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Enhancing Reading Comprehension and Recall through Explicit Teaching of Expository Text Top-Level Structure

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Abstract: This study investigated the effects of the explicit teaching of expository top-level structure on overall reading comprehension, structural comprehension, and immediate recall. 66 Moroccan freshmen students studying English as a foreign language volunteered to take part in the experiment and were assigned to either an experimental or a control group. They were pre-tested, received relevant reading instruction, then were post tested. A series of paired and independent T-tests revealed that the students who received explicit top-level structure instruction significantly outperformed the control group students in all three measures of reading comprehension adopted. The results were interpreted and compared with previous research. Several research and pedagogical implications were suggested.

Index Terms **– Top-level structure, text structure, reading comprehension, recall.**

I. INTRODUCTION

In English as a foreign language (EFL henceforth) contexts, most learners whether majoring in English studies or learning English as a complementary subject, are frequently in need to read in English for different purposes (Eskey, 1996). Reading is not only fundamental for all academic disciplines, and it is difficult to achieve any progress without having the ability to read fluently and efficiently and to understand what is read (Stoffelsma & Spooren, 2019). As a result of much research on reading comprehension, new strategies have been suggested to improve EFL learners' reading proficiency. Teaching Text structure, for example, is one of the teaching strategies that has proved to promote learners' ability to process and learn from expository texts. Several empirical studies (e.g., Amiri et al.,2017; Carell, 1984; Meyer & Ray, 2017; Schwartz et al 2013) found that explicit instruction of expository texts improved the reading comprehension of English native speakers and English as second or foreign language (ESL/EFL) learners.

II. REVIEW OF LITERATURE

Text structure refers to the coherent organization of information within a written text. It is defined by Carrell (1992) as the ideas of a text that are arranged to convey a message to the reader. Text structure is often referred to in the literature through a variety of terms such as discourse structure, discourse pattern, text type, rhetorical organization, and top-level structure (Grabe, 2007).

Three levels of prose structure were recognized by Meyer (Meyer, et al. 1980). First, the micro-propositional level is the way ideas are organized in sentences. Second, the macro-propositional level is the logical organization of the passage. Third, the top-level structure is the overall structure of a passage.

Some of the ideas presented in a text are central to the message, while others are less central (Hudson 2007). Ideas in an expository text are usually presented in a hierarchical organization with the most important major ideas located high in the structure, while less important details are put low in the structure. Expository texts are organized with some basic text structures such as comparing ideas, showing solutions that respond to problems, or finding causes of the problems. This overall organizational pattern of a text's major ideas is referred to by Meyer and colleagues as 'top-level structure' (Meyer, et al. 1980., Meyer & Ray, 2017; Williams, 2018). The top-level structure of a text allows ideas to be presented in a hierarchical manner based on importance, where the main ideas are located high in the hierarchy, and the less important ideas or details are located low in the hierarchy. In this regard, Meyer argued that while there are multiple structural patterns within a text, a "top-level" structure appears to highlight a hierarchy based on rhetorical relationships among the ideas represented by the various text structures.

Knowledge of discourse organization of a text is an important aspect of text processing. Knowledge of rhetorical patterns in which text information is presented, called formal (textual) schemata (Carrell 1984), has been found to be a facilitative factor in reading in a second or foreign language. As regular monitoring of text structure can facilitate comprehension and recall of text information.

Several theoretical and empirical studies have attempted to understand the effects of text structure on comprehension and recall. Research over the past four decades has shown that knowledge of text structure interacts with text processing and reading comprehension (Meyer et al. 2018). Knowledge of such text structures and a reading strategy to use them can be readily applied to well-organized texts. The structures are powerful since they match up with ways of thinking and they can also be used to provide coherence in reorganizing ambiguous or poorly organized texts as well as to generate ideas. As held by different scholars, knowledge about text structures can help learners weave together ideas (Meyer, 1975). According to Duke and Pearson (2002), most research on reading comprehension focused on the structural organization of text rather than the substance of the ideas because it is the structure, not content, that would transfer to new texts that students would encounter on their own.

Sensitivity to a text's overall structure, which is developed as part of a reader's formal schema, has been shown to play an important role in reading comprehension. Knowledge of text structure is related to reading achievement. Structure awareness helps readers in understanding the major concepts and relationships presented within a given passage. With an internal schema for text structure, readers are better able to make inferences and comprehend the text they read and recall information (Meyer, et al. 1980; Shwartz, et al. 2013) According to Meyer and Ray (2011), instruction with the structure strategy enhance recall from expository text. Moreover, strategy instruction can facilitate comprehension and use of signaling words, construction of main ideas and summaries, and good reading comprehension test scores.

Several studies on the effect of text structure on students' reading comprehension have been carried out. Ouboulahcen (2003) investigated the effect of teaching text structure on the comprehension and recall of Moroccan EFL learners. Two classes participated in the study. The study adopted a pre-test and post-test nonequivalent groups design. The findings of the study showed that the training had a positive effect on the comprehension, total recall and the identification and reproduction of organizational pattern of the text. In another study, Saadatnia et al. (2016 compared the awareness of two groups of participants: advanced and intermediate students. Saadatnia et al. (2016) compared students' literal and inferential comprehension of descriptive and enumerative expository texts. The results revealed that the participants performed better on the descriptive texts at both levels of literal and inferential comprehension. The findings also indicated that literal comprehension considerably outweighed inferential comprehension in both text structures of description and enumeration. In addition, Amiri and Puteh (2017) measured students' awareness of text structures among two groups of advanced and intermediate EFL students in Malaysia. They found that a general lack of awareness of text structures among EFL learners may cause failure in constructing meaning from academic reading texts. Although there were not huge differences between advanced and intermediate students in their text structure awareness, the advanced students showed preferences in reading specific text structures and demonstrated more awareness on text structure. Findings of this study could provide significant insights for both teachers and students to identify how reading texts can be organized as far as level of difficulty. Furthermore, Yeh et al (2016) investigated whether EFL learners in Taiwan could implicitly learn the text structure of problem-solution without the use of explicit instruction. The researchers also investigated the effects of repeated readings of a problem-solution text structure on a sample of 23 EFL students. They found that the advanced level students acquired text structure awareness of problem-solution and increased their text structure awareness from repeated readings while the intermediate groups did not show such awareness of the same text structure. In a different study, Fan (2018) targeted three groups of 66 Taiwanese EFL university students and trained them through three different treatments of reading instruction over a period of nine weeks to determine if any of these treatments made a difference in their ability to analyze different text structures. The results showed that the group who benefitted the most was the third group who was trained on metacognitive reading strategies, and at the same time received training and practice on identifying different text structures. Wu and Alrabah (2020) conducted a classroom-based study in Kuwait to explore the effect of text structure strategy (TSS henceforth) instruction on the ways in which 54 English as a foreign language (EFL) college students approached expository and medical texts. Data collection involved two surveys, fieldnotes, class observations, and group interviews. Findings revealed that TSS instruction through group discussions yielded better results than strategies that relied on individual class work. In addition, most of the participants transferred most of what they learned in expository texts into reading medical texts. The researchers recommended that EFL teachers should conduct action research studies on text structure strategy for EFL learners and teach TSS in class using group and pair work. Furthermore, the researchers suggested that further classroom-based studies using TSS in EFL contexts are needed.

Research on text structure strategy has demonstrated considerable potential for improving the reading comprehension of several student populations. Moreover, EFL researchers have highlighted the importance of using text structure strategy to teach expository texts to help EFL students increase their reading abilities. Therefore, the present study is conducted to investigate the effects of explicit instruction of expository text top-level structure on Moroccan EFL students' reading comprehension of expository texts.

III. METHOD

3.1 RESEARCH QUESTIONS

The present study was guided by the following research questions:

a) Does the explicit teaching of expository top-level text structure enhance Moroccan EFL students' overall reading comprehension?

b) Does the explicit teaching of expository top-level text structure enhance Moroccan EFL students' structural reading comprehension?

c) Does the explicit teaching of expository top-level text structure enhance Moroccan EFL students' reading recall?

3.2 RESEARCH DESIGN

To investigate the above-mentioned research questions, a quasi-experimental non-equivalent control group design was adopted in the present study (Gay et al. 2012). Using the convenience sampling method, a sample of 66 freshmen semester one EFL students enrolled in the English Studies Department at the Faculty of Arts and Human Sciences at Ibn Zohr University in Agadir, Morocco volunteered to participate in the study. The participants were composed of volunteers who belonged to two intact semester one Reading Comprehension I classes. These two groups were very similar in terms of age range, number, and male female ratio and were randomly assigned to an experimental group and a control group. The participants were informed of the objectives of the study, and they consented to take part in the experiment.

Table 1.1 the distribution of the participants by group, gender, and age

Group	Number of participants	Females	Males	Age range
Experimental	33	17	16	18-20
Control	33	18	15	18-20

The two groups were tested once before and once after the instructional intervention in expository top-level text structure. During the instructional intervention, the experimental group was explicitly taught a variety of expository text structures, providing the necessary knowledge, and modeling effective strategies for enhancing students' comprehension and recall through various techniques. The training in expository text structure was based mainly on relevant top-level text structure materials and exercises from two international textbooks, *Ten Steps to Advancing College Reading skills* (Langan 2015) and *Advanced Reading Power textbook* (Jeffries & Mikulecky 2007). These textbooks were considered by the instructor of the course, the researcher, and two more teachers who teach reading comprehension as very appropriate for the level of the students and for the objectives of the intervention.

The intervention lasted six weeks totaling six sessions and 12 contact hours of explicit expository text instruction and testing. The gradual release of responsibility model (Duke and Pearson, 2002) was adopted as the instruction method followed in explicitly teaching expository text structure to experimental group students. This method consists of a process in which the teacher gradually provides knowledge, and the student gradually evolves into an active learner responsible for his knowledge. The instructor used various techniques widely used in explicit instruction such as explicit explanations. The instructor explicitly explained what, how, why, and when the strategy should be used. Furthermore, the instruction started with simple and moved to more complex skills, and from simple, short texts to longer, unmodified, authentic texts. In addition, the instructor systematically moved from modeling the target strategies, through guided step-by-step practice, to independent practice where students learn to independently use the expository text strategies being taught. The students received immediate and remedial feedback on their use of the strategy.

The experimental group participants received explicit instruction in five expository top-level structures; namely, collection, cause-and-effect, comparison and contrast, extended definition, and problem-solution top-level structures. The experimental group students were taught how to use relevant discourse signals to recognize various expository reading texts' TLS. The control group received regular EFL reading lessons without any explicit instruction or reference to expository texts' TLS.

3.3 Materials and Instruments

The main instrument used to collect data for the purposes of the current study consisted of two reading comprehension tests. The first one served as a pre-test, whereas the second was administered at the end of the expository text structure training. Two reading texts were selected and used to test the participants reading comprehension and recall during the pre-test and the post-test. They were taken from two reading textbooks geared towards intermediate high to advanced students. The texts were presented to five teachers who teach semester one students in the English studies Bachelor of Arts Program in the Faculty of Letters and Human Sciences in Agadir, and they unanimously confirmed that the texts' top-level structures corresponded to the cause-and-effect top level structures. The inter-rater reliability for top-level text structure identification was excellent (r: 1.). Second, the five selected texts had to satisfy the content schema criterion. In other words, the texts' topics should be familiar enough to the readers to be selected. The texts were first examined by the same five professors above. They selected only low culturally dependent texts. In addition, the researcher checked whether the students had the content schema relevant to the texts' topics. To achieve this objective, the students were asked to rate the texts for familiarity of topic during both the piloting stage and the final experiment. The texts' topics were judged quite familiar to familiar by most of the students. Finally, the reading texts had to be suitable to the level of the participants in the study. According to their professors, semester one EFL students' proficiency level ranges between low intermediate and advanced, with most students who attend classes regularly in the intermediate mid and high ranges[1]. Therefore, relatively longer and more challenging texts needed to be selected. Four texts of quite similar length and target top structure were selected by the researcher and presented to the previously mentioned five professors. The teachers were asked to choose the two texts which they considered appropriate for the level of the students and equivalent in terms of difficulty and length. The inter-rater reliability among the professors was .92, which allowed the researcher to confidently choose the two texts used in the present study. Text length ranged between 503 and 534 words. The two selected texts for the study were analyzed using the Flesch Reading Ease Score and Flesch Kincaid Grade Level readability tests. The texts fell mostly in the fairly difficult texts' range and were classified in the tenth-grade level.

To compare the experimental and control groups on reading comprehension performance, the participants read the reading text, completed a written free recall task, then completed a reading comprehension task composed of multiple-choice and open-ended questions. The reading comprehension task was composed of seven questions. Five multiple choice comprehension questions tested various aspects of comprehension. The questions targeted both direct and indirect meaning. The two open-ended questions asked the students to write the text's main idea and top structure. The total scores of the seven reading comprehension questions were used to compute the overall comprehension means, whereas the scores of the two open-ended questions served as the basis for structural comprehension means.

In the written recall task students are asked to read the text and write down everything they can remember about what they just read without looking back at the text. Bernhardt (1991) initially postulated that the written recall was the most suitable measure of second language (L2 henceforth) reading comprehension, and to date this protocol continues to be used in much L2 reading comprehension research. Meyer's (1985) idea unit of analysis was adopted but was simplified in accordance with this study's objectives to include only one clause following Carrell (1985). To score the recalls, the total number of correct idea units recalled was counted.

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Both descriptive and inferential statistics were used to analyze the data. Means were used to describe comprehension and recall scores, whereas a series of paired and independent T tests were computed to investigate whether the comprehension and recall scores of the control and experimental groups significantly increased after the experiment.

IV. RESULTS

This section is devoted to the presentation of the statistical analyses run to answer the research questions guiding this study. We report the effect of expository top-level text structure instruction on overall comprehension, structural comprehension, and recall. All comparisons are run across control and experimental groups and pre-test and posttest.

4.1 THE EFFECT OF TOP-LEVEL STRUCTURE INSTRUCTION ON READING COMPREHENSION

To investigate the potential effect of top-level structure (TLS henceforth) instruction on reading comprehension, two score measures were selected: An overall comprehension score which corresponds to all correct answers on the comprehension test and a second score, we termed structural comprehension, which corresponds to the correct answers on just the TLS of the text and its central point. The second measure was retained because it is inherently related to the comprehension of the text's TLS.

As summarized in fig 1, the comparison between the control group's pre-test and post-test revealed a slight regression in overall comprehension scores (-0.09 points), while the tendency for the experimental groups was markedly different. The experimental group showed more than 50% increase in their overall comprehension mean scores (+two points).

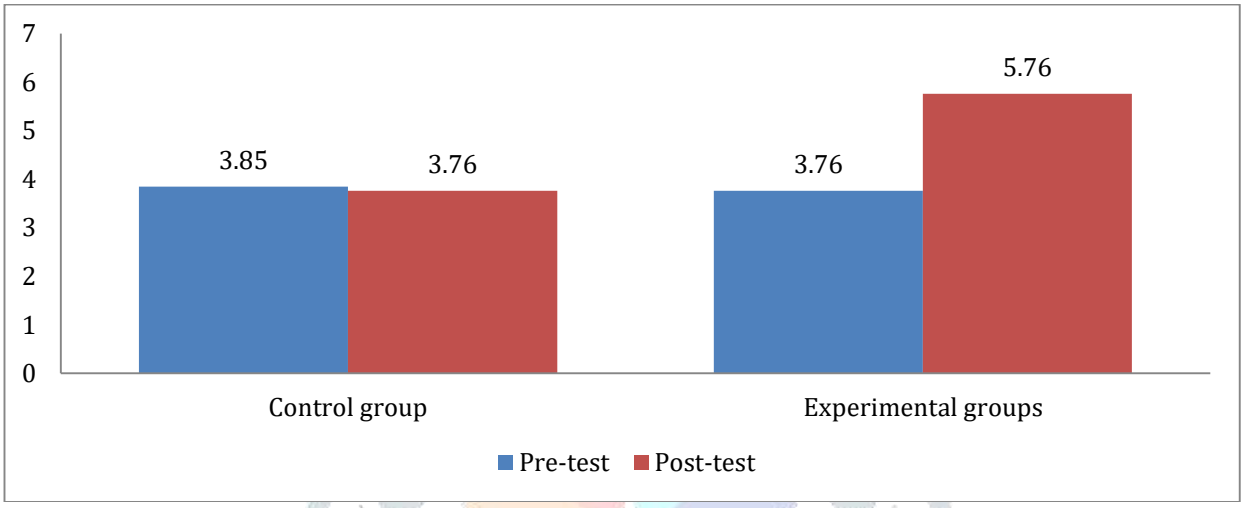

Figure1: ***effect of TLS instruction on control and experimental groups' overall comprehension***

Similarly, the results reported in fig 2 below mostly confirm the tendency observed above. The control group's post-test structural comprehension mean score slightly increased as compared to the pre-test score (+ 0.59 points). However, the experimental group's post-test structural comprehension mean score comfortably outperformed their pre-test score (+ 2.02 points).

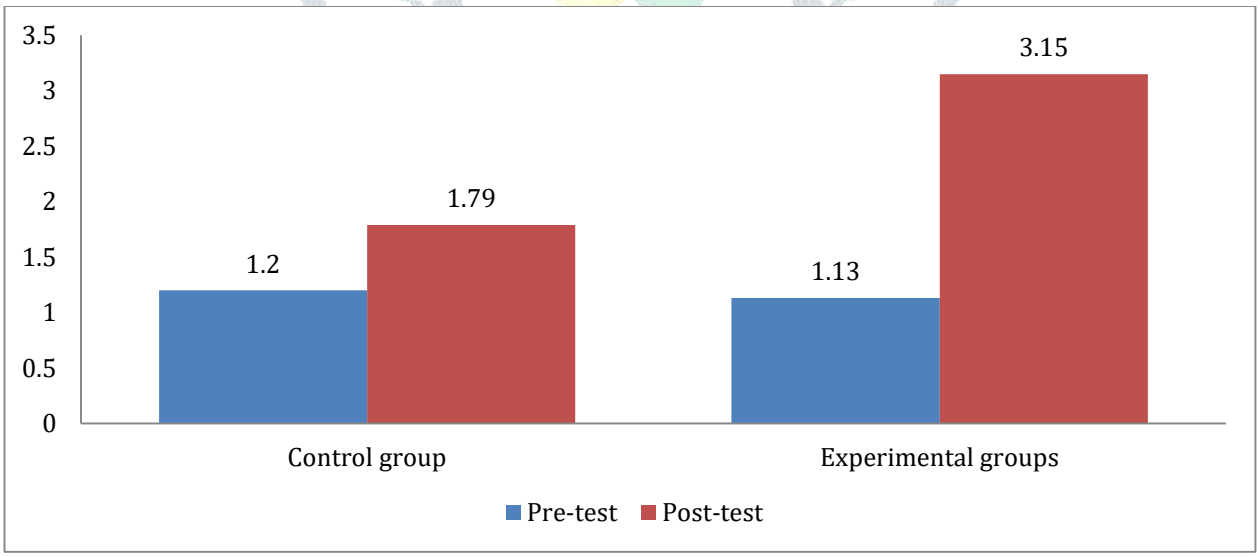

Figure 2: ***effect of TLS instruction on control and experimental groups' structural comprehension***

To test whether the observed differences are statistically significant, a series of t-test comparisons were run. A paired Samples Test was computed to compare the overall comprehension and structural comprehension observed differences between the pre-test and post-test for both control and experimental groups. The results in table 2 indicate that the control group's overall comprehension did not improve in the post-test, but their structural comprehension did.

Table 2: *Control and Experimental Groups' Overall and Structural Comprehension differences across Pre-test and Post-test*

Paired Samples Test							
		Paired Differences			Paired Samples Test		
	Pre-test/Post-test comparisons	Mean	Std. Deviation	Std. Error Mean	t	Df	Sig. (2-tailed)
Pair 1	Control group /overall comprehension	,09375	1,71565	,21446	,437	65	,663
Pair 2	Control group /Structural comprehension	-,54688	1,23352	,15419	**-3,547**	65	**,001**
Pair 3	Experimental group / overall comprehension	-2,00521	1,56365	,11285	**-17,769**	65	**,000**
Pair 4	Experimental group / Structural comprehension	-2,20968	1,11861	,08073	**-24,839**	65	**,000**

On the other hand, the experimental group's overall comprehension and structural comprehension significantly increased after the treatment.

A further comparison between the control the group and the experimental group's post-test performance revealed significant differences between the two groups on both overall comprehension and structural comprehension as shown in table 3. The table reports the results of the Independent Samples Test run to investigate the significance of the differences between the two groups. The t-test results proved that the experimental group outperformed the control group in overall comprehension and structural comprehension.

Table 3: ***control and experimental groups' post-test overall and structural comprehension differences***

Independent Samples Test						
Post-test : Control vs Experimental	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Overall Comprehension	1,844	,176	**-11,604**	65	**,000**	-1,99479
Structural Comprehension	,088	,766	**-11,091**	65	**,000**	-1,36979

4.2 The Effect of Top-Level Structure Instruction on Reading Recall

To investigate the effect of top-level structure instruction on recall, two comparisons need to be made. The bar graph in fig 4 illustrates the results of these comparisons. First, regardless of the pre-test results, there is a marked difference between control and experimental group post-test recall mean scores. The experimental group recalled approximately 30% more idea units than the control group, suggesting a positive effect of TLS instruction on recall. Second, although the two groups displayed quite similar pre-test recall mean scores, their post-test performance was clearly different. While the control group recall mean score progressed by 1.1 points, the experimental group recall mean score almost doubled increasing by 4.72 points.

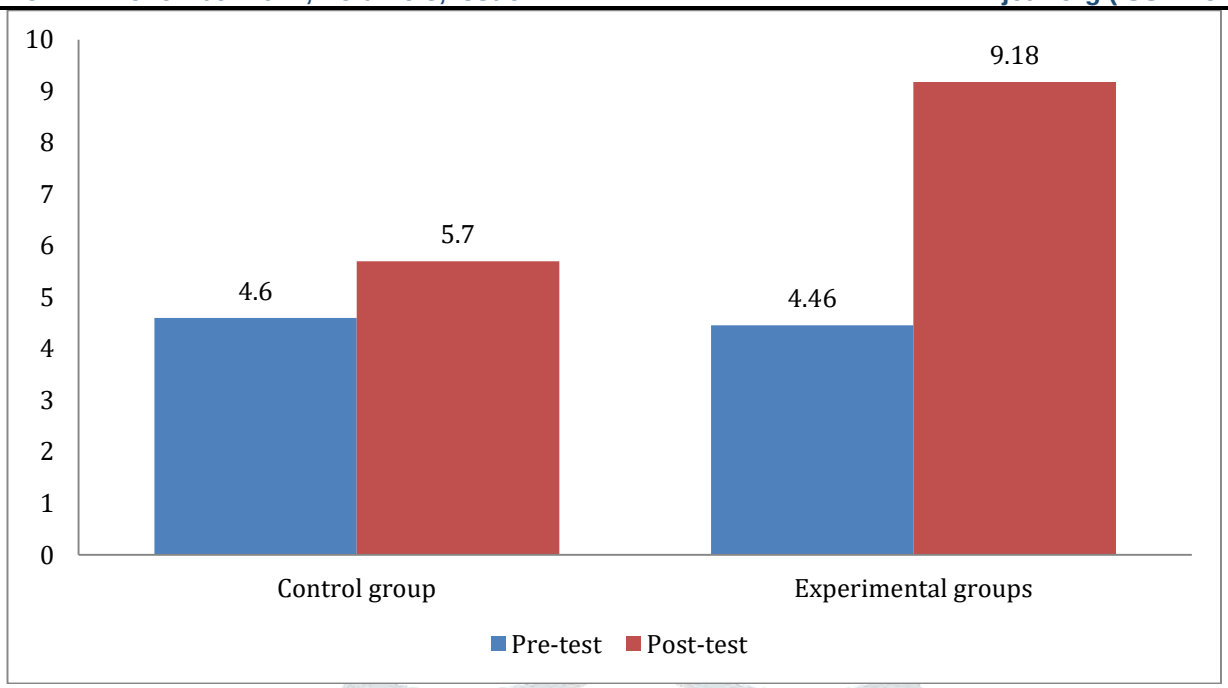

Figure 4: ***effect of TLS instruction on control and experimental groups' recall***

To test the statistical significance of these observed differences, a Paired Samples t test was run to compare the pre-test with the post-test recall performance for both the control and experimental groups. An Independent Samples t test was also run to compare the post-test recall performance of the control and experimental groups. As reported in table 4, although the control and experimental groups' recall progress in the post-test was not parallel, the groups' post-test recall mean scores were significantly higher than their pre-test ones.

Table 4: ***control and experimental groups' recall differences across pre-test and post-test***

Paired Samples Test							
		Paired Differences			**Paired Samples Test**		
		Mean	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
Pair 1	Control group /Recall	-1,00000	3,21702	,40213	**-2,487**	65	**,016**
Pair 2	Experimental group / Recall	-4,53646	4,38569	,31651	**-14,333**	65	**,000**

Both groups significantly recalled more idea units in the post-test as compared to the pre-test. However, to safely prove the top-level structure instruction effect on recall, the experimental group post-test recall mean scores must be significantly higher than those of the control group. The Independent Sample t-test results summarized in table 5 indicate a significant positive effect of TLS instruction on recall. The experimental group significantly recalled more idea units than the control group.

Table 5: ***control and experimental groups' post-test recall differences***

Independent Samples Test						
Post-test : Control / Experimental Group	Levene's Test for Equality of Variances		t-test for Equality of Means			
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference
Recall	18,983	,920	**-6,679**	65	**,000**	-3,40625

All the results presented above safely lead to the conclusion that the explicit teaching of expository top-level text structure enhances Moroccan EFL students' reading comprehension and recall. Moroccan EFL students who received explicit instruction in expository top-level structure scored significantly higher in reading comprehension and recall than students who did not receive any explicit instruction in the target top-level structure. The following section will be devoted to the interpretation and discussion of the results in the light of previous research.

V. Discussion

The present study's findings show that the explicit instruction of expository top-level structure was highly beneficial to the students' understanding of the text ideas and how they are logically interwoven in the text and to the recall of these ideas after reading the text. The comparison between the results of the experimental group and those of the control group can help shed light on the above conclusion.

To appreciate the performance of the experimental group, one needs first to explain the performance of the control group which seems to be puzzling. Thus, while the participants belonging to this group improved their structural comprehension, they could not obtain better overall comprehension scores. On the other hand, even though their post-test structural comprehension scores increased, the increase was far less than the one achieved by the experimental group. As explained earlier, the structural comprehension score is based on the score of the explicit instruction recognition plus the score of the production of the correct main idea. The increase in the structural comprehension scores of the control group might be attributed to two factors. During the explicit instruction treatment training sessions, the control group received regular instruction in reading comprehension including guessing vocabulary from context and identifying text topic and main idea, but without drawing their attention to the close relationship that binds the main idea to the text's TLS. Learning the skill of identifying the text's topic and main idea, therefore, might have helped the control group participants to produce main ideas and slightly increase their structural comprehension scores. This remains to be confirmed by further research.

However, it was quite surprising to record such an increase in structural comprehension without positively impacting the control group participants' overall comprehension. Since the structural comprehension score is counted in the overall comprehension score, one could conclude that their performance on the non-structural comprehension questions decreased. One way to account for the positive performance in structural comprehension could probably be the text effect. The students might have found the pre-test texts more interesting, easier to understand or more familiar than the post-test ones. However, this interpretation does not account for the experimental group's significant improvement in both overall and structural comprehension. This significant progress is most likely the result of the explicit teaching of expository texts TLS. The experimental group's significant increase of their structural comprehension scores is clearly due to the benefits gained from the newly taught skill of recognizing the text top-level structure along with the identification and production of an appropriate main idea which reflects the text's top-level structure. In addition, their increased overall comprehension scores indicate a positive top-level structure instruction effect on the students' understanding of non-structural comprehension questions. It is thus quite reasonable to argue that the fact that the students were made alert through treatment to how the ideas are logically connected and made aware of the text TLS most probably helped them better understand and organize the text ideas and consequently devote more attention to reading and processing the texts in their post-test performance. This result corroborates findings of a number of empirical studies (Cheng, 2019; Meyer, 1975)

On the other hand, unlike their performance on the overall comprehension, the control group students' post-test recall scores were significant. This increase is likely to be the fruit of the free recall effect due to the students' discovering of the task in the pre-test. Most of them were not used to read for the purpose of remembering and learning the text ideas prior to the current study. This first exposure probably helped them gain some experience recalling the text ideas in the post-test. However, a comparison between the two groups' recall scores shows a spectacular surge (more than 100%) in the experimental group's post-test recall scores. The largely superior progress margin in the experimental group's recall scores as compared to their overall comprehension scores suggests that top-level structure instruction enhances recall more than comprehension. This is probably due to the hierarchical nature of top-level structure, which makes it easier to remember the main ideas of a text which fit within the hierarchical rhetorical structure present in the text. (Meyer et al.1980)

The findings discussed above are consistent with similar previous research results which investigated the effects of the TLS strategy on reading comprehension and/or recall. For example, in a study conducted on ESL reading using explicit teaching of text TLS, Carrell (1985) concluded that training in the top-level rhetorical organization of expository texts improved ESL students' reading comprehension, as measured by the quantity of information recalled. Unlike in the present study, Carrell's study adopted immediate written recall as the only measure of reading comprehension. This study involved 25 high-intermediate ESL students who were taught the TLS strategy to help improve their understanding and recall of expository texts. Training was conducted in five one-hour sessions for one week. The pre- and post-tests consisted of the students' reading two passages with two different top-level structures: one using comparison and the other collection of descriptions TLSs, then writing an immediate recall and identifying the TLS of the passage in an open-ended question. The results revealed that the explicit training in recognizing and analyzing these expository text types did facilitate ESL students' reading comprehension as measured by quantity and quality of recalled information, indicating that direct instruction of text TLS can facilitate second language readers' recall of text information. These results are in harmony with the present study's findings that TLS instruction enhances Moroccan EFL university students' recall of reading text ideas.

In the Moroccan EFL context, and to the best of the researcher's knowledge the only study which investigated the effect of teaching text structure on the comprehension and recall of Moroccan EFL university students is Ouboulahcen's (2003). He reached very similar conclusions to the current study's results. The findings of his study showed that the training had a positive effect on both the comprehension and total recall of reading text ideas. He concluded that by teaching students how to recognize text structure, they will be equipped with the formal schemata that would help them achieve better comprehension and recall of reading texts.

More recently, Meyer et al (2013) also confirmed the positive effect of the TLS strategy on reading recall. She found out that the TLS strategy training had an effect not only on L2 reading recall but also on L1's. She conducted a study to investigate the effect of learning text structure strategy on improving reading comprehension and recall by L2 learners, and to test whether there would be transfer of the strategy to the subjects' native language (L1). University L2 learners of English were taught a five-session course on using the text structure strategy to facilitate recall and comprehension of expository texts. All instructions and materials were in English, the L2. Subjects practiced identifying key words that signal the structure of the text. At pre-test and post-test, participants read and recalled two texts, one in Spanish and the other in English. After the strategy instruction treatment was completed, participants made significant improvements in their ability to recall information from text in both English and Spanish, even though all instructions and practice were in English only. Analyses of underlining revealed an increased tendency to underline signal words in both texts. Together the increases in recall and detection of signal words across languages showed automatic transfer of the strategy across the learners' two languages

Similar findings have been reached by a variety of other studies in both L1 (Meyer et al., 1989; Meyer and Poon, 2001;

Williams et al., 2009) and L2/EFL (Cheng, 2019; Hiros, 2014) research on the effects of explicit teaching of text structure on reading performance. All these studies have confirmed the positive effect on reading comprehension and recall of reading texts and thus corroborated earlier studies' results. (Amiri and Puteh ,2017); Saadatnia et al (2016); Yeh et al (2016); Fan (2018); Wu and Alrabah (2020). It is worth noting that the above-mentioned studies investigated the effect of teaching TLS at different academic levels and revealed a significant effect of TLS on reading comprehension and recall of participants belonging to those different levels.

VI. Conclusions

This study has shown that the explicit teaching the TLS strategy in the classroom can enhance Moroccan EFL students' reading comprehension and recall of expository texts. However, more similar studies need to be conducted in Morocco and elsewhere to reach an in-depth and comprehensive understanding of the best ways the top-level structure strategy can be taught and of how it affects the comprehension and recall of various TLS texts. Replicability of the study in different contexts is highly recommended to reach more valid conclusions Furthermore, replicability of the study with different subjects from various academic levels, including middle school and high school, can show how EFL students across different levels and ages benefit from top-level structure strategy instruction. In addition, further research is also needed to investigate other top-level structures such as problem solution or compare and contrast and other text types such as narrative and argumentative texts.

Further research should also devote more importance to how the top-level structure strategy is taught in the classroom. Many studies were conducted on top-level structure instruction, but the majority did not give enough details about the way and the techniques used to do so. Others give some details about the techniques used but mix them without systematically comparing their effects. This lack of details about the teaching method makes it impossible to faithfully replicate these studies in other contexts and to use top-level structure strategy research-based findings in the classroom since few details are given on the steps to follow in the teaching of the top-level structure strategy.

An equally important research implication for future studies is the need to conduct research which investigates the interaction between the learners' content and formal schemas. Studies investigating between the TLS strategy and the text topic familiarity or interest for example would provide insights into how students previous knowledge or motivation interacts with their use of the TLS strategy when they read an expository text.

Since the present study is concerned with EFL reading strategy instruction, its findings are very relevant to EFL policymakers, supervisors, teachers, and material designers in Morocco and similar contexts. The present study has proven that the explicit teaching of expository TLS can enhance Moroccan EFL learners' reading comprehension and recall. This has immediate pedagogical implications at various levels. In the classroom, English language teachers should add the top-level structure strategy to their list of taught reading strategies. They should integrate activities that will help learners build appropriate top-level structure schemata. The objective of such activities would be, inter alia, to train students to identify the different signals associated with different TLSs, which can help them identify main ideas and authors intentions and purposes and process the texts globally. Informal discussions with some EFL teachers in Morocco in different academic settings revealed that most teachers admitted that they did not possess top-level structure awareness and said that they had never taught it to their students. Therefore, including this empirically proven reading comprehension strategy in pre and in-service training programs is highly recommended to equip EFL teachers with the necessary knowledge and skills to teach the top-level structure strategy in the classroom.

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