

Chunked Texts in Reading Class: The Case of Turkish Learners of English*

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Abstract

The present study aims at determining the effects of one of those reading strategies, namely, chunking on the reading comprehension of learners of English. The study was conducted with the preparatory class students at the Department of English Language Teaching of the Faculty of Education of Ondokuz Mayıs University in Turkey. The learners were assigned to experimental and control groups randomly. The study was employed non-equivalent control group pretest-posttest design where the number of subjects was a total of 36. While chunking was implemented in reading classes of the experimental group, ordinary reading texts were implemented in control group. In conclusion, chunking, as an effective reading strategy, improved the reading skills of the learners of English.

Key words: *Chunking, reading comprehension, reading strategies*

Anlamalı Gruplandırma Stratejisinin İngilizce Okuduğunu Anlamaya Etkisi

Özet

Bu çalışmada okuma stratejilerinden anlamlı gruplandırma stratejisinin İngilizce okuduğunu anlamaya etkisi incelenmiştir. Çalışma, Ondokuz Mayıs Üniversitesi, Eğitim Fakültesi, İngiliz Dili Eğitimi Ana Bilim Dalı hazırlık sınıfı öğrencileriyle yürütülmüştür. Öğrenciler deney ve kontrol gruplarına eş olasılıkla (random) atanmıştır. Toplam 36 öğrenciyle yürütülen çalışmada, denk olmayan kontrol gruplu öntest-sontest deseni kullanılmıştır. Deney grubunda okuma stratejilerinden anlamlı gruplandırma yöntemi işe koşulmuş, kontrol grubunda ise geleneksel yöntemle öğretim yapılmıştır. Sonuçlar anlamlı gruplandırma stratejisinin İngilizce okuduğunu anlama üzerinde etkili olduğunu göstermektedir.

Anahtar Sözcükler: *Anlamlı gruplandırma, okuduğunu anlama, okuma stratejileri*

Introduction

In a graduate research, a group of undergraduate students of İstanbul University were asked to read an essay written by a contemporary Turkish writer, Ferit Edgü, titled "Turkish politicians' concern in Art and Culture". The text was about 4 pages long and the students were then asked to express what they comprehended from the text. The outcome was striking. Those who did not understand the basic text content figured

90%, and those who did was only 5%. When the same study was replicated at Boğaziçi University, despite slight differences, the number of undergraduates who did not understand the text was 66%, still representing a very high percentage (İpşiroğlu, 1988:14-15). The case here quite clearly indicates that the undergraduates are far from being good readers.

* Bu çalışma, ilk yazarın doktora tezinin bir bölümüdür.

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It is a truism that most of what we learn comes through the written medium. In learning environments where there is little room for learning material other than the texts, written material constitutes the only tool available and thus the most important. In this context, incompetence in reading skills can be expected to have far reaching effects on learning. More importantly for the Turkish case is that almost all reading classes at all levels of learning are based on what we may call "traditional" methods that, as expected, produce learners who refrain from reading activities, who do not involve themselves in any reading process and become quite poor readers. Starting from the initial stages and continuing all throughout the learning processes at all levels of teaching, new methods for enhancing reading skills need to be introduced. One such method, as is discussed in this study, is chunking. The current study presents the results of applying chunking in reading classes and the ways in which develops reading skills.

A number of previously conducted studies determined the role of chunking in reading comprehension. Starting with Amble and Muehl (1966), we know that when presented with chunked texts, learners display higher levels of text comprehension. Amble and Kelly (1970) presented chunked text in slanted lines to the primary school students and displayed the benefits of the method.

Stevens (1981) indicated that readers presented with chunked texts scored better than those that were presented with unchunked texts. He also indicated that similar differences were observed with all types of readers. From these observations, he concluded that chunking works much better with relatively young learners who are yet to develop their reading skills; however, this strategy may not be very helpful for undergraduate students. McBride and Dwyer (1982), on the other hand, tested the effects of chunking in a study conducted over 112 undergraduates and concluded that chunking provides better learning when compared to the conventional methods.

In two consecutive studies, Brozo (1983) shows the effects of employing chunking in reading comprehension. The first study identifies 44 good readers among those who scored

above 50% from a reading comprehension pretest. These students then were assigned to control and test groups randomly. A text composed of 820 words was given to both groups, a chunked version to the test and a non-chunked version to the control group. The test group additionally listened to a 10 minute lecture about the method. Both groups were then asked to read the text and answer the related question without looking back at the text. The scores of both groups did not yield significant differences, as 9 out of 10 questions were answered correctly by both groups. Interpreting this conclusion as a problem of inefficient selection of items, Brozo repeats the same procedure with 58 good readers, this time concentrating more on the proper selection of comprehension questions. The test reveals significant differences among the groups. t-test results of the test group, i.e., good readers with chunked text, derived a mean value of 17.5 (sd=2.16) while the mean value of the control group, i.e., good readers with non-chunked text, was 16.8 (sd=2.04). Thus, the experimental studies also clearly displayed that even with good readers, chunking proves to be an efficient reading strategy.

Working with younger learners, Gerrell and Mason (1983) also report significant differences among readers' level of comprehension when presented or not presented with chunked texts. Anshel (1985) in another study with seniors also concludes that employing cognitive strategies like chunking enhances the comprehension skills of elderly. Using such strategies helps them feel more "comfortable" and enhances their performance to the maximum. McBride and Dwyer (1985) test the effect of chunking on memory and instructional effectiveness and report conclusions that strongly suggest chunking as an efficient cognitive strategy. Giddings (1986) points that chunking is one such effective reading strategy for challenged learners as well. Meyer and Sharman's (1988) study conducted at *Senior Health and Peer Counseling Center* displays that while techniques like SQ4R help to improve long term memory, chunking, in a similar fashion, improves the capacity of short term memory.

Casteel (1990) studies the role of chunking in reading comprehension with 8th graders. A total of 50 learners participated in the study. The participants were assigned to two groups based on their scores from California Achievement Test. 26 participants were labeled as "below the average" and 24 participants labeled as "high skilled readers" Both groups were given the original and its chunked version, approximately 1700 words long. Chunking is marked in a relatively less rigid manner. This study tried to identify the role of chunking strategy in comprehension among low and high skilled readers. The study lasted two months and statistical analysis of the data produced the following: The mean score of total participants working with the original texts was 65.69 and the standard deviation was 12.83, while the mean score was 72.75 and the standard deviation was 13.16 with the same participants when they work with the chunked version. There was a significant difference at the .05 level. When differences among the groups are considered, the poor readers' mean scores changed from 58.57 with the original text, to 68.31 with the chunked text. The increase in mean scores with respect to two versions of the texts was about 10 points. Meanwhile, the mean points of the good readers increased from 72.81 to 77.19 with respect to original and chunked texts. While there is an increase in the mean scores, this difference is not interpreted as significant. In other words, reading chunked or non-chunked texts do not reveal any significant difference when good learners are concerned, as they already have the required skill.

Barlett and Morgan's (1991) questionnaire with 15 learners and 33 professors displayed that while the professors focused more on the language and errors in the books, the learners tend to focus more on the readability of the books, its relatively simple language, and whether the text is chunked or not.

Cwach and Gravely (1997) conducted a study on the members of the service staff who were employed in Denver and who were not native speakers of English. With the cooperation of business and education institutes, in five different courses, they were instructed on topics including developing

a 'political' language, establishing efficient communication, and possessing a presentable image. This process of teaching also proved that chunking contributes significantly in developing both reading and communicating skill.

Fogarty (1999) points to chunking as an important strategy in increasing the achievement scores of the learners in different types of tests and notes the functions of chunking in answering, in activation of cognitive skills, and in developing communication skills. With similar concerns of the previous studies on chunking and its effectiveness on reading comprehension especially in the context of language learning, this study aims to find out whether there is any (or a) significant difference in reading comprehension in English between the groups that do or do not employ chunking strategy? To this purpose, the study defines the following hypotheses: (1) There is a significant difference of achievement among the groups that employ chunking and that do not employ chunking. (1a) There is a significant difference of achievement among good readers that employ chunking in reading and good readers that do not employ chunking. (1b) There is a significant difference of achievement among poor readers that employ chunking and that poor readers that do not employ chunking. (2) There is a significant difference of retention among the groups that employ chunking and that do not employ chunking. (2a) There is a significant difference of retention among good readers that employ chunking and good readers that do not employ chunking. (2b) There is a significant difference of retention among poor readers that employ chunking and poor readers that do not employ chunking.

Methodology

Sampling

The preparatory class students at the department of English Language Teaching of the Faculty of Education of Ondokuz Mayıs University participated in the study. The subjects were assigned to treatment and control groups randomly. 36 learners participated in the study and they were assigned to both groups in equal numbers (control group 18, treatment group 18).

To determine the levels of cognitive entry behaviors of the groups prior to implementation, an English Language Proficiency Test is administered to both groups. The significance of the difference

among the groups' level language proficiency is determined by t-test. The differences of mean values and the results of the t-test are given below:

Table 1. English language proficiency test scores of treatment and control groups

Groups	N	\bar{X}	s	df	t	p
Treatment	18	30.44	3.62	34	1.78	0.084
Control	18	32.61	3.70			

p>0.05

As can be observed from Table 1, the language proficiency scores of both groups do not reveal significant differences. This clearly points out that both groups are equal with respect to their level of proficiency prior to the experiment.

The difference in reading comprehension among the groups is also measured out prior to implementation. A reading comprehension test is administered to find out the differences among the groups and their mean scores are measured by a t-test. The differences of the mean scores and the results of the t-test are as follows:

Table 2. Scores of treatment and control groups from the pretest (reading comprehension)

Groups	N	\bar{X}	s	df	t	p
Treatment	18	29.11	3.39	34	0.38	0.707
Control	18	29.61	4.46			

p>0.05

As it is clear from Table 2, the test proved no significant difference among the groups with respect to their reading comprehension levels. This indicates that both groups are equal in terms of their level of reading comprehension.

This study employed non-equivalent control group pretest-posttest design, as represented below:

Table 3. Non-equivalent control group pretest-posttest design and retention test design

Groups	Test	Implementation	Test	Interval	Measurement
Treatment	Pre-test	Implementation of chunking	Post-test	(2 months)	Retention-test
Control	Pre-test	Post-test	(2 months)	Retention-test

Procedures

Texts commonly not longer than 4-pages were presented in each class session during the entire fall term, lasting 10 weeks. Topics of the texts varied from recent advances in technology and their possible impact on our daily lives to uses of language for different purposes.

The experimental procedure is as follows:

1. Reading Comprehension Test in English is administered to both groups as a pre-test.
2. Chunked texts are presented to the participants of the treatment group for a period of two months during their reading classes.
3. The texts in their original format (non-chunked) are given to the participants of the control group for a period of two months during their reading classes.
4. The same Reading Comprehension Test in English is administered as a pretest

is administered as a post test to both groups to evaluate to (the) effectiveness of chunking.

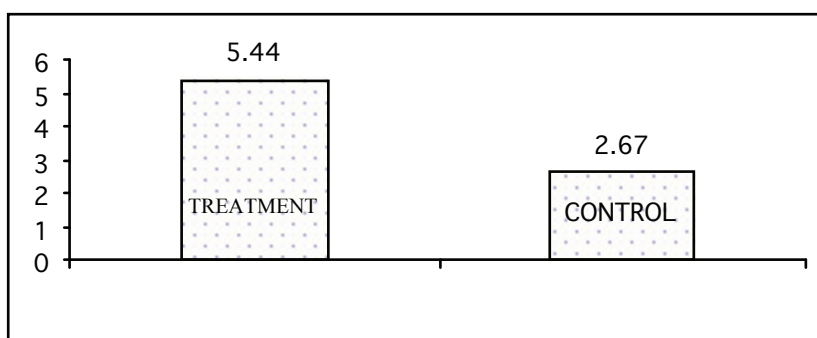
5. The same test is administered again after two months to both groups in order to evaluate the effectiveness of chunking in retention.

Data Analysis

In the analysis of the data the mean scores and the standard deviation values are found and the significant differences among the scores of the groups are measured by a paired samples t-test.

Findings

The first hypothesis of the study questioned the difference of achievement between the groups that employ and that do not employ chunking. To determine the differences of achievement, the scores of both pre-test and post-test are taken as achievement scores. The mean values are given in the Graphic 1:



Graphic 1. The mean values of achievement scores of treatment and control groups

Table 4. The t-test values of the achievement scores of treatment and control groups

Groups	N	\bar{X}	s	df	t	p
Treatment	18	5.44	2.73	34	3.54	0.001
Control	18	2.67	1.91			

$p < 0.05$

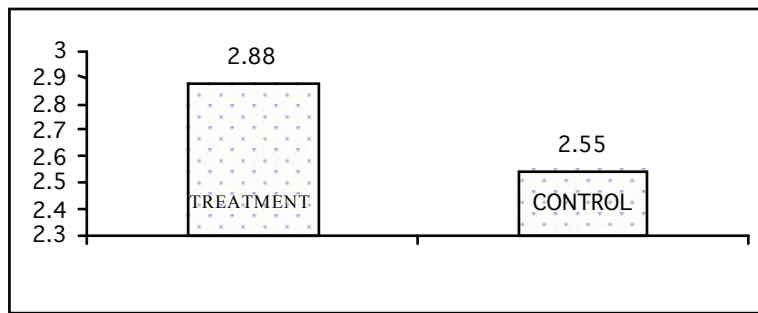
When we consider achievement scores as represented in the Table 4, we observe that the scores of the group that employed chunking in reading are above the scores of the group

that do not employ chunking in reading. This conclusion validates the first hypothesis.

Chunking enhances reading comprehension as complex structures are analyzed into

constituent forms and comprehension starts from the proper understanding of these relatively smaller constituent units and consequently expands onto the larger units which are hard to comprehend initially. Additionally, as chunking cancels out reading word-by-word which inevitably leads to comprehension difficulty, it helps to develop a better understanding of the text. We already know that competent readers never employ a word-by-word reading strategy.

The hypothesis '1a' questioned the existence of any significant difference of achievement among the groups of good readers that employ chunking and good readers that do not employ chunking in reading. To test the hypothesis, initially 8 participants from the test group and 11 participants from the control group are identified on the basis of their mean scores from the pretest as good readers as they scored above the average. The difference among the scores of these participants from pre- and post-tests is defined as the achievement score. The mean values of good readers are given in Graphic 2:



Graphic 2. The mean values of the achievement scores of good readers in treatment and control groups

As the findings above indicate clearly, there is no significant difference of achievement scores among the good readers of both groups. This openly invalidates the hypothesis

'1a' as employing chunking in reading comprehension has no effect with respect to good readers.

Table 5. The t-test values of the achievement scores of good readers in treatment and control groups

Groups	N	\bar{X}	s	df	t	p
Treatment	8	2.88	1.25	17	0.45	0.33
Control	11	2.55	1.75			

p>0.05

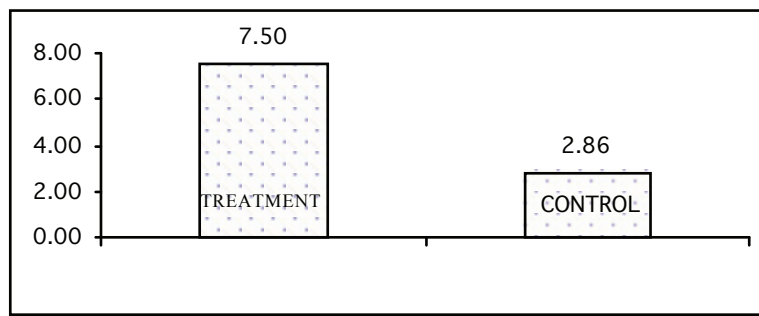
Carver (1970b) conducts a study with undergraduate students to determine the effects of chunking in comprehension. He finds out that chunking has no effect on comprehension with good readers and concludes that this is because of the fact that these readers are already skilled readers. Similarly, Brozo (1983) in a study with 44 good

readers also finds out that chunking has no effect on reading comprehension with good readers and concludes that such readers have their own chunking strategies and hence further chunking will be of no immediate help. Casteel (1990) reports similar findings and presents similar evaluations. He indicates that such readers quite automatically employ

chunking and thus they easily comprehend the content presented in the text.

Smith (1982), and Harris and Sipay (1975) further report that chunking or any other similar strategies are not necessarily required by skilled readers. Stevens (1981) notes that chunking may not be effective with undergraduate students. In conclusion, the findings of the present study are in tune with the findings of the above-mentioned related studies.

The hypothesis '1b' looked for any possible difference in achievement among the groups of poor readers that employ chunking in reading and that do not employ chunking in reading texts. To find out any difference in achievement, on the basis of the average mean scores of both groups from the pre-and post-tests, participants who scored less than the average score are labeled as poor readers. This procedure identified 10 participants from the test group and 7 from the control group. The difference in their scores from pre- and post-test results is taken as the achievement score. The following represents their achievement scores:



Graphic 3. The mean values of the achievement scores of poor readers in treatment and control groups

The scores in Graphic 3 indicate that there is a significant difference among the achievement scores of the poor readers from the treatment and the control groups. This suggests that

poor readers who employ chunking in reading comprehension perform better than the poor readers who do not employ chunking in reading.

Table 6. The t-test values of the achievement scores of poor readers in treatment and control groups

Groups	N	\bar{X}	s	df	t	p
Treatment	10	7.50	1.51	15	5.09	0.0001
Control	7	2.86	2.67			

p<0.05

Chunking enhances reading comprehension with poor readers. The major difference among low and good readers relates to their ability in "organizing the material that they are reading". Good readers do organize the contents of the texts as structured units; thus poor readers who do not have such ability will be expected to benefit from chunking more than the good

readers (Cromer, 1970). Smith (1971) indicates that chunking is one such strategy that would be effective with poor readers. Casteel (1989) notes that poor readers generally lack the ability to organize the content of what they are reading in any structured manner and thus proposes chunking as the strategy for such readers. Smith (1982), Harris and Sipay (1975)

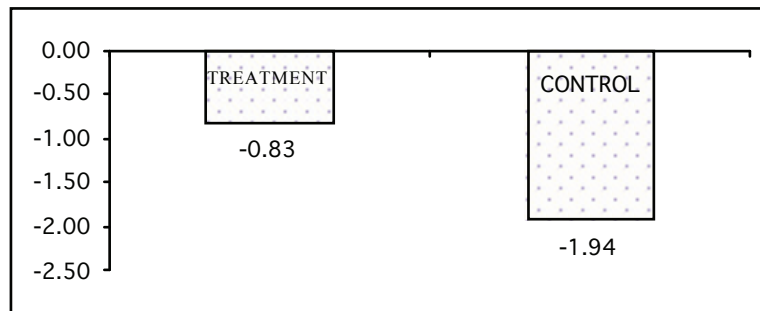
also argue that chunking will work well with poor readers as it will enhance their level of comprehension and suggest that chunked text will contribute to their reading performance.

Stevens (1981) following the results of an experimental study, points that chunking proves to be very effective with the young learners who are yet to develop their own reading strategies. Casteel (1990) conducts a study with 50 participants and assigns them into two groups as poor and good readers. Both groups were presented with chunked texts and following a period of two months, he observed that while chunking had no significant role to play in the comprehension levels of skilled readers, it had an important role in the levels of comprehension in poor readers.

As with the previous studies, chunking enhances reading comprehension significantly especially with incompetent or poor readers, and the results of the present study presents a further support for this conclusion.

The second hypothesis questioned any possible difference in terms of retention among the readers who employ chunking and who do not employ chunking. To test this, the difference among the scores of post-test and retention-test is determined as the retention score. The difference among the scores of treatment and control group is identified by a t-test, and the results are displayed in Graphic 4:

Table 7 shows that there is a significant difference among the mean retention scores of



Graphic 4. The mean values of retention scores of treatment and control groups

Table 7. The t- test values of retention scores of treatment and control groups

Groups	N	\bar{X}	s	df	t	p
Treatment	18	-0.83	1.33	34	1.95	0.03
Control	18	-1.94	2.01			

p<0.05

the treatment and control group. This indicates that participants who employ chunking in reading are more successful than those who do not employ chunking in reading in terms of their retention scores.

Dreversteadt (1975) displayed the effects of chunking in retention in a study on the relation of comprehension to memory. Furukawa (1978) also displayed the positive effects of chunking on long term memory in a study conducted with students who are registered to a general

psychology course. Again, Furukawa (1979) in a study with undergraduates found out that after a three months period, retention levels of students who employed chunking in reading were well above than those students who did not employ chunking. Murphy (1981) on the other hand, in a study conducted with seniors found out that there was a significant increase in retention levels in favor of the test group.

Chunking strategy boosts cognitive skills and enhances reading comprehension. Thus

participants who employ this strategy do not forget their way of analyzing the content of the texts even after two months. As the results presented in the above table suggests, there is a significant difference among the groups in terms of their levels of retention in favor of the treatment group. The positive effect of chunking on both level of reading comprehension and retention of the content that is read in the memory is quite obvious. Thus, chunking proves to be more effective than any other traditional method as it helps the learner to organize information coming from the text.

The hypothesis '2a' tried to find out if there was any difference in retention levels between good readers who employ chunking in reading and good readers who do not employ chunking in reading. To test the hypothesis, the difference in scores from post-test and retention-test is identified as the retention score. The results of the tests are given below:

As Table 8 shows, there is no significant difference among the treatment and control groups of good readers who employ and do not employ chunking in reading. Thus, there is no difference among the readers in terms of



Graphic 5. The mean values of retention scores of good readers in treatment and control groups

Table 8. The t-test values of retention scores of good readers in treatment and control groups

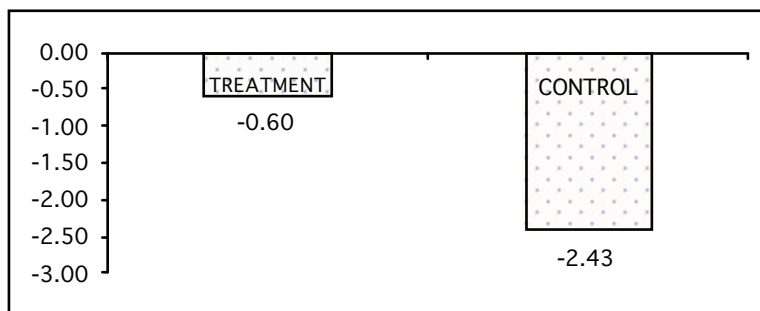
Groups	N	\bar{X}	s	df	t	p
Treatment	8	-1.13	1.96	17	0.52	0.30
Control	11	-1.64	2.20			

$p > 0.05$

retention levels of the contents that they have read either by employing or not employing chunking.

As chunking displayed no significant effect on the comprehension levels of good readers, quite expectedly, it proved no significant effect on their levels of retention as logically convenient outcome. Since good readers already have skills for effective comprehension, they are expected to be skilled readers in any possible context.

The hypothesis '2b' tried to find out any difference in retention levels among poor readers who employ chunking in reading and poor readers who do not employ chunking in reading. To test the hypothesis, the difference in scores from posttest and retention test is identified as the retention score. The results of the tests are given below:



Graphic 6. The mean values of retention scores of poor readers in treatment and control groups

Table 9. The t-test values of retention scores of poor readers in treatment and control groups

Groups	N	\bar{X}	s	df	t	p
Treatment	10	-0.60	0.52	15	3.20	0.003
Control	7	-2.43	1.72			

$p < 0.05$

The results presented in Table 9 indicate that there is a significant difference among the groups that employ and that do not employ chunking in reading. Thus the participants who employ chunking in reading perform better in terms of retention of information than those who do not.

In consistency with levels of comprehension, better levels of retention is observed with the participants who are poor readers when they employ chunking in reading. Poor readers when they employ chunking in reading develop higher levels of retention of information as they systematically organize the incoming information.

When the relevant studies are reviewed, we come across a great number of researches that identify the effects of chunking in reading comprehension. Compared to studies of comprehension, there is relatively less research conducted to measure out the effects of chunking on levels of retention.

Conclusion

Within the limits of the first hypothesis, we observed at the end of the experimental procedure that there was a significant

difference among the treatment and control groups in terms of their achievement scores. The distribution of achievement scores of the readers who employ chunking is significantly different than the achievement scores of the readers who employ traditional method in reading. Thus, chunking has an effect on reading comprehension of Turkish learners of English when they read texts in English.

When we analyze the results gathered through the test of the hypothesis '1a', we observe that chunking do not produce any significant difference in the achievement scores of the good readers from both treatment and control groups. This proves that chunking has no effect on the comprehension of reading texts in English with respect to good readers.

The results from the testing of the hypothesis '1b', indicates that chunking is quite effective in terms of the levels achievement of the poor readers when they employ chunking in reading. There is a significant difference in terms of the distribution of achievement scores from the treatment and control groups. This difference suggests that chunking is effective with poor readers when they employ chunking in reading texts in English.

When we analyze the results from the testing of the second hypothesis, we observe that experimental procedure identified a significant difference among the scores of the treatment and control groups. Hence, there is a significant difference among the retention scores of the treatment and control groups, in other words, significant difference in retention with respect to employing or not employing chunking in reading. This difference clearly proves the effect of chunking in retention of information.

The results from the testing of the hypothesis '2a' suggests that chunking has no effect on the retention levels of good readers both in the treatment and control groups.

Results from the hypothesis '2b' further indicated that implementation of chunking, as a strategy in reading comprehension is

effective with the poor readers as their scores of retention differ significantly from each other.

We may conclude that "traditional method" that involves nothing more than simple reading of the text in the class under the supervision of a language teacher and finding the unknown words in the dictionary, has little to offer to the learners in developing their reading skills as well as their comprehension and problem solving abilities. It appears that cognitive strategies should be brought into language learning environments in Turkey as they not only contribute to developing reading skill in a foreign language but also in native language as well. Further research may try to uncover the role of chunking in reading comprehension with primary and secondary school learners.

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