group, attempts were made to activate the information available in the learners' background or the foreground. An example of this is as follows:

I am trying to find a black dog.  
He is short and has a dog tag on his neck that says Fred.  
Yesterday that dog bit a little girl.  
She was scared but she wasn't really hurt.  
Yesterday a black dog bit a little girl  
It got away and we are still trying to find it.

However, what was different for the control group was that they received the conventional teaching of writing skill based on the writing section of the Top Notch course book as assigned by the Institute. After the treatment, the writing post-test was administered to measure the achievement.

### 3. RESULTS

#### Homogeneity Measures

Initially, out of 80 learners, those whose scores lied between with -1 and +1 standard deviation were placed as the subjects of the study as a homogenous sample.

**Table 1: Descriptive Statistics of OPT Scores**

			Statistic	Std. Error
OPT	Mean		46.4714	1.03154
	95% Confidence Interval for	Lower Bound	44.4136	
		Upper Bound	48.5293	
	5% Trimmed Mean		46.4603	
	Median		47.0000	
	Variance		74.485	
	Std. Deviation		8.63045	
	Minimum		33.00	
	Maximum		60.00	
	Range		27.00	
	Interquartile Range		16.25	
	Skewness		-.010	.287
	Kurtosis		-1.284	.566

**Table 2: Tests of Normality of Pretest Scores**

Group	Kolmogorov-Smirnov-Shapiro-Wilk				
	Statistic	df	Sig.	Statistic	df Sig.
Given & New	.236	10	.120	.886	10.151
Direct Matching	.189	10	.200*	.891	10.172
Pretest Bridging	.136	10	.200*	.923	10.384
Reinstating Old Information strategies	.228	10	.149	.864	10.086
Control Group	.157	10	.200*	.907	10.261

\*. This is a lower bound of the true significance.  
a. Lilliefors Significance Correction

#### Testing The Normality Assumptions

To carry out the one-way ANOVA procedure, the assumptions of normality of the data and homogeneity of variances are necessary to be tested. Therefore, they were tested before conducting the main analysis. If the assumptions are met, carrying out the one-way ANOVA is possible as a parametric test of analyzing the data. The following table shows the normality of the data.

**Table 3: Test of Homogeneity of Variances of Pretest Scores**

		Levene Statistic	df1	df2	Sig.
Pretest	Based on Mean	1.581	4	45	.196
	Based on Median	1.642	4	45	.180
	Based on Median and with adjusted df	1.642	4	37.141	.184
	Based on trimmed mean	1.622	4	45	.185

As presented in Table 2 above, the Shapiro-Wilk statistics shows that there is no significant value and all the significant values presented in the Sig. column are above 0.05. This means that the pretest data are normally distributed. Therefore, this assumption is met. The other assumption was the homogeneity of variances, presented in the following table.

Table 3 above shows that there is significance value ( $> 0.05$ ), which indicates that there is homogeneity between the variances of the five groups in pretest. Therefore, this assumption is also met for the pretest. Furthermore, the same procedure was run on posttest scores, the normality of which is presented in Table 4 below.

**Table 4: Tests of Normality of Posttest Scores**

Group	Kolmogorov-Smirnova			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Given & New	.285	10	.020	.893	10	.183
Direct Matching	.161	10	.200*	.949	10	.662
posttest Bridging	.212	10	.200*	.889	10	.163
Reinstating Old Information strategies	.214	10	.200*	.902	10	.228
Control Group	.140	10	.200*	.950	10	.666

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

Table 4 above indicates that the data are normally distributed for the posttest with significant values for the group. Therefore, this assumption is also met for the posttest. The following table shows the homogeneity of variances of the results in the posttest.

Based on Table 5, it can be seen that the variances are homogeneous in the posttest. The significance value supports the hypothesis, and therefore the assumption of homogeneity is met for posttest.

**Table 5: Test of Homogeneity of Variances of Posttest Scores**

		Levene Statistic	df1	df2	Sig.
posttest	Based on Mean	.152	4	45	.961
	Based on Median	.154	4	45	.960
	Based on Median and with adjusted df	.154	4	38.570	.960
	Based on trimmed mean	.143	4	45	.965



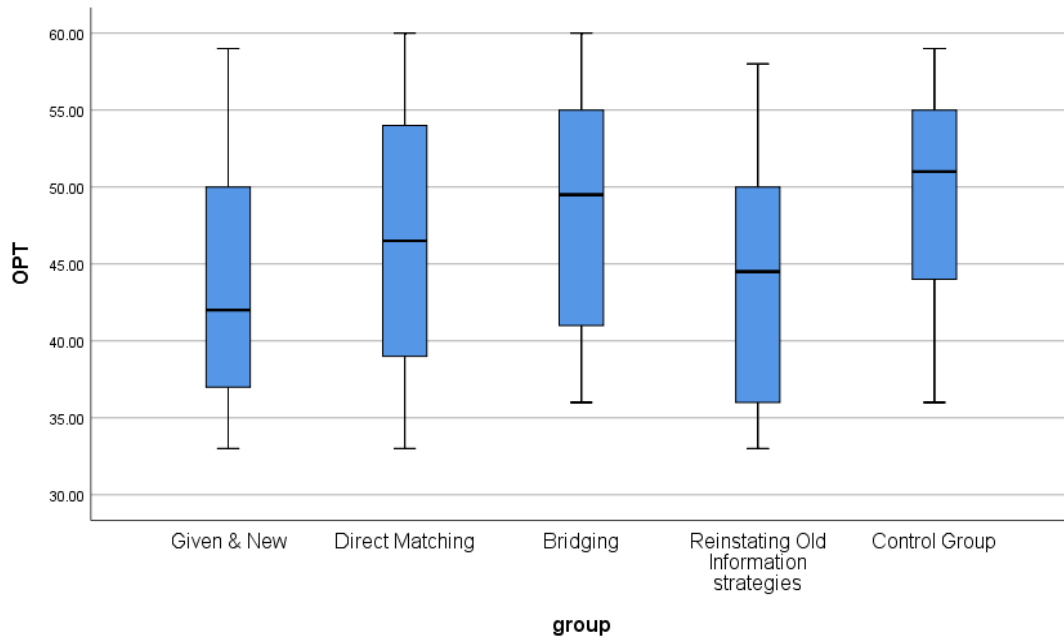


Figure 1: Box Plot of OPT Scores

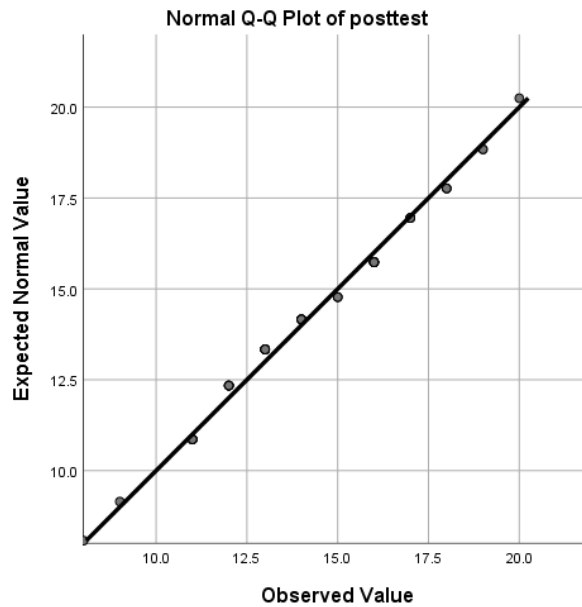


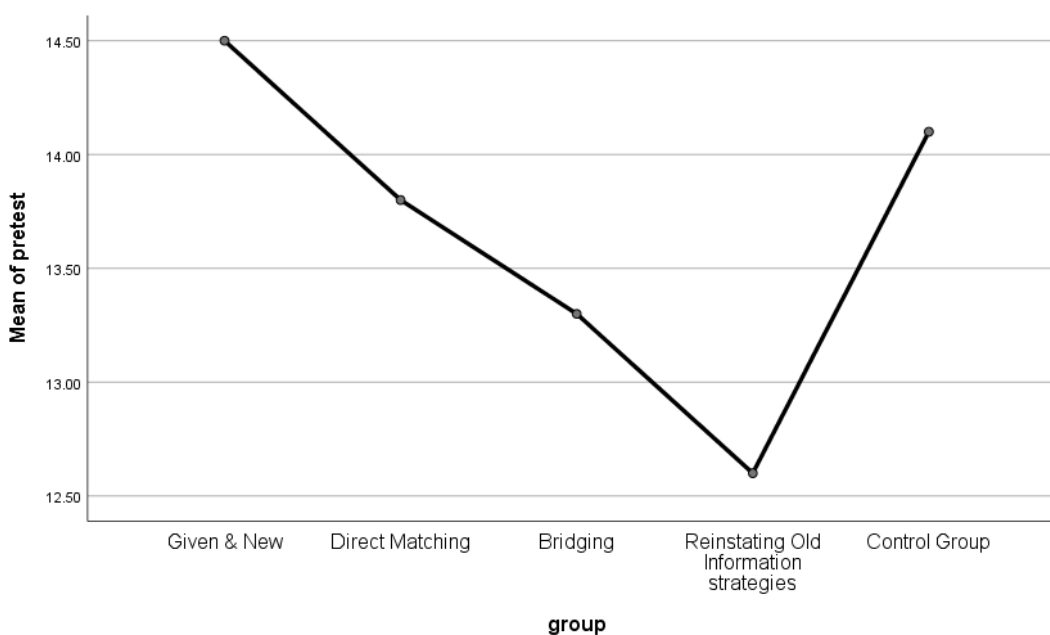
Figure 2: Normal Q-Q Plot of Posttest Scores

**Pretest Results**

After the assumptions of the one-way ANOVA were met, the test was run on the pretest results to make sure that the groups did not have significant difference with each other in terms of writing. The descriptive results of the test are presented in Table 6 below.

**Table 6: Descriptive Statistics of Pretest Scores**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Given & New	10	14.50	1.43	.45	13.47	15.52	12.00	16.00
Direct Matching	10	13.80	2.74	.86	11.83	15.76	10.00	17.00
Bridging	10	13.30	2.83	.89	11.27	15.32	9.00	17.00
Reinstating Old Information strategies	10	12.60	2.63	.83	10.71	14.48	9.00	16.00
Control Group	10	14.10	2.72	.86	12.14	16.05	9.00	17.00
Total	50	13.66	2.51	.35	12.94	14.37	9.00	17.00



**Figure 3: Means Difference Plot of Pretest Scores**

Table 6 shows the descriptive statistics such as mean, standard deviation, minimum and maximum of scores in all five groups. The mean score of the Given & New group was 14.5, the mean of Direct Matching was 13.8, the mean of Bridging group was 13.3., the mean of Reinstating Old Information strategies group was 12.6, and the mean of control group was 14.1. To see if these mean differences are significant, the one-way ANOVA test in Table 7 shows the results.

**Table 7: ANOVA of Pretest Scores**

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	21.720	4	5.430	.850	.501
Within Groups	287.500	45	6.389		
Total	309.220	49			

As shown in Table 7 above, there is no significant difference among the five groups and the Sig value is 0.501. Therefore, it can be concluded that the groups were not significantly different from each other in terms of writing before the treatment.

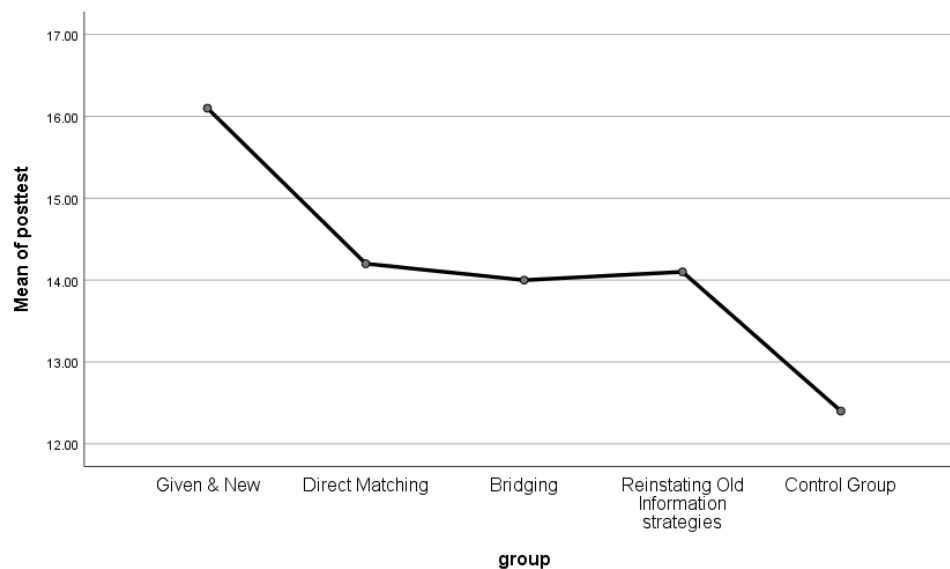
#### 4. INVESTIGATION OF THE RESEARCH QUESTIONS

RQ1: “Is discourse coherence strategy-based instruction more significantly effective than conventional teaching in developing EFL learner’s writing ability?” To investigate the two research hypotheses, a one-way ANOVA was run on the posttest results. The descriptive analysis of the results is presented in Table 8 below.

Table 8 shows the descriptive statistics such as mean, standard deviation, minimum and maximum of scores in all five groups. The mean score of the Given & New group was 16.10, the mean of Direct Matching was 14.20, the mean of Bridging group was 14, the mean of Reinstating Old Information strategies group was 14.10, and the mean of control group was 12.4. The results of the ANOVA test are as follows to see if there is a difference between the five groups.

**Table 8: Descriptive Statistics of Posttest Scores**

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Given & New	10	16.10	2.72	.86	14.14	18.05	11.00	20.00
Direct Matching	10	14.20	2.25	.71	12.58	15.81	11.00	19.00
Bridging	10	14.00	2.26	.71	12.38	15.61	11.00	17.00
Reinstating Old Information strategies	10	14.10	2.80	.88	12.09	16.10	11.00	19.00
Control Group	10	12.40	2.63	.83	10.51	14.28	8.00	16.00
Total	50	14.16	2.71	.38	13.3	14.9	8.00	20.00



**Figure 4: Mean Difference of Posttest Scores**

Table 9: ANOVA of Posttest Scores

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	68.920	4	17.230	2.657	.045
Within Groups	291.800	45	6.484		
Total	360.720	49			

As shown in Table 9 above, the difference between the mean score of the five groups is significant as indicated in Sig. value ( $p = .045$ ). This significant value shows that there is a significant difference between the five groups. However, these results do not show exactly where the difference was. To find the exact differences between the five groups, they were compared to each other in pair-wise comparisons through a post-hoc test. The post-hoc test of Scheffe was also carried out, the results of which is presented in Table 10 below.

As shown in Table 10 above, there was a significant difference between the results of the control group with only one of the experimental groups which was the Given and New group. However, no significant difference was found in the results of the other groups with each other. In other words, the mean difference between the control group and Given and New group was significant ( $p = .04 < .05$ ).

Table 10: Multiple Comparisons Scheffe Test

Dependent Variable: post-test						
Scheffe						
(I) group	(J) group	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Given & New	Direct Matching	1.9	1.13	.59	-1.75	5.55
	Bridging	2.1	1.13	.50	-1.55	5.75
	Reinstating Old Information strategies	2.0	1.13	.55	-1.65	5.65
	Control Group	3.7*	1.13	.04	.04	7.35
Direct Matching	Given & New	-1.9	1.13	.59	-5.55	1.75
	Bridging	.2	1.13	1.00	-3.45	3.85
	Reinstating Old Information strategies	.1	1.13	1.00	-3.55	3.75
	Control Group	1.8	1.13	.64	-1.85	5.45
Bridging	Given & New	-2.1	1.13	.50	-5.75	1.55
	Direct Matching	-.2	1.13	1.00	-3.85	3.45
	Reinstating Old Information strategies	-.1	1.13	1.00	-3.75	3.55
	Control Group	1.6	1.13	.74	-2.05	5.25
Reinstating Old Information strategies	Given & New	-2.0	1.13	.55	-5.65	1.65
	Direct Matching	-.1	1.13	1.00	-3.75	3.55
	Bridging	.1	1.13	1.00	-3.55	3.75
	Control Group	1.7	1.13	.69	-1.95	5.35
Control Group	Given & New	-3.7*	1.13	.04	-7.35	-.04
	Direct Matching	-1.8	1.13	.64	-5.45	1.85
	Bridging	-1.6	1.13	.74	-5.25	2.05
	Reinstating Old Information strategies	-1.7	1.13	.69	-5.35	1.95

\*. The mean difference is significant at the 0.05 level.

In conclusion, the first null hypothesis, “coherence strategy-based instruction is not more significantly effective than conventional teaching in developing EFL learner’s writing ability” **was rejected**, meaning that there IS a significant difference.

The second null hypothesis, indicating that “there are not any significant differences among the discourse coherence-based strategies (Given & New; Direct Matching; Bridging; and Reinstating Old Information strategies) instructions in developing writing ability”, was also checked using the same analysis for the first research question.

The results of the statistical analysis showed that the second null hypothesis was **approved**, meaning that there is no significant difference between the four experimental groups in writing. The statistics revealed that although the means of the four experimental groups were slightly different from each other, this slight difference was not significant. Therefore, it can be concluded that there is no significant difference among the discourse coherence-based strategies (Given & New; Direct Matching; Bridging; and Reinstating Old Information strategies) instructions in developing writing ability.

## 5. DISCUSSION

This study found that coherence strategy-based instruction is more significantly effective than conventional teaching in developing EFL learner’s writing ability. Results also revealed that the mean difference between the control group and the Given and New strategy group was significant. In fact, it was the only group that had significantly higher performance in writing ability.

In a similar study, Liu and Qi (2010) conducted a pilot empirical study to examine the deficiency of textual cohesion and coherence reflected in genre-based English abstract production of the engineering discourse by most Chinese English as a Foreign Language (EFL) advanced learners, using cohesive theory, text linguistics, and intercultural theory as the theoretical framework. The problems were addressed typically from the perspective of intercultural communication, aiming to help Chinese EFL advanced writers achieve effective communication in the interaction with International English readers (IE). They compared the data obtained from 30 abstracts written by Chinese advanced EFL writers and another 30 abstracts written by English as Mother Language (EML) writers in terms of structural cohesion and non-structural cohesion. The contractive results of their study showed that Chinese and English were surprisingly different in strategies of cohesion and coherence, and that the major cohesive and coherence errors made repetitively by most Chinese EFL respondents were more associated with their cultural transfer as fossilization.

In another study, Greenfield and Subrahmanyam (2003) described the way participants in an online chat room carried out chat features to secure coherence and establish a new register. They suggested two requirements for coherence in their study, namely ‘conversation interlocutors and response components’. Their study revealed that the visual aspects of the chat channel helps participants modify communication strategies and make new set of strategies. These findings yield support to the findings of the present study in that the positive effects of the independent variables may be attributed to the notion of ‘*secure cohesion*’ as happened in Greenfield and Subrahmanyam’s study.

Furthermore, Leo (2012) conducted a study in which she examined how Chinese ESL learners used two types of cohesive devices on a standardized essay exam. The researcher conducted a discourse analysis of 90 first-year students’ expository writing samples to ascertain how factors such as first language (L1) and length of residence in Canada influenced a student’s ability to create cohesive and coherent writing. Her key writing variables to measure the academic writing proficiency were quantitatively analyzed to compare the expository writings. Results of her study indicated that synonymy and content words distinguished the writings of the Canadian-born

Chinese students from those of their later-arriving peers. A qualitative analysis of one Canadian-born Chinese students' essay revealed that a more flexible and contextualized approach to evaluating writing by long-term Generation 1.5 students is required to acknowledge fully the productive lexical and discourse strengths of these students.

By comparing and contrasting the results of the current study with those of the above-mentioned ones, it can be concluded that using coherence-based discourse approach to teaching writing is an effective strategy that can be used by the teachers. This can maximize the writing outcomes of the learners, which they have problems with (as stated in the Statement of the Problem). Therefore, these results can be discussed as supported by the previous literature regarding the effectiveness of discourse coherence-based strategies.

## 6. CONCLUSION

Based on the results of this research, using discourse coherence-based strategies in the classroom can increase the writing ability of EFL learners. In details, there was a significant difference between the results of the control group and one of the experimental groups which was the Given and New group. However, no significant difference was found in the results of the other groups with each other. In other words, the mean difference between the control group and the Given and New group was significant. In conclusion, the first null hypothesis, implying that “coherence strategy-based instruction is not more significantly effective than conventional teaching in developing EFL learner’s writing ability” was rejected, meaning that there IS a significant difference.

The second null hypothesis, indicating that “there are not any significant differences among the discourse coherence-based strategies (Given & New; Direct Matching; Bridging; and Reinstating Old Information strategies) instructions in developing writing ability” was also checked using the same analysis for the first research question. The results of the statistical analysis showed that the second null hypothesis was maintained, meaning that there is no significant difference between the four experimental groups in writing.

The statistics revealed that although the means of the four experimental groups were slightly different from each other, this slight difference was not significant. Therefore, it can be concluded that there is no significant difference among the discourse coherence-based strategies (Given & New; Direct Matching; Bridging; and Reinstating Old Information strategies) instructions in developing writing ability.

The findings of the current study can have a number of pedagogical implications for L2 institutes, teachers, curriculum designers and also materials developers. Second language institutes may benefit from the current study through its policy-making implications. They are suggested to maintain a more flexible view towards the use of discourse coherence-based strategies in their classes and allow their teachers to use the strategies and techniques to increase their L2 learners' writing skills.

Other beneficiaries of the findings of the current study, as stated above, are L2 teachers who are concerned with improving their students' writing. They are recommended to include discourse coherence-based strategies in their lesson plans and predict the areas of difficulty the learners may encounter, using discourse coherence-based strategies as facilitating tools for overcoming hurdles on the path of learning the target language. In other words, this study helps instructors to introduce techniques to students to improve their writing skills. In fact, it is the teacher's task to introduce suitable strategies and approaches to their students to help them solve their writing problems. By comparing the five strategies, teachers can understand the students' attitudes towards applying these strategies and can use them in their curricula to improve the students' writing skill.

Instructors can take advantage of the findings of this study by finding a teaching strategy that fits their learners the best at different proficiency levels.

Moreover, materials developers can also exploit the findings of the study in developing course books and other supplementary materials to be taught in language classrooms. Using discourse coherence-based strategies can be applied to course books to maximize learners' grasp of the materials taught in the classroom, especially writing skills, through using these strategies. By taking advantage of the findings of this study, they can become aware of the comparative effect of the four different techniques and use them properly.

Finally, this study may also help curriculum designers appreciate the importance of discourse coherence-based strategies to writing to improve the writing achievement of EFL learners. In other words, it helps them to find out which strategy develops the writing skill better in EFL learners. Curriculum designers can use the findings of this study and design curriculums that put emphasis on different techniques for the improvement of writing skill.

For the researchers who want to do research in this field, some suggestions are made based on the findings, limitations and delimitations of this research, as follows:

1. This study was conducted on 50 students with 10 students in each group due to the COVID-19 pandemic. Further research can be conducted on more students to maximize the validity and reliability of the studies.
2. This study was conducted only on female learners of EFL. In fact, the researcher chose only female learners in her study. Other research studies can investigate males and also examine the difference between males and females in this regard.
3. Regarding the level of the participants, this study only investigated the intermediate learners. It would be better for further studies to include other proficiency levels as well to compare the results across the different proficiency levels.
4. Among the skills and sub-skills that can be studied in this regard, this study was conducted only on writing skill. Therefore, further studies can investigate such discourse coherence-based strategies on other skills such as speaking.

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