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A STRUCTURAL APPROACH TO TEACHING
READING COMPREHENSION

BY

ABDUR-RASUL KHAFAJI

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Arts in the
American University of Beirut

Beirut, Lebanon

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To the memory
of my beloved Father
who has always offered me his help and encouragement
I gladly dedicate
this work

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ABSTRACT

Teaching reading comprehension is an avowed objective in most reading programs. Yet, this objective is often given more lip-service than systematic analysis and investigation. This study therefore is an attempt to contribute towards better understanding and teaching of reading comprehension. The basic assumption of the study is that pupils will develop better comprehension skills if they are trained to recognize the meaningful syntactic structures underlying sentences.

The study comprises six chapters. Chapter I is an introduction and a background. It presents an exposition of the problem and a review of the related literature. By referring to psychology and linguistics, this chapter sheds light on the nature of reading from the points of view of both the native speaker and the foreign learner of English.

In Chapter II, the nature and scope of the central topic of this study, i.e. reading comprehension, are discussed. The relation between reading and oral comprehension, the various aims of reading comprehension, and the

different skills that make up reading comprehension are all dealt with. Teaching techniques for the development of various facets of reading comprehension are also presented.

Chapter III suggests practical criteria for grouping words into meaningful clusters for the teaching of reading comprehension. It describes the four basic syntactic structures of English. Immediate-constituent analysis is described in detail as the means of arriving at meaningful word groups.

Chapter IV presents the experimental program applied in the study. It describes the design of the experiment, the population, and the teaching techniques of both the structural and the traditional approaches. Samples of reading materials based on the principles of the structural approach are shown in this chapter. Included also are the objective reading comprehension tests administered to assess the efficiency of the structural approach.

Chapter V reports the results of the experiment. The pupils' raw scores and the calculated "t" values of both the experimental and the control groups on the five

tests are tabulated.

In Chapter VI, interpretations of the results of the experiment are presented. Answers are provided to some important questions pertinent to the structural approach. This chapter also suggests some useful topics for future research on various aspects of the structural approach. Conclusions about the approach and the experiment are finally stated.

TABLE OF CONTENTS

	Page
ACKNOWLEDGMENTS.	iii
ABSTRACT.	v
LIST OF TABLES.	x
 Chapter	
I. INTRODUCTION AND BACKGROUND.	1
The Problem	
The Aims of the Study	
Status of Research Related to the Study	
Reading Instruction and Psychology	
Reading and Linguistics	
Reading a Foreign Language vs Reading the Native Language	
Generalizations on Reading	
Significance of this Study	
Definitions and Limitations	
II. THE NATURE AND SCOPE OF READING COMPREHENSION.	14
What is Reading Comprehension?	
The Relation Between Reading Comprehension and Oral Comprehension	
Different Levels of Reading Comprehension	
Specific Factors Related to Reading Comprehension	
Different Aims of Reading Comprehension	
Developing the Various Comprehension Skills	
Relation Between Reading Comprehension and Reading Speed	
Conclusion	

III.	CRITERIA OF GROUPING WORDS FOR THE TEACHING OF READING COMPREHEN- SION.	40
	Structures of Modification	
	Structures of Predication	
	Structures of Complementation	
	Structures of Coordination	
	A Practical Sequence For IC Cuts	
	Special Considerations	
	A Final Test of Suitability	
	Examples of Application	
IV.	THE EXPERIMENTAL PROGRAM.	60
	The Design of the Experiment	
	The Subjects	
	The Teaching Methods	
	The Teaching Materials	
	Administration of the Tests	
	The Tests	
V.	RESULTS OF THE EXPERIMENTAL PROGRAM.	81
	Testing the Efficiency of the Structural Approach in a Classroom-Teaching Situation	
	Assessing the Efficiency of the Struc- tural Approach in a Self-Learning Situation	
	Evaluating the Structural Approach Over the Whole Experimental Program	
VI.	INTERPRETATIONS AND CONCLUSIONS.	97
	Interpretations of the Test Results	
	Questions and Suggestions	
	Suggestions for Future Research	
	Conclusions	
APPENDIX.	107
BIBLIOGRAPHY.	114

LIST OF TABLES

Table		Page
1.	Pupils' Raw Scores on the Second Test.	83
2.	The Calculated Value of Raw Scores on the Second Test.	84
3.	Pupils' Raw Scores on the Third Test.	85
4.	The Calculated Value of Raw Scores on the Third Test.	86
5.	Pupils' Raw Scores on the Fourth Test.	87
6.	The Calculated Value of Raw Scores on the Fourth Test.	88
7.	Pupils' Scores on the First Test. .	90
8.	The Calculated Value of Raw Scores on the First Test.	91
9.	Pupils' Raw Scores on the Fifth Test.	92
10.	The Calculated Value of Raw Scores on the Fifth Test.	93
11.	Pupils' Averaged Scores on All the Tests.	95
12.	The Calculated Value of Pupils' Scores on all the Tests. . . .	96
13.	Pupils' Raw Scores on the Pretest.	112
14.	The Calculated Value of Raw Scores on the Pretest.	113

CHAPTER I

INTRODUCTION AND BACKGROUND

The Problem:

Helping pupils understand what they read is a basic objective in the teaching of English as a foreign language. But despite the recent advances in the field of teaching English, reading instruction seems to have improved only little. Reading comprehension is always tested, but very rarely taught, in schools. This is due to a misconception of the nature of reading comprehension and of the factors that contribute to it. It is also the result of a lack of systematic teaching methods that relate the teaching of reading to modern theories in linguistics and psychology and make use of new insights into the nature of language and the learning process.

The Aims of the Study:

Modern linguists believe that linguistic meanings in language are conveyed by syntactical structures, usually consisting of more than one word, rather than by

the sum of meanings of the individual words.¹ Thus the present study is based on the assumption that reading comprehension is better taught by presenting pupils with sentences and meaningful phrases as units. Consequently, a teaching approach that helps pupils recognize these meaningful word groups is expected to be superior to one that emphasizes comprehension of individual words.

The aims of this study have thus been set as the following:

1. To study the nature and scope of reading comprehension.
2. To establish some practical criteria for identifying meaningful word groups within sentences.
3. To suggest a teaching approach that will help pupils recognize the word groups that cluster within English sentences.
4. To prepare sample teaching materials suitable for the structural approach to teaching reading comprehension.

¹Charles C. Fries, Linguistics and Reading (New York: Holt, Rinehart and Winston, Inc., 1966), p. 71.

5. To estimate the efficiency of the structural approach in a controlled experiment.

Status of Research Related to the Study:

Most current reading methodology focuses on words as the most significant units.² This emphasis, however, runs counter to findings in modern linguistics. In his analysis of the reading process, Fries holds that structuralism abandons the word-centered thinking about language and that "in every aspect of language we must shift from an item-centered view to one that is structure-centered."³ Albert Harris states that "in reading, one must organize the material into meaningful phrases and thought units."⁴ He then suggests that "the best way to set off phrases is to leave additional space between them."⁵ In his comprehensive book on the skill of reading, Lefevre discusses the issue more elaborately and

²Carl A. Lefevre, Linguistics and the Teaching of Reading (New York: McGraw-Hill Book Co., 1964), p. xvii.

³Fries, p. 64.

⁴Albert J. Harris, How to Increase Reading Ability (New York: Longmans, Green and Co., 1956), p. 396.

⁵Ibid., p. 426.

suggests a program for applying structural linguistics to reading instruction. On the problem of reading comprehension, he thinks that readers must be presented with sentences and phrase units as meaningful wholes.⁶ In teaching reading, he suggests that "we should analytically slice larger language segments into smaller ones. . . to the extent that the learning process requires it."⁷ Neither Harris nor Lefevre, however, have mentioned anything about the criteria that are to be used for grouping a number of words into one structural thought unit. Moreover, they have neither gone into the details of a structural approach to reading nor reported about the practical efficiency of such an approach in classroom situations.

In 1964, Eskey and Montague developed some reading materials for the students in the Orientation Program at the American University of Beirut. Their materials were based on the assumption that learning the structures of written English is helpful to reading comprehension. In the exercises they constructed for this purpose, "each sentence exercise begins with the pattern, or kernel,

⁶Lefevre, p. xi.

⁷Ibid., p. 7.

sentence which underlies the complete structure the students must be taught to understand. This simple sentence is then developed step by step."⁸ The authors intended this approach for advanced students. Their approach also differs from that of Lefevre and Harris in that it does not present the students with phrase units within sentences but rather with basic sentence patterns that are gradually expanded. However, all of these writers are basically interested in improving reading comprehension by providing pupils with an insight into the internal relationships within sentences.

Though it is not abundant, there is some evidence from research that introducing reading materials in short sentences improves comprehension. Coleman⁹ prepared three versions of the same reading material with sentences of different lengths. By "t" tests it was found that comprehensibility of the shortest version was significantly greater than that of the longer ones. The advantage,

⁸David E. Eskey and George Montague, Structural Reading (Beirut: 1964), p. ii. (mimeographed).

⁹E.B. Coleman, "Improving Comprehensibility by Shortening Sentences," Journal of Applied Psychology, XLVI (April, 1962), pp. 131-4.

being only seventeen percent, was small. The author consequently suggested that shortening clauses may be more important than shortening sentences.

Reading Instruction and Psychology:

Psychology has greatly helped towards developing effective reading instruction. Psychologists have contributed by their investigations in the following fields:¹⁰

1. individual differences in learning, 2. motivation, 3. perception, 4. concept formation, and 5. thinking abilities. By providing insights into the nature of reading as a thinking process, psychology has shifted the emphasis in teaching from word-calling to thinking and understanding.¹¹

Reading and Linguistics:

"Linguistics has improved reading instruction by continuing to research the structure of language."¹² Since reading should be based on the best available knowledge of

¹⁰ Emmett Albert Betts, "Reading: Linguistic and Psychological Bases, Improvement of Reading Through Classroom Practice, ed. J. Allen Figurel (Newark, Delaware: International Reading Association, 1964), p. 22.

¹¹ Ibid.

¹² Ibid.

language, it is naturally the linguist who is qualified to provide educators with this essential knowledge. The linguistic concept of the phoneme, for example, has greatly helped towards a better understanding of language and its function as a means of communication.¹³

The following are some of the contributions that linguistics can offer to the teachers of reading:¹⁴

1. Linguistics can offer an accurate description of the language.
2. Linguistics can offer teachers and educators useful techniques of research in language and reading.
3. Linguistics can provide useful criteria for more readable materials for reading instruction.
4. Linguistics can help teachers better understand how languages are learnt.
5. Linguistics can provide many useful clues on how meanings are conveyed by language.

¹³Kenneth S. Goodman, "The Linguistics of Reading," Elementary School Journal (April, 1964), p. 355.

¹⁴Ibid.

6. Linguistics can provide many concepts that can be usefully tried by teachers in classroom situations. A field of educational linguistics may thus emerge as a product of the cooperation between applied linguists and educators.

Reading a Foreign Language vs. Reading the Native Language:

Methods and programs for teaching reading of English to Arab pupils rarely take into consideration the fact that foreign learners need an approach different from the one used with the native pupils. Learning to read a foreign language involves skills that are much different from learning to read one's own native language.¹⁵

Native speakers of the language start learning to read after they are already capable of speaking and understanding the language orally. What they need to learn, then, is to respond to the written representations of the primary vocal signals they have already mastered. In the same way, foreign learners of the language should start with learning to respond to the basic oral signals, i.e. the

¹⁵Charles Fries and Agnes Fries, Foundations for English Teaching (Tokyo: Kenkyusha, Ltd., 1964), p. 374.

segmentals and the suprasegmentals, of the target language. They need to learn the foreign language itself and only then should they begin learning to associate the graphic representations with the vocal signals. This association constitutes the initial stage in reading.¹⁶

Thus it seems that a teaching technique that allows for oral practice and conversation consequently is more beneficial than another one which exclusively deals with the graphic signals. This seems plausible since "a large part of learning to read a foreign language is a process of learning to supply rapidly and automatically the portions of the sound signals that are not represented in the graphic signs."¹⁷

Generalizations on Reading:

The following generalizations concerning reading from both linguistics and psychology can help teachers have a better view of the reading process. They can also lead to new practices in reading instruction.¹⁸

1. Reading is basically a means of communication. The reader who does not get meaning from what he reads is actually not reading. Hence, the major

¹⁶ Ibid.

¹⁷ Ibid., p. 378.

¹⁸ Goodman, p. 359.

- objective in reading should be reading comprehension.
2. Reading materials should be interesting to the learner and written in a language that he can understand.
 3. Phonemes are the primary units of all languages, but they can function only within morphemes. Morphemes are the smallest meaningful units in language, but they rarely exist outside syntactical structures. Thus, the emphasis in teaching should be laid upon recognition and understanding the syntactical structures since these are the real meaningful entities of language.
 4. Words are very hard to pronounce, define, or classify outside language contexts. The practice of using word lists in teaching reading should therefore be re-evaluated.

Significance of this Study:

Theoretically, the study will indicate whether there is any significant correlation between reading in structural units and improvement in reading comprehension.

The practical significance, on the other hand, is that it will shed more light on the nature of reading comprehension and may provide the classroom teacher with a new

approach to teaching reading comprehension. The study will also apply some modern findings in linguistics, such as the immediate-constituent analysis, to the field of reading instruction.

Definitions and Limitations:

1. Grammarians and linguists differ among themselves on what a structure is. Nevertheless, the study will adopt the following operational definition of the structure as: a group of morphemes and words organized into larger meaningful utterances.¹⁹
2. While suggesting the steps of the proposed approach and constructing the teaching materials for sample lessons, the writer will have in mind the pupils of the three-year intermediate stage in Iraq. These pupils have had a minimum of two years of English and their ages range from thirteen to eighteen. Due to practical difficulties of getting Iraqi pupils, however, the study will use Lebanese pupils instead as subjects of the experiment. The linguistic background of these pupils, their ages, and the number

¹⁹W. Nelson Francis, The Structure of American English (New York: The Ronald Press Company, 1958), p. 223.

of years they have studied English will, as far as possible, be chosen to approximate those of the Iraqi pupils to whom the teaching technique and materials are originally proposed.

3. The approach proposed is mainly intended for teaching reading comprehension. The heart of the approach is the method of presenting reading passages with the structural units visually separated by spaces. Pupils can thus readily see the meaning-bearing word groups within the larger patterns of sentences. The immediate-constituent analysis, whose principles are fully explained in Chapter III, will be used as the means of breaking sentences up into their underlying structures for the purpose of this structural teaching approach.
4. Empirical testing of the proposed approach in a controlled experiment, though basically feasible, is not easy. There is a multitude of variables to be controlled. Moreover, any significant improvement in reading comprehension needs a relatively long period of time in order to show up. Human factors, such as the researcher's likes and expectations and the pupils' attitudes and interests,

are hard to measure and control and thus will constitute shortcomings in the study.

Some experimental evidence, however, is still needed. Consequently, available opportunities will be used to carry out a simple experimental program whose results should be considered as only suggestive and indicative. For more reliable results, however, further experimentation and replication is needed.

CHAPTER II
THE NATURE AND SCOPE
OF READING COMPREHENSION

What is Reading Comprehension? Introduction and Definition:

With the increasing emphasis of modern education on meaningful school activities and on active participation of the pupil in the learning process, the objective in reading has gradually shifted to the more meaningful activity of understanding and evaluating what is read.¹ Comprehending materials read is now regarded as the most important phase of reading and has for the last few years been a subject of hundreds of experiments and investigations. Since reading comprehension is the central topic of this thesis, this chapter aims at presenting a brief but well-defined picture of the nature and scope of this basic reading skill.

What is reading comprehension? One of the simplest and shortest definitions is that "it is the ability to interpret what is read and requires a different pattern

¹Emmet Albert Betts, "Reading = Linguistic and Psychological Bases," Improvement of Reading Through Classroom Practice, ed. J. Allen Figurel (Newark: Delaware: International Reading Association, 1964), p.22.

of arrangement of closely related factors or skills in each of the content fields."² This simple definition reveals some very essential characteristics of reading comprehension. It first says that reading comprehension is an 'ability'; hence we would expect people to differ in their power of comprehension as they differ in all other abilities. Secondly, the definition states the objective of reading comprehension, which is "to interpret what is read" rather than, for example, to sound it out or to spell it correctly. The definition also mentions that reading comprehension is not a single skill, but rather a product of the combination of many "related factors or skills." Lastly, another basic trait of reading comprehension is shown by the above definition, which is that comprehension is not always one and invariable. Rather it is flexible, and in each different reading situation it may require "a different pattern of arrangement of closely related factors or skills."

²William D. Sheldon, "What is reading comprehension? A research view," New Perspectives in Reading Instruction, ed. Albert J. Mazurkiewics (New York: Pitman Publishing Corporation, 1964), p. 224.

The Relation Between Reading Comprehension
and Oral Comprehension:

The communication process between two speakers and that which takes place between a reader and printed material have much in common. A mastery of the basic linguistic signals in both situations is essential for understanding though the signals seem to be considerably different. They are vocal and audible in the speaking-listening situation and visual in the reading situation. However, modern linguistics with its emphasis that writing symbols are nothing but a secondary representation of the more basic speech symbols urged many linguists and educators to hold the view that even in silent reading "direct apprehension of visual symbols, without the intermediary of vocal and audible symbols, seems unlikely."³ This conviction that both listening and reading basically have a vocal origin explains the emphasis of some modern approaches to reading instruction on providing foreign pupils with some training in listening and speaking skills before actually starting them to read the graphic symbols on the printed page.

³Charles T. Scott, "The Linguistic Basis for the Development of Reading Skill," The Modern Language Journal, vol. L, No. 8 (Dec., 1966), p. 535.

The application of the principles of the audio-lingual approach to the teaching of reading may also be a result of this linguistic concept that relates writing to speech. Scott has suggested an 'oral reading drill' for teaching beginners which is

similar to the mim-mem procedure for teaching the oral patterns of the language, i.e. through imitation of the model set by the teacher and repetition of that model until manipulative control is achieved. The only obvious difference is that, in oral reading drill, the students follow the written text in front of them. ⁴

This oral reading while looking at the book is done in an attempt to associate the visual linguistic symbols with the vocal speech signals and in order to help the reader "attune his eye, so to speak, to catch the graphic clues to structural signals of intonation, so that in oral as well as silent reading, the patterns emerge consciously for him as melodies of the printed page."⁵ Many authorities in the field of reading have thus come to believe that oral comprehension is a prerequisite to reading comprehension and that before one can understand

⁴ Ibid.

⁵ Carl A. Lefevre, Linguistics and the Teaching of Reading (New York: McGraw-Hill Book Company, 1964), p. 73.

printed materials well, one must have the ability to cope with ordinary conversational needs.

The basic difference between reading and oral comprehension, however, is the nature of the linguistic signals involved in each skill. The signals, though basically thought to be the same, are primarily visual in reading comprehension and vocal in oral comprehension. This difference imposes additional tasks in reading. For one thing, the reader has to recognize the words he reads, i.e. to transform the visual configurations into vocal configurations in order to be able to associate the words with their meanings, whereas the vocal symbols in listening are more directly related to meanings.

Another additional reading task is that the reader has to organize the printed material into meaningful phrases, while in listening this grouping and organization of signals into meaningful patterns is largely done for the listener by the phrasing and intonation of the speaker. Meanings in English sentences are expressed through patterns of syntactical relationships among groups of words, and the meaning of any word is flexible according to the syntactical context it occurs in. Hence, meaningful situations are depicted by groupings of words

rather than by the cumulative meanings of series of independent words. Lefevre states:

To comprehend printed matter, the reader must perceive entire language structures as wholes -- as unitary meaning-bearing patterns. Short of this level of perception, the reader simply does not perceive those total language structures that alone are capable of carrying meaning. He may perceive individual words as if words were meaning-bearing units in themselves, one of the most serious of all reading disabilities. Or he may group words visually in structureless pattern-fragments that do not and cannot bear meaning.⁶

Various methods and teaching techniques have been suggested to help the pupils recognize the syntactical structures and meaningful word groups within sentences. This study is an attempt towards this goal.

Different Levels of Reading Comprehension:

It is one of the expected outcomes of individual differences to find that people differ in their reading comprehension ability. It may, however, be rather surprising to know that the same individual may have different levels of reading comprehension. The same person may score high in comprehending a certain reading selection, but score low in another one. Why? There are

⁶Lefevre, pp. xi - xii.

three main reasons which cause people to vary in their comprehension.⁷

1. The presence of a purpose for the reading activity improves reading comprehension since a purposeful reader is also an interested learner. Thus purposeful reading would provide the reader with a driving motivation. Purposes arbitrarily determined by teachers are usually extraneous motives that are void of the vigor of a true purpose.
2. The ease or difficulty of the reading material influences reading comprehension. The kind and amount of vocabulary, structures, and concepts determine the difficulty level and readability of reading materials.
3. The reader's familiarity with the topic greatly influences his understanding of what he reads. A broad experiential background thus seems to improve the opportunities for a better reading comprehension. This shows the importance of providing the pupils with a cultural orientation besides the linguistic orientation when teaching them a foreign language.

⁷Sheldon, p. 224.

Specific Factors Related to Reading Comprehension:

Several studies have been conducted to determine the relation of some specific factors to reading comprehension. The results of these controlled investigations have identified certain conditions that may help in guiding any effort to improve reading comprehension.

One of these studies has shown positive correlations between reading comprehension and each of the following four factors: intelligence, vocabulary, organization, and rate. Positive correlations were found particularly high in the case of intelligence and adequate vocabulary.⁸ Another study showed the influence that an increased amount of reading has on higher achievement in reading comprehension.⁹

Various investigators in the field of reading have suggested many other possible factors related to reading comprehension. Though the relation between most of these factors and reading comprehension is not yet

⁸William Scott Gray, Summary of Investigations Relating to Reading (Chicago: The University of Chicago, 1925), p. 104.

⁹Ibid., p. 105.

experimentally determined, they nevertheless serve as useful topics for future research. The factors suggested as possibly related to poor reading comprehension are: lip-movements and articulation, small recognition span, lack of motivation, inability to reason and lack of clear objectives in the teaching of reading.¹⁰

Different Aims of Reading Comprehension:

Many teachers of reading often fail to realize that there are various aims of reading comprehension and that a good reader should be able to vary his reading techniques to suit the specific reading situation he is confronted with. The use of a certain reading approach is usually determined by the nature of the materials read and the purpose for which reading is done. Flexibility in reading habits is an essential for efficient reading. This requires teachers to identify the different aims of reading comprehension in order to train their pupils to use the proper approach to a particular comprehension aim.

¹⁰ Ibid., p. 104.

The following is a list of the most basic aims of reading comprehension.¹¹ Pupils need specific training in order to be able to attain one or more of these aims in any reading situation.

1. Reading for a Rapid Survey: Reading for the purpose of acquiring an overall impression is closely related to the ability to skim rapidly over reading materials in order either to find an answer to a specific question or to get an over-all picture of what is read.
2. Reading for the Main Idea: This is an important objective of comprehension which requires the pupil to compare among various thoughts and to select the most relevant idea to the topic in the whole reading selection.
3. Reading to Follow a Sequence of Events: The ability to comprehend the sequence is especially important to understand narrative material in which the positions and sequence of ideas and events are important to perceive the cause-and-effect relationships and anticipate the rest of the story.

¹¹Albert J. Harris, How to Increase Reading Ability (New York: Longmans Green and Company, 1956), pp. 433-444.

4. Reading to Note and Recall Details: Reading for details is necessary in most learning situations and is thus often emphasized in schools. The ability to follow printed directions in performing a certain act actually depends on ability in this kind of reading comprehension since every step in directions is a detail to be noted and precisely carried out in action.

5. Critical Reading Ability: The ability to question and to evaluate what is read is a very essential aim of reading comprehension. Critical reading has become more important with the emphasis in modern education on pupil-centered activities in which the learner is no longer a passive recipient of unquestioned facts but an active inquirer and a resourceful participant in the learning process.

Developing The Various Comprehension Skills:

A well-planned program of reading comprehension requires in the first place an understanding of the various comprehension skills, identification of those skills that the pupils need special training in, and finding the suitable techniques for teaching the required skills.

Programs for developing various comprehension skills usually provide guidance and instruction in the following major areas of comprehension:¹²

1. Word Meaning.
2. Phrase Meaning.
3. Sentence Meaning.
4. Paragraph Meaning.
5. Reading the Context.
6. Reading for the Main Idea.
7. Reading for Details.
8. Reading the Organization.
9. Reading for Evaluation.
10. Reading for Learning.

The rest of this part of the chapter will deal with the nature and constituents of each of these skills as well as suggestions of useful techniques for teaching some of them.

1. Word Meaning:

Attempts to improve reading comprehension through increasing the meaningful vocabulary and by special vocabulary training is justified by the results of

¹² Emerald V. Dechant, Improving the Teaching of Reading (Englewood Cliffs, N.J.: Prentice-Hall, Inc., 1964), p. 354.

many experiments which reported high correlations between vocabulary proficiency and reading comprehension. In one of these experiments a high correlation was reported even when general intelligence was held constant in the population experimented on.¹³

Particularly essential to reading comprehension is word recognition. The ability to recognize a certain word when met in a new reading situation depends on the ability to identify that word accurately and to associate it with the appropriate meaning. Various clues may help readers to recognize words, with the following as the basic ones: length of the word, its total configuration, some striking details that it may have, its oral association, the context it occurs in, and its grammatical features.¹⁴

In general, the ease or difficulty in recognizing a certain word depends upon the reader's familiarity and amount of experience with that word

¹³ Ibid., p. 355.

¹⁴ Gertrude Hildreth, Teaching Reading: A Guide to Basic Principles and Modern Practices (New York: Holt, Rinehart and Winston, 1965), p. 109.

and its meaning. Other factors such as the memory-span of the person, his mind-set, his interest, and the special connotations that a certain word may have all influence the probability of recognizing a certain word correctly.

2. Phrase Meaning:

Reading words in meaningful groups is encouraged by modern trends in teaching reading. Oral reading practice provides excellent opportunities for training the pupils to read phrases as meaningful groups since reading aloud can clearly show whether a reader is grouping the words correctly or not.¹⁵

Flash cards with short phrases written on them can be useful teaching devices for training pupils to perceive meaningful word groups. Short comprehension questions that encourage answering in phrase units are helpful both in providing the pupils with a necessary phrase-sense and identifying them with the normal way of answering questions in conversational situations. Reading materials in which word groups have been marked off either by vertical

¹⁵Harris, p. 423.

lines or by wide spaces may prove effective in overcoming word-by-word reading and in improving both rate and comprehension of reading. Reading materials geared to training pupils in phrase reading and understanding should be free of vocabulary and structure difficulties in order to give the pupils the opportunity to concentrate on phrasing and meaning.¹⁶

3. Sentence Meaning:

To be able to read with understanding the reader needs to perceive the meaningful patterns of the language he is reading . The sentence, many experts in reading believe, is the minimal framework of meaning in language. They believe that "the sentence is not merely a sequence of words, but a unitary meaning-bearing pattern of grammatical and syntactical functions: the individual words are relatively minor elements in such unitary patterns."¹⁷

The linguistic meaning of a sentence is not the sum of the meanings of its individual words but rather the product of the kinds of relationships

¹⁶Ibid., pp. 426 - 428.

¹⁷Lefevre, p. xx.

among its various structural units. To help the pupils understand sentences and see the inter-relationships among functional word groups within sentences, questions with 'who', 'where', 'when', 'whose', etc. are useful.

4. Paragraph Meaning:

A paragraph consists of a series of sentences that center around a basic idea and are related to each other.¹⁸ To train the pupils in paragraph interpretation they may be asked to identify the sentence that does not belong to the same topic from among a series of sentences. Training in selecting the topic sentence or sentences is also helpful.

5. Reading the Context:

The reading context forms the field in which ideas are portrayed and events take place. Reading the context means grasping a broad and comprehensive framework within which various details may fit and different relationships may exist. Contexts usually provide clues that help in understanding meanings of words, sentences, and paragraphs. Contextual reading

¹⁸Dechant, p. 359.

is particularly valuable to the advanced pupil when he may be confronted with an enormous increase in both the number and the variety of meanings. Words start to develop fine shades of meanings at this stage which makes contextual clues indispensable in the comprehension process.

The importance of reading the context can be demonstrated to the pupils by some useful exercises, such as, asking them to complete the meaning of some sentences by adding the missing words. Another teaching technique is to ask the pupils to delete irrelevant words in sentences or substitute such words by the correct ones. One word may be presented in different contexts with different shades of meanings and the pupils are asked to deduce the right meaning in each context. This exercise helps both to show the usefulness of contextual reading and to teach the pupils fine shades of meanings of some words.

6. Reading for the Main Idea:

This skill is regarded by reading experts as basic in the hierarchy of comprehension skills. The following exercises are suggested to develop this

essential comprehension skill;¹⁹

1. Selecting or giving the best suitable title for a reading selection.
2. Reducing a paragraph to a simple sentence by identifying the main idea.
3. Turning the subtitles into questions and trying to answer those questions; the answers will represent the main ideas in the paragraphs.
4. Asking the pupils to skim rapidly over a reading selection with a definite problem in mind which they try to solve.

Some have suggested that it is easier to start with training pupils to identify the main idea of a sentence.²⁰ This can be done by asking the pupils to underline key words in sentences. The next step is identifying the key sentence or sentences in a paragraph. Eventually the pupils are taught to gather the main idea from more than one paragraph.

¹⁹ Mildred A. Dawson and Henry A. Bamman, Fundamentals of Basic Reading Instruction (New York: David McKay Company, 1959), pp. 178 - 179.

²⁰ Alan Robinson, "A Cluster of Skills: Especially for Junior High Schools," Reading Teacher, XV (September, 1961), pp. 25-28.

7. Reading for Details:

This comprehension skill is particularly important to pupils since so much of success at school depends on it due to the great emphasis laid on learning details in our schools. Carrying out printed directions on doing something or playing a game is a useful teaching technique for the purpose of detailed reading. Multiple choice, completion, and true-false questions on a passage are particularly suitable in directing the pupils' attention to minute details.

8. Reading for Organization:

The ability to note the relationship between main and subordinate ideas, to observe the sequence of presentation, and to outline the material as one reads is important in achieving an integrated reading comprehension. Various techniques can help readers organize what they read. The most popular ones are summarizing, outlining, and underlining.²¹ Summaries are useful for presenting the essential facts and the major ideas in what is read. Outlining helps organize information by using letters and numbers to indicate main ideas and subordinate points. Underlining key words, phrases, and sentences is also a commonly-

²¹Dechant, p. 365.

practiced organizational technique for better reading comprehension.

9. Reading for Evaluation:

This reading comprehension skill has recently received increased emphasis in programs of reading instruction due to the stress of modern education on developing independent and positive personalities. A good comprehender argues with his author. The critical reader is a continuous inquirer of the author's motives and the validity of his statements. Such a complex skill as evaluative reading obviously requires patient guidance and proper training from the teachers.

Dechant mentions three ways by which critical reading can be taught. These are: the direct approach, the functional approach, and the incidental approach.²² The direct approach consists of reading newspapers, magazines, and articles critically in the class after acquainting the pupils with some examples of propaganda techniques and biased writings. In the functional approach, class materials and the pupils' own works are themselves read with the idea of

²²Ibid., p. 372.

critical examination of their contents. The incidental approach, which is the least effective perhaps, hopes that the pupils may acquire skill in critical reading as a by-product of an overall improvement in reading and intellectual activity.

10. Reading for Learning:

The ultimate goal in reading for learning is the integration of what one reads into one's own behavior and personality. Reading at this level becomes a very rich experiential field from which the reader can learn to improve his own life and look differently at the world.

Perhaps one of the most useful methods of integrative reading is the one suggested by Robinson which is widely known as the SQ3R technique. It involves five steps: survey, question, read, recite, and review.²³

Before carefully reading an important reading selection, a good reader would better familiarize himself with the broad outlines, the main divisions, the topic sentences, and the summary of what he is intending to read. This survey provides the reader

²³Francis P. Robinson, Effective Study (New York: Harper and Row, Publishers, 1946), pp. 13 - 14.

with a valuable over-all picture of the reading material.

The questioning part of the integrative technique consists of keeping some questions in mind while reading; this will make reading more purposeful and hence more interesting. Questions can be found at the end of chapters in some books or made by the reader himself by converting titles, subtitles, and italicized words into questions.

The third step in this approach to integrative reading is a purposeful reading. This kind of study-type reading is usually a careful and intensive reading which emphasizes details, relationships, and sequence. It is also flexible in that both rate and depth of comprehension must be adjusted to the purpose of the reading act.

The ability to recite what one has read is given a great importance in effective reading. Essentially it is a self-examination situation in which the reader tries to answer the questions he has already posed as guideposts for his reading. This valuable step towards integrative reading helps concentration on essential ideas and aids recall when later needed.

Review, finally, is essential to aid retention, without which no use of the acquired knowledge is possible and hence no integration will take place. The final test of retention is perhaps represented by the ability to transfer school learning to life situations. Review sessions which are separated by progressively extended periods of time are very helpful in retention of what is read. Reviewing can be done either by rereading the material or by going through summaries and outlines of the materials that have been previously read.

Relation Between Reading Comprehension
And Reading Speed:

The once popular and time-honored belief that rapid readers acquire less meaning from what they read has been recently driven out of favor by modern scientific research in the field of reading. Numerous studies on the subject have shown that, in general, reading comprehension is positively correlated to reading speed.²⁴ Consequently, present programs for reading instruction have started to utilize various motivational and mechanical devices to urge the reader to increase his rate of reading on the hope that this would automatically increase his reading comprehension.

²⁴Gray, p. 124.

This, however raises some questions. Can reading speed be regarded as independent of the nature and difficulty of the materials read? Is rate of reading the same regardless of the purpose of the reader? Do rapid readers always achieve higher on comprehension tests and vice-versa?

Results of experiments indicate that fast readers as a group tend to have better comprehension averages than slow readers as a group. This generalization, however, has so many exceptions that when stated without any qualifications, it may be as wrong as the old discarded belief. The amount of correlation between reading comprehension and reading speed varies from a slight relationship to a quite high ratio. The relationship between speed and comprehension thus need not be consistent in different reading situations. Differences in the content of the material read, the reader's purpose, the kind of response he is expected to make, and the difficulty of the materials are all factors that influence the degree of correlation between comprehension and speed.²⁵ Other factors may be the age of the readers and methods used to measure the two skills. Correlations were higher with children at the primary grades than with adults. Some experiments have also given

²⁵Miles A. Tinker, "The Relation of Speed of Reading to Comprehension," Research in the Three R's, ed. C.W. Hunnicut and W. J. Iverson (New York: Harper & Brothers, 1958), p. 141.

evidence that at a high level of intelligence fast readers read with better comprehension than slow readers whereas at the average and lower IQ levels the slower readers seem to be more efficient than rapid readers, especially with difficult materials.²⁶

It thus appears that good reading is flexible in both comprehension and speed. As there is no one aim of reading comprehension that is appropriate in all situations, there is also no one reading rate that is suitable everywhere. Variety in reading habits is a mark of efficiency. Nevertheless, on the whole, it appears that a high reading rate is one of the prerequisites to a better reading comprehension.

Conclusion:

From all that has been said in this chapter it becomes evident that the greatest part of a good comprehension ability in reading is something that is not

²⁶Thorston R. Carlton, "The relationship between Speed and Accuracy," quoted in Albert Harris, How to Increase Reading Ability, p. 505.

born with the pupils but rather to be acquired through suitable learning experiences and proper guidance. This fact makes the role of teachers even more crucial in developing this basic reading skill. It is by continuous revision of present teaching methods and experimenting with new approaches that teachers can best shoulder this serious responsibility. The present study is a step in search of better ways to teaching the complex skill of reading comprehension.

CHAPTER III
CRITERIA OF GROUPING WORDS FOR THE
TEACHING OF READING COMPREHENSION

English sentences are not mere chains of independent words but rather consist of groupings and clusters of words, and one of the basic keys to understanding an English sentence is knowing what words cluster together.¹ It is the purpose of this chapter to present and discuss the means by which we can determine the groupings within a given sentence. The principles of immediate-constituent analysis, with some necessary modifications, are going to be the criteria for grouping words into meaningful units. This IC analysis is accepted on the basis that the structural meanings of sentences depend largely on recognizing the grouping of their constituents and that "most of the failures of communication seem to be tied up, in one way or another, with the problems of immediate constituents."²

¹Paul Roberts, English Sentences (New York: Harcourt, Brace and World, Inc., 1962), p. 120.

²Charles C. Fries, The Structure of English (New York: Harcourt, Brace and World, Inc., 1952), p. 262.

Most English sentences can be initially cut into two immediate constituents. The resulting constituents, if longer than one word, can in turn be cut into their own ICs which again are often two in number. This process of cutting by twos can be carried on until the ultimate constituents, i. e. single words, are arrived at. English syntax is thus seen to consist of many layers of structures. However, in order to be able to draw the cutting lines in the right places within structures to get ICs, we need to know the types and make-up of all the structures we may be confronted with. Since there is an infinite number of sentences in English, the task seems formidable, but fortunately it is not so. Most English sentences, no matter how complex, are in fact combinations of only four basic types of structures. These are: structures of modification, predication, complementation, and coordination.³ Each of the four basic structures has usually two ICs; they are a head and a modifier in a structure of modification, a subject and a predicate in a structure of predication, a verbal element and a complement in the structure of complementation, and two or more syntactically equivalent units in the structure of coordination.

³W. Nelson Francis, The Structure of American English (New York: The Ronald Press Co., 1958), p. 292.

Structures of Modification:

The two ICs in this type of structure are a head and a modifier, with the possibility that each of them may be a single word or any larger type of structures. The following table shows the most common combinations within the framework of structures of modification:

Head	Modifier	Examples
1. Noun	a. Adjective	good → people a life ← full of joy
	b. Noun	a man's → world a tennis → court the playwright ← Shaw
	c. Verb	fried → chickens something ← to try
	d. Adverb	the people ← upstairs
	e. Prep. Phrase	a house ← in the corner
	f. Function Word	the → man
	g. Relative Clause	a man ← who never gets tired
2. Verb	a. Adverb	sings ← beautifully
	b. Adjective	turned ← pale

Head	Modifier	Examples
3. Adjective	c. Verb	entered ← smiling
	d. Prep. Phrase	slept ← for an hour
	a. Adverb	extremely → popular
	b. Verb	good ← to try
	c. Prep. Phrase	better ← than nothing
4. Adverb	d. Function Word	very → lovely
	e. Adverbial Clause	call ← whenever you have time
	a. Adverb	usually → quickly
	b. Noun	a mile → away
5. Function Word	c. Prep. Phrase	far ← in the woods
	d. Function Word	quite → haphazardly
	a. Prep. Phrase	more ← than needed
	b. Function Word	very → much

In all structures of modification the arrangement of modifiers is both directional and cumulative.⁴ It is "directional" in the sense that the direction of the function of the modifiers is always towards the headword; and

⁴Fries, p. 266.

it is "cumulative" as each modifier not only modifies the headword but also all items that are still connected with it. In the sentence, 'The grey-haired old man who often comes here is a poet,' for example, the clause modifier, 'who often comes here' does not only modify 'man' but the whole noun-headed structure 'The grey-haired old man.'

Structures of Predication:

A subject and a predicate form the two ICs of a structure of predication. The predicate always contains the main verb or verb-phrase and it may consist of a single verb or any other complex structure with a verb at its core. The subject, on the other hand, is usually a noun or a noun-headed structure of modification, e.g., fire broke out; a wise person in the family is helpful. However, various other parts of speech and structures may function as subjects, with the following as the most common:

1. Verbs: To forgive is divine; Driving fast is undesirable.
2. Structures of Complementation: Writing a good book is hard.
3. Structures of Coordination: Now or never is his motto.
4. Structures of Predication: That he failed is a surprise.

Structures of Complementation:

The two ICs in this structure are: a verbal element and a complement. The verbal element may consist of a simple verb or any structure that has a verb as its head. The following are examples of various possible verbal elements that may constitute the first IC in a structure of complementation:

1. Simple Verb: (He) bought a car; (She) is a nurse.
2. Verb Phrase: (I) have read the book; (He) has been here for a long time.
3. Verb-headed Structure of Modification: (He) usually drinks wine; (He) usually is late.
4. Structure of Coordination: (They) neither heard nor read the news; (He) either is or will be there now.

Since intransitive verbs are not followed by complements, they cannot occur in structures of complementation. The other two types of verbs, the linking and the transitive, may both act as verbal elements in structures of complementation.

Complements, the second IC, may again range from single words to quite complex structures of various types. However, complements can be broadly divided into two categories: subjective complements and objects, the former

occurs after linking verbs and the latter after transitive verbs.

Any part of speech as well as all types of structures may function as subjective complements:

Noun: The teacher is my friend.

Function Word: That is all.

Adjective: He seems clever.

Adverb: She is there.

Verb: It is raining.

Prepositional Phrase: They are in the garden.

Structure of Modification: She is a very lovely girl.

Structure of Coordination: He is either mad or ingenious.

Structure of Complementation: His wish is to be a good teacher.

Structure of Predication: The trouble is that he does not know.

When a transitive verb is followed by one object, whether it is a single word or a complex structure, that object is always a direct object. The following are examples of some of the various forms that a direct object may take:

Noun: I read the book.

Verb: He loves to read.

Structure of Modification: She likes the modern art.

Structure of Predication: I heard (that) he left.

Structure of Coordination: He is learning to read
and write.

When two objects follow a transitive verb, one of the objects is always a direct object but the other can be either an indirect object or an objective complement. Hence, there is a potential ambiguity in the second object. However, the following criteria can help remove the ambiguity:

- a. When the two objects have the same referent, i.e. they refer to the same person or thing, they are then a direct object plus an objective complement in that order, e.g.:

They elected him a committee member.

- b. When the first object of the two can be turned into a prepositional phrase, it is an indirect object and the other object is a direct object, e.g.

She gave him the book.

(or) She gave the book to him.

Indirect objects are rather limited in form; they are often either nouns or noun-headed structures of modification. Objective complements, on the other hand, may have various forms. The following are some of these:

Noun: They elected him a president

Adjective: She painted it red.

Structure of Modification: She made him a great man.

Structure of Coordination: He considered the situation difficult and hopeless.

Structures of Coordination:

The ICs of this type of structures are two or more syntactically equivalent units that are joined either by intonation alone or by some coordinators in addition. Each of the ICs may consist of any of the parts of speech and syntactical structures.

With some coordinators, like rather than, along with, etc., the ICs of a structure of coordination do not occur next to each other but rather are split and inverted, e.g.: Along with his success he got the prize.

Correlatives are themselves split coordinators, e.g., either... or, not only... but also, etc. The first IC comes between the two parts of such coordinators whereas the second one comes right after the second part, e.g.:

He is neither superior nor retarded.

Not only can he speak five languages but he can write in all of them.

A Practical Sequence for IC Cuts:

In carrying out the process of IC analysis, there is a sort of hierarchical sequence that is found to be practically efficient in producing word groups suitable for the purposes of this study. The sequence can be summarized simply in the following three hierarchical steps:

1. Cutting off all sentence modifiers that may occur initially, medially, or finally,
2. Cutting all the long modifiers, such as prepositional phrases and relative clauses.
3. Cutting the resulting word groups that are too long according to the IC principles.

It is essential to remember that in all these steps the purpose is to produce groups of suitable length. Hence any word group that is felt to have a satisfactory length is left uncut although it might still be further cut into more ICs.

Special Considerations:

The aim of this study is mainly pedagogical. Hence the purpose of this chapter is not to arrive at the ICs per se, but rather to group words into meaning-bearing units for the sake of training the pupils to recognize such

units by themselves. Some freedom from rigidly adhering to all the details of IC analysis has consequently been practiced here. It may also be found necessary sometimes to re-shape some of the resulting Constituents to suit the objectives of the study. The special modifications and practices used for this end are the following:

(a) Combining Levels:

The presence of various levels is one of the characteristics of IC analysis. This means that the first cut of any sentence into its two main ICs constitutes the first level, and that cutting the resulting ICs into their own ICs forms the second level, and so on to the third, fourth, etc. until the ultimate constituents are arrived at. However, the aim here is not to get to the ultimate constituents but rather to meaningful groupings of words that are long enough to carry some semantic load and short enough to be comprehended without much difficulty. The length of the word groups also depends on the level of the students; the higher their level, the longer the word groups may be. How far we go on with the IC cutting is thus determined by the length of the immediate constituents we have and by the level of the students who are to use the materials. Hence,

we may go on cutting long ICs to a low level, whereas we may leave short enough ICs uncut at a high level. The result will inevitably be that some ICs are left at a high level while others will be cut to a lower level because of their extra length. A subject of a sentence that consists of two or three words, for example, will form a word group at the first level, whereas its long predicate will be cut on to lower levels. This mixing of various levels among word groups is dictated by the practical objectives of this study.

(b) Uniting ICs

For the same pedagogical purpose, we may have to unite two or more adjacent constituents to produce suitably long word groups. These short ICs are very often not from the same level; their unification is nevertheless allowed here since it serves the practical purposes of the study.

We may, however, find some short units that cannot be suitably united with any adjacent ICs as such a union will produce poor and meaningless units. Consequently, such units, though short, will form word groups of their own. Sentence modifiers consisting of single words are examples of such short but independent units.

(c) Split Constituents:

Most questions and other inverted structures contain split constituents. The verbal element in questions is usually divided up into two parts with the subject nesting between. The practice in this study is to keep the two parts of such verbal elements in the same word group when sentences are cut. However, if the intervening elements are too long to be contained in one unit, the two verbal elements may have to be separated. Fortunately, good writers do not usually separate too far from each other the related parts in their sentences. Thus, in practice, this problem is not a crucial one.

Another problem may arise from the presence of a two-word verb in some sentences, such as call up, look after, etc. These two related parts are also better kept in the same word group. English again seems to have helped towards the solving of this problem since, for grammatical considerations, the practice in writing is not to let long elements intervene between the two parts of such verbs in order to avoid ambiguity. When the intervening elements are long, the second parts of such verbs are usually put right after the first parts. Thus

in both cases the problem is practically not crucial.

(d) Punctuation Marks:

Since we are here dealing exclusively with written and printed materials, it is possible and desirable to make use of punctuation marks in arriving at the suitable groups. Punctuation marks usually indicate natural boundaries between structural groupings. Thus punctuation marks may help to supplement other criteria in getting at meaningful word groups.⁵

A Final Test of Suitability:

A good test of the suitability of the resulting word groups can be made by reading aloud the determined groups within a sentence and inserting a single-bar or a double-bar juncture after each word group. If the groups sound natural and meaningful under this test, then the grouping is satisfactory. Otherwise some regrouping may be necessary. IC analysis with the subsequent modifications presented above will rarely leave us with any unsatisfactory word group, but it is nevertheless safer to apply this intonation test to eliminate any word group that does not have

⁵Fries, p. 287.

some independent and semantic entity.

In order to demonstrate this testing device, the following sentence may be used as an example:

The old man walking in the garden is my father.

According to the criteria presented earlier the sentence will be cut as follows:

The old man / walking in the garden / is my father.

A poor reader may, however, erroneously group the words in the sentence like this:

The old / man walking in the / garden is my father.

Applying the test to the word groups in the first sentence shows meaningful grouping; whereas reading the groups with a juncture after each one in the second sentence will show that the grouping is meaningless and ridiculous.

Examples of Application:

Some working principles:

- a. Except when initial or final, constituents are cut by drawing diagonal lines on both sides.
- b. Conjunctions are regarded as parts of the word groups that follow them.

- c. The first part of a complement that consists of a direct object plus an objective complement or an indirect object plus a direct object is more suitably left united with the verbal element in structures of complementation. This is particularly true when such first parts of complements are too short to form independent word groups.

Sentences:

- (1) Whenever it rained, water came through Nasreddin's roof, so one day he got his ladder, climbed up on to the roof and began to mend it.

Procedure:

- a. Cutting off the sentence modifier: whenever it rained.
b. Cutting the modifiers: 1. through Nasreddin's roof,
2. on to the roof, and 3. so one day
c. Cutting off the remainder of the coordinated constituent structure: climbed up
d. Uniting climbed up with its modifier on to the roof for a more suitable word group.

Result:

Whenever it rained / water came / through Nasreddin's roof, / so one day / he got his ladder, / ~~climbed~~ up on to the roof / and began to mend it.

- (2) While he was up there, he suddenly saw an old man
in the street.

Procedure:

- a. Cutting off the sentence modifier: while he was up there
- b. Cutting the modifier: in the street
- c. Cutting the complement: an old man

Result:

While he was up there, / he suddenly saw / an old
man / in the street.

- (3) He wanted Nasreddin to come down.

Procedure:

- a. Cutting off the modifier: to come down

Result:

He wanted Nasreddin / to come down.

- (4) Nasreddin thought, "What has happened? What news has
this man got for me?"

Procedure:

- a. Cutting off the modifier: for me
- b. Cutting the complement: What has happened?
- c. Cutting what news which is actually a complement to the verb has got but brought forward in the question pattern.

Result:

Nasreddin thought, / "What has happened? / What news /
has this man got / for me?"

(5) Several times he slipped and nearly broke his neck.

Procedure:

- a. Cutting off the modifier: several times
- b. Cutting the constituent : and nearly broke his
neck

Result:

Several times / he slipped / and nearly broke his neck.

(6) One evening when Nasreddin came home very late, his
wife said to him, "I cooked your dinner two hours ago."

Procedure:

- a. Cutting the sentence modifier: one evening when
Nasreddin came home very late
- b. Cutting the modifiers: 1. when Nasreddin came home
very late and 2. two hours ago
- c. Cutting the predicate : came home very late
- d. Cutting the complement: I cooked your dinner

Result:

One evening / when Nasreddin / came home very late, /
his wife said to him, / "I cooked your dinner / two
hours ago."

- (7) She was so angry that she gave him a push, and as she was young and strong and he was old and weak, he fell down the stairs.

Procedure:

- a. Cutting the sentence modifier: and as she was young and strong and he was old and weak
- b. Cutting the modifiers: 1. that she gave him a push, and 2. down the stairs
- c. Cutting the complements: 1. young and strong and 2. old and weak

Result:

She was so angry / that she gave him a push, / and as she was / young and strong / and he was / old and weak, / he fell / down the stairs.

- (8) One of Nasreddin's neighbours, who was always eager to know what was happening in everybody else's house, was listening, and when she heard the noise that Nasreddin made when he fell down the stairs, she came to his front door and knocked.

Procedure:

- a. Cutting the sentence modifier: and when she heard the noise that Nasreddin made when he fell down the stairs

- b. Cutting the modifiers: 1. who was always eager to know what was happening, 2. in everybody else's house, 3. that Nasreddin made, 4. when he fell, and 5. down the stairs
- c. Cutting the complements: 1. eager to know and 2. what was happening
- d. Cutting the constituent: and knocked

Result:

One of Nasreddin's neighbours, / who was always /
eager to know / what was happening / in everybody
else's house / was listening, / and when she heard
the noise / that Nasreddin made / when he fell /
down the stairs, / she came to his front door /
and knocked.

(9) "What has happened?" she said.

Procedure:

- a. Cutting the complement: "What has happened?"

Result:

"What has happened?" / she said.

(10) "My coat fell down the stairs," he answered.

Procedure:

- a. Cutting the modifier: down the stairs

Result:

"My coat fell / down the stairs," / he answered.

CHAPTER IV

THE EXPERIMENTAL PROGRAM

The Design of the Experiment:

The paralleled-group experimental design was used in this study. Two groups of pupils were given a reading comprehension pretest.¹ By use of the "t" test of significance, the pretest scores showed that the two groups were insignificantly different and were thus regarded equal for the purposes of the experiment. One group was chosen to be the experimental group and the other was the control group. Two different approaches to teaching reading comprehension were applied in the two groups. The content of the teaching materials was, however, the same for the two groups.

The experiment lasted for a week during which five reading comprehension tests were given to each group. The second, third, and fourth tests were on materials already taught to the pupils by the writer. The first and the fifth tests, on the other hand, were

¹A copy of the pretest is reproduced in the appendix.

on passages that were not taught to the pupils but which the pupils themselves had to read and understand. All of the five tests were the same for the two groups. Scores obtained from these five tests were the criteria used for evaluating the efficiency of the structural approach to reading comprehension as compared with the traditional approach.

The Subjects:

The subjects were fifty pupils of the fourth elementary class at Khalil Shihab School which belongs to the Islamic Association of al-Maqasid. Arabic was the native language of all the subjects. The experimental and the control groups each comprised twenty-five pupils. The range of the pupils' age in each group was from 9 to 13 with an average of 11.8 in both groups. Pupils in both groups have had a minimum of four years of learning English as a foreign language.

The Teaching Methods:

a) The Structural Approach:

The structural division of sentences into meaningful word groups was accompanied by a special teaching technique, which was applied in the experimental group. This technique aimed at stressing the

structural groupings within sentences and helping the pupils recognize the relationships among these various units. The steps of this structural reading approach were:

1. Model reading of the whole passage by the teacher.

In this reading, oral pauses corresponded with the visual spaces between word groups. The pupils followed in their reading passages which were structurally marked by spaces. This listening-reading activity was to help the pupils associate oral phrasing with visual grouping. In other situations, however, it may be useful to ask the pupils not to look at the reading selections. They would then try to understand the passage by help of the teacher's intonation and dramatization.

2. Reading the passages sentence by sentence in the way already indicated in the previous step. Each sentence is followed by comprehension questions on its meaning. These questions were rapid and short. Answering in the word groups marked in sentences was very much encouraged to stress the meaningful structural units. The questions aimed at showing relationships within sentences

by asking about 'who', 'where', 'what', 'whose', etc. It was in this step of the teaching technique that any checking or teaching of vocabulary items was quickly done.

3. Silent reading by the pupils of the whole passage.

b) The Traditional Approach:

This approach is the one commonly used at schools. It included the following steps when used in the experiment:

1. Teaching or testing of important vocabulary items.
2. Oral reading by the teacher of the whole reading passage while the pupils were following in their own copies.
3. Silent reading of the whole passage by the pupils.
4. Testing the pupils' comprehension of what they have read, with the insistence that questions should be answered in full sentences and not in phrases.
5. Reading aloud by some of the pupils.

The same amount of time was given to both teaching approaches. It took about fifteen minutes to teach any of the reading selections used in the experiment under both teaching situations. The two groups were both taught by the writer during the experimental program.

The Teaching Materials:

Five reading passages were used in the study. These passages were chosen for their interest and suitability to the age level of the pupils and to their command of English. Each reading passage was then printed in two forms. In the form that was taught to the experimental group, the sentences were cut into meaningful structural units that were visually spaced according to the principles of IC analysis described in the previous chapter. These structural word units are not to be broken at all at the end of lines on the printed page. In the other form, however, the normal way of writing sentences was used. Forms printed in the normal way are not shown below since they represent the ordinary type of writing. The other forms that are structurally spaced are, however, presented here as sample materials for the structural approach to teaching reading comprehension. The five structurally-spaced reading selections used in the experimental group were the following:

a) Passage One:

When Mr. Jones went to a restaurant one day, he left his coat near the door. There was nothing in the pockets of the coat when he left it, so he was very surprised when he took his coat after his meal and found the pockets full of jewellery!

There was a waiter near the door, so Mr. Jones said to him, "Somebody has made a mistake. He has put some jewellery in my coat. Take it, and when he comes back, give it to him." The waiter took it and went away. Suddenly another man came in with a coat just like Mr. Jones's, "I am sorry," said this man. "I made a mistake. I took your coat and you have got mine. Please give me my coat and jewellery." Mr. Jones answered, "I gave the jewellery to the waiter. He will give it to you."

Mr. Jones called the manager of the restaurant; but the manager said, "We have no waiters here. We only have waitresses." "You gave the jewellery to a thief!" shouted the other man. "I shall call the police." Mr. Jones was frightened and paid the man a lot of money for the jewellery.

b) Passage Two:

When Nasreddin's first wife died, he married again. His second wife was much younger than he was and they often quarreled. One evening when Nasreddin came home very late, his wife said to him, "I cooked your dinner two hours ago. It is quite spoiled now." She was so angry that she gave him a push, and as she was young and strong, and he was old and weak, he fell down the stairs.

One of Nasreddin's neighbours, who was always eager to know what was happening in everybody else's house, was listening, and when she heard the noise that Nasreddin made when he fell down the stairs, she came to his front door and knocked.

"What has happened?" she said.

"My coat fell down the stairs," he answered.

"But a coat would not make so much noise!"

The neighbour said,

"Of course it would," answered Nasreddin, "if I was inside it."

(c) Passage Three:

Whenever it rained, water came through Nasreddin's roof, so one day he got his ladder, climbed up to the roof and began to mend it. It was quite difficult and dangerous work.

While he was up there, he suddenly saw an old man in the street. This man was waving to him. He wanted Nasreddin to come down. Nasreddin thought, "What has happened? What news has this man got for me?"

So he climbed down the ladder quickly. Several times he slipped and nearly broke his neck. When he got to the bottom, the old man said, "I am a poor man. Please give me some money."

Nasreddin was very angry, but he said, "Come up." He helped the old man to climb up the ladder and on to the roof. Then he said to him, "I am a poor man too. I have no money for you. And now go down alone. I will not help you."

(d) Passage Four:

A man was traveling outside his country in a small red car. One day he left the car

and went shopping. When he came back, its roof was badly damaged. Some boys told him that an elephant had damaged it. The man did not believe them, but they took him to a circus which was near there. The owner of the elephant said, "I am very sorry! My elephant has a big, round, red chair. He thought your car was his chair, and he sat on it." Then he gave the man a letter, in which he said that he was sorry and that he would pay for all the damage.

When the man got back to his own country, the customs policemen would not believe his story. They said, "You sold your new car while you were outside the country and bought this old one."

It was only when the man showed them the letter from the circus man that they believed him.

(e) Passage Five:

Nadim was very sorry that it was raining. He had planned to go on a picnic with his class at school. "Mother," said Nadim, "I just hate rain, don't you?" Mother smiled and said, "Did you ever think of all the good the rain does? Do you remember what happened last year

to your garden when you forgot to water it?
How about the swimming pool at your Grandmother's
when it has not rained for a long time? No person or plant
is happy for very long without rain." Nadim was quiet a moment
and then said, "Oh, Mother, I think the rain
is doing good after all, even if it did spoil our picnic.
We can plan another one for a sunny day."

Administration of the Tests:

The first and the fifth tests were given on passages 1 and 5 that had not been previously studied by the pupils. The experimental group was given the spaced form of the reading passages whereas the control group had the connected forms. With both forms, objective comprehension tests were given. These tests consisted of multiple-choice items. Directions for the tests were given in Arabic to assure understanding. Pupils were then given free time to read the passages on their own and answer the test questions. This comprehension testing usually took about fifteen minutes in both groups.

The second, third, and fourth tests immediately followed reading selections 2,3, and 4. These were taught

by the writer to the two groups. The same reading selections were taught to both groups; the experimental group used the structural approach and the control group used the traditional approach. Reading selections were collected from both groups before tests were administered so that pupils could not look back at the reading selection. The tests were again not timed. However, they usually did not take more than ten minutes to answer. The tests given after teaching were also of the multiple-choice type of items.

All five tests were given in the first and the second periods in the morning. This was found suitable as the pupils were usually active at this time of the day. These two periods also ran without an intervening break between them. This was thought particularly desirable in order not to let pupils from the two groups exchange information about any of the tests before they were through with it.

The Tests²:

The five tests used to evaluate the pupils' comprehension under the two teaching approaches are given

² The protest is given in the appendix.

below in the order they were used:

(a) First Test:

1. What did Mr. Jones do when he left his coat?
 - a. He ate a meal.
 - b. He cooked a meal.
 - c. He stole some money.
 - d. He lost some jewellery.

2. When he left his coat, what was in it?
 - a. Some jewellery.
 - b. A pen.
 - c. Some money.
 - d. Nothing.

3. When he took his coat, what was in it?
 - a. A pen.
 - b. Nothing.
 - c. Jewellery.
 - d. Money.

4. Whom did he talk to then?
 - a. The manager.
 - b. A waiter.
 - c. A waitress.
 - d. The police.

5. What happened after Mr. Jones gave away the jewellery?
 - a. The manager grew angry.
 - b. A man said he had found the jewellery.
 - c. A waitress found the jewellery.
 - d. A man asked for the jewellery.

6. The manager said that they did not have
 - a. waiters.
 - b. waitresses.
 - c. thieves.
 - d. policemen.

7. Mr. Jones
 - a. wanted to go to the police.
 - b. told the police that he was not the thief.
 - c. did not want to go to the police.
 - d. ran away from the restaurant.

8. Mr. Jones' mistake was that he had
 - a. called the police.
 - b. given the jewellery to a thief.
 - c. stolen the jewellery.
 - d. killed the waiter.

(b) Second Test:

1. Nasreddin
 - a. loved his second wife.
 - b. pushed her down the stairs.
 - c. quarreled with her.
 - d. came home early.

2. The dinner was spoiled because
 - a. it was eaten two hours ago.
 - b. it was burned.
 - c. Nasreddin refused to eat it.
 - d. it was cooked two hours ago.

3. Nasreddin's second wife was than her husband.
 - a. older and stronger.
 - b. younger and weaker.
 - c. younger and stronger.
 - d. older and weaker.

4. What did the wife do?
 - a. She gave her husband the food.
 - b. She pushed him down the stairs.
 - c. She spoke to her neighbour.
 - d. She did nothing.

5. The neighbour
 - a. saw the quarreling.
 - b. saw somebody falling.
 - c. heard the noise of somebody falling.
 - d. heard nothing.

6. Nasreddin answered the neighbour that
 - a. he fell down the stairs.
 - b. his coat fell down the stairs.
 - c. nothing happened.
 - d. his wife fell down the stairs.

7. The neighbour said
 - a. "A coat would not make so much noise."
 - b. "You and your wife made so much noise."
 - c. "Your coat made much noise."
 - d. "You made much noise."

8. In the story
 - a. Nasreddin's coat fell down the stairs.
 - b. Nasreddin fell down the stairs.
 - c. his wife pushed the coat.
 - d. Nasreddin was young and strong.

(c) Third Test:

1. Whenever it rained, water
 - a. came through the door.
 - b. came through the window.
 - c. came through the roof.
 - d. did not come into the room.

2. Nasreddin climbed up to
 - a. get the ladder.
 - b. mend the roof.
 - c. look at the rain.
 - d. pour water on the roof.

3. The work was
 - a. easy and comfortable.
 - b. not dangerous but difficult.
 - c. dangerous but not difficult.
 - d. dangerous and difficult.

4. Nasreddin saw a man
 - a. waving to him.
 - b. climbing the ladder.
 - c. breaking his neck.
 - d. standing on the roof.

5. The man asked Nasreddin to
 - a. climb up the ladder.
 - b. give him some money.
 - c. help him go down the ladder.
 - d. show him the roof.

6. Nasreddin helped the man to
 - a. get some money.
 - b. walk in the street.
 - c. climb down the ladder.
 - d. climb up the ladder.

7. Nasreddin gave the man
 - a. some money.
 - b. some food.
 - c. some water.
 - d. nothing.

8. Nasreddin did not help the man because:
 - a. he was angry with him.
 - b. the man was poor.
 - c. the man climbed up the ladder.
 - d. the man was old.

(d) Fourth Test:

1. The whole damage was caused by
 - a. the elephant's mistake.
 - b. the small boys.
 - c. the customs policemen.
 - d. the owner of the elephant.

2. Why did the man leave his car?
 - a. He went to see the circus.
 - b. He went to buy a new car.
 - c. He went to see the boys.
 - d. He went shopping.

3. The boys told the man that
 - a. his car had been damaged by an elephant.
 - b. the circus owner would pay.
 - c. the elephant was very big.
 - d. the elephant had a big, round chair.

4. The elephant thought that
 - a. there was somebody in the car.
 - b. the car was small.
 - c. the car was his chair.
 - d. the car was not new.

5. The chair of the elephant was
 - a. twice as big as the car.
 - b. the same color as the car.
 - c. much bigger than the car.
 - d. much smaller than the car.

6. The owner of the circus said that he would
 - a. give him a new car.
 - b. buy the car from him.
 - c. pay for all the damage.
 - d. give him the round chair.

7. The policemen said first that the man had
 - a. bought his new car.
 - b. sold his old car.
 - c. bought the elephant.
 - d. sold his new car.

8. What did the man show the policemen?
 - a. His new car.
 - b. The letter.
 - c. His old car.
 - d. The elephant.

(e) Fifth Test:

1. The boy said he hated
 - a. grandmother
 - b. school
 - c. rain.
 - d. garden

2. This little boy wanted to go on a
 - a. boat.
 - b. picnic.
 - c. ride.
 - d. train.

3. The mother was talking to her
 - a. son.
 - b. daughter.
 - c. brother.
 - d. grandmother.

4. The mother said no life is happy very long without
 - a. food.
 - b. garden.
 - c. rain.
 - d. picnic

5. What did Nadim forget to care for?

- a. class.
- b. the swimming pool.
- c. his mother.
- d. the garden.

6. Without rain, people are

- a. happy.
- b. sad.
- c. rich.
- d. strong.

7. The swimming pool was

- a. at Grandmother's.
- b. in the school.
- c. on the farm.
- d. in the rain.

8. What spoiled the picnic:

- a. Nadim.
- b. school.
- c. mother.
- d. rain.

CHAPTER V
RESULTS OF THE
EXPERIMENTAL PROGRAM¹

In each of the five tests reported here, the aim was to test the null hypothesis of no difference in comprehension achievement between the experimental group and the control group. The level of 0.05 of significance was used as the minimum of acceptability. The "t" test of small and uncorrelated data was applied to compute the statistical values of all the tests.

Testing the Efficiency of the Structural Approach in a Classroom-Teaching Situation:

As mentioned in the first chapter, the structural approach to reading comprehension suggested in this study is mainly meant as a teaching approach. The teacher's help, especially with beginners, is thought essential to guide the pupils to recognize and understand the meaningful word groups.

¹The result of the pretest is reported in the appendix.

In order to assess the efficiency of the structural approach as a teaching tool, three tests were given on passages two, three, and four. These passages were first taught to both groups by the writer. The experimental group studied these three passages according to the structural approach, whereas the control group studied them according to a traditional approach.

The calculated values of the three tests are reported in tables 2, 4, and 6 on the following pages.

TABLE I
PUPILS' RAW SCORES ON
THE SECOND TEST¹

<u>Experimental Group</u>	<u>Control Group</u>
25	15
30	15
--	30
30	15
10	10
20	25
20	25
20	20
15	10
25	25
25	--
25	25
30	15
30	40
15	15
20	25
20	15
35	--
35	25
40	10
--	30
40	35
25	25
30	10
20	20

¹On all the tests, the highest score was 40.
In all the tables, the raw scores of pupils are reported
in the same order of sequence.

TABLE 2
THE CALCULATED VALUE OF RAW SCORES
ON THE SECOND TEST

The Experimental Mean.	25.4
The Control Mean.	20.9
The Difference Between the Two Means.	4.5
The Calculated "t".	1.875

The Result:

The following "t" formula of small uncorrelated data is used here as well as in all other tests: $t = \frac{\bar{X}_1 - \bar{X}_2}{S_{D\bar{X}}}$.

By use of this formula, the calculated "t" from TABLE 1 was found to be 1.875. Entering the "t" table under the 0.05 level of confidence at 44 degrees of freedom, we find the tabulated "t" value to be 2.0017. As the calculated "t" value is less than the tabulated "t" value, the null hypothesis that there is no significant difference between the two means of the experimental and the control groups is accepted. We conclude that the difference between the two means could have arisen by some chance factors other than the teaching approaches.

TABLE 3
PUPILS' RAW SCORES ON
THE THIRD TEST

<u>Experimental Group</u>	<u>Control Group</u>
40	20
20	10
25	35
40	15
25	20
40	20
30	35
20	30
25	35
20	20
40	25
35	25
30	15
40	40
30	10
35	15
35	25
40	30
40	40
35	20
30	35
35	35
25	40
40	25
35	40

TABLE 4
THE CALCULATED VALUE OF RAW SCORES
ON THE THIRD TEST

The Experimental Mean.	32.4
The Control Mean.	26.4
Difference Between the Two Means.	6
The Calculated "t".	2.308

The Result:

The "t" value from TABLE 3 was found to be 2.308. Under the 0.05 level of significance and at 48 degrees of freedom, the "t" table shows that the "t" value is 2.0013. As the calculated "t" is larger than the tabulated "t", the initial null hypothesis of no difference is rejected at the 0.05 level of confidence. The difference between the means of the two groups is greater than that which could have been the result of chance. We conclude that the difference between the two groups is significant and that the experimental group has achieved results superior to the control group.

TABLE 5
PUPILS' RAW SCORES ON
THE FOURTH TEST

<u>Experimental Group</u>	<u>Control Group</u>
15	25
40	15
25	40
15	20
30	25
40	15
20	20
20	00
25	30
--	25
35	15
40	--
30	20
35	40
25	10
15	15
25	10
30	25
35	20
30	20
35	30
35	30
15	25
25	10
30	30

TABLE 6
THE CALCULATED VALUE OF RAW SCORES
ON THE FOURTH TEST

The Experimental Mean.	27.9
The Control Mean.	21.4
Difference Between	
the Two Means.	6.5
The Calculated "t".	2.500

The Result:

The "t" value calculated from TABLE 5 is 2.500. The tabulated "t" is reported by statistical tables to be 2.0015 under the 0.05 level of confidence and at 46 degrees of freedom. Since the calculated "t" is larger than the tabulated, we reject the null hypothesis at the 0.05 level of confidence. The difference between the means of the two groups is bigger than that which could have been the result of chance. As the mean of the experimental group is greater than that of the control group, we conclude that the experimental group is significantly superior to the control group.

Assessing the Efficiency of the Structural Approach in a Self-Learning Situation:

As a parallel experiment planned to estimate the effectiveness of the structural approach to reading comprehension in a learning situation, two tests were given to both groups.

The first test was given in the beginning and the last test given at the end of the experimental program which lasted for a week. Both tests aimed at assessing the efficiency of the structural approach when the pupils read a structurally-spaced reading selection by themselves. The experimental group was consequently given a spaced passage while the control group was given a connected form of the same reading material. Then both groups were given the same tests on the two selections.

The calculated values of the first and the fifth tests given to both groups are shown on the following pages:

TABLE 7
PUPILS' SCORES ON THE
FIRST TEST

<u>The Experimental Group</u>	<u>The Control Group</u>
15	25
10	15
10	35
25	15
25	10
35	15
15	25
10	20
10	15
25	25
10	10
25	15
35	10
25	15
10	15
10	30
15	5
25	25
40	25
30	10
25	40
40	15
5	30
20	15
25	30

TABLE 8
THE CALCULATED VALUE OF RAW SCORES ON
THE FIRST TEST

The Experimental Mean.	20.8
The Control Mean.	19.6
Difference Between	
the Two Means.	1.2
The Calculated "t".	0.444

The Result:

The calculated "t" = 0.444 from TABLE 7. The tabulated "t" of 48 degrees of freedom at the 0.05 level of significance is 2.0013. Since 0.444 is less than 2.0013, we accept the null hypothesis of no significant difference and conclude that the difference between the means of the two groups is not larger than that which could have been caused by chance only.

TABLE 9
PUPILS' RAW SCORES ON
THE FIFTH TEST

<u>Experimental Group</u>	<u>Control Group</u>
20	10
20	20
15	25
--	10
20	15
25	--
15	20
20	15
10	25
25	10
25	--
25	20
20	10
25	30
--	10
15	10
--	15
25	30
25	--
30	10
10	15
35	30
20	25
35	10
15	20

TABLE 10
THE CALCULATED VALUE OF RAW SCORES
ON THE FIFTH TEST

The Experimental Mean.	21.6
The Control Mean.	17.5
Difference Between	
the Two Means.	4.1
The calculated "t".	1.952

The Result:

The "t" from TABLE 9 came out to be 1.952. This value is statistically insignificant as it is less than the tabulated value of "t" under the 0.05 level of significance at 42 degrees of freedom which equals 2.0019. Hence, we conclude that the difference between the two means is insignificant and less than that which could have been the product of chance alone. The initial null hypothesis of no significant difference between the means of the two groups is thus accepted.

Evaluating The Structural Approach Over the
Whole Experimental Program:

In an attempt to evaluate the efficiency of the structural approach throughout the whole week of the experiment, each pupil's scores on all the tests were averaged and considered as a new raw score for that pupil. The means of both the experimental and control groups were then calculated from these averaged raw scores. The "t" test of significance for uncorrelated and small samples was used in the statistical calculations of the results.

The tables on the next two pages show the averaged raw scores and the calculated values of the difference between the means of the two groups.

TABLE 11
PUPILS' AVERAGED SCORES ON
ALL THE TESTS

<u>Experimental Group</u>	<u>Control Group</u>
23	19
24	15
15	33
22	15
22	16
32	15
20	25
18	17
22	23
19	21
27	10
30	17
25	28
29	14
31	33
16	12
19	19
19	14
31	22
35	22
33	14
20	30
37	29
18	29
30	14

TABLE 12
THE CALCULATED VALUE OF PUPILS' SCORES
ON ALL THE TESTS

The Experimental Mean.	24.68
The Control Mean.	20.24
Difference Between	
the Two Means.	4.44
The Calculated "t".	2.312

The Result:

The value of "t" calculated from TABLE 11 is 2.312. The value of the tabulated "t", on the other hand, is 2.0013 under the 0.05 level of significance and at 48 degrees of freedom. Consequently, the null hypothesis of no difference is rejected since the calculated "t" is larger than the tabulated. We can thus conclude at the 0.05 level of confidence that the experimental group is significantly superior to the control group throughout the whole experimental program.

CHAPTER VI
INTERPRETATIONS AND CONCLUSIONS

Interpretations of the Tests Results:

On every test in the experiment, the experimental group scored higher than the control group in reading comprehension. This superiority of the structural approach, however, was not statistically significant on all the tests. Nevertheless, the cumulative achievement in reading comprehension of the experimental group throughout the whole experimental program was found significantly superior to that of the control group.¹ Some of the early tests in the experiment were insignificant at the 0.05 level of confidence. This was quite expected for the various reasons mentioned below.

The second test, which was the first test on a passage taught by the structural approach, did not statistically show any significant superiority of the experimental

¹See tables 11 and 12.

group. This is believed to have been primarily caused by the newness of the approach. Training the pupils in the experimental group to answer in phrase units, for example, took some time from the first teaching period. The control group, on the other hand, immediately proceeded with the traditional approach whose requirements they had long been familiar with. Consequently, the control group spent all the teaching time in learning the reading passage, whereas the pupils in the experimental group had to spend some of the time in familiarizing themselves with the new teaching technique of the structural approach. In spite of this advantage to the control group, the experimental group scored a mean of 25.4 in the first teaching session while the control group scored 20.9.² The calculated "t" value for this difference between the two means is 1.875. Though it is rather big, this "t" value is statistically insignificant. Had the pupils in the experimental group been already familiar with the structural approach, the difference between the two means would have been expected to be larger and statistically significant. This notion is verified by the results of the second and third tests on taught passages.

²Table 2.

The second and third tests administered immediately following the teaching of the passages revealed the significant superiority of the experimental approach over the traditional.³ The results of these two tests show that a new teaching technique usually takes some time in order to produce any tangible results. Thus it seems advisable not to judge the failure or success of any new teaching approach too quickly. Awareness of this is especially relevant to teachers and educators.

In the parallel experiment that was run to see whether the structural approach could benefit pupils who read on their own without the help of a teacher, the results of the two tests given for this purpose did not show statistical superiority in the experimental group. The first test was given in the very beginning of the experimental program: The mean of the experimental group was little more than that of the control group.⁴ This result shows that pupils without previous training in recognition of syntactical structures can benefit little from reading structurally-spaced passages.

³Tables 4 and 6.

⁴See table 8.

On the last test given to pupils on a structurally-spaced passage that they read by themselves, the experimental group scored much higher than the control group. Statistically, however, the difference between the means of the two groups was only significant at a level that is little less than the 0.05 level of confidence. Since the 0.05 level of confidence is regarded in this study as the minimum of acceptability, the difference was still considered as insignificant. It is nevertheless expected that a training period of more than one week would have produced a greater and more significant difference. This conclusion seems plausible since the difference between the two means was only 0.444 on the first test whereas it rose as high as 1.952 on the last test.

The insignificance of the result of the fifth test adds more weight and value to the results of the third and fourth tests which were statistically significant. It shows more clearly the effectiveness of the structural approach as a teaching technique. It also shows that pupils do need a longer period of training in order to grasp and assimilate the advantages of reading in the structural approach by themselves.

Questions and Suggestions:

The difference between the means of the two groups does not consistently increase during the course of the experiment as might have been expected. Rather, it varies in size from one test to another. The reason for this fluctuation may be that the passages tested were not equated in terms of difficulty. Difficulty, as mentioned in Chapter II, is one of the key factors in reading comprehension.

The scores of individual pupils on the five tests sometimes also rose and fell from one test to the other. This again can be largely attributed to the varying difficulty levels of the reading passages. But, why does the same pupil change his relative position in the class from one test to another? Due to many factors, consistency in the level of reading comprehension is very rare. The difficulty level of the reading selection is not a general factor that has the same amount of influence on everybody. The familiarity of one pupil with a certain passage and his psychological and physical conditions at the time of the test are other reasons for the variations of his scores on different tests.⁵

⁵For a full discussion of these factors, see Chapter II.

How does the structural approach lead to a better reading comprehension? Meanings in English are conveyed by groups of words and the relationships between these groups of words.⁶ The structural approach tries to capitalize on this linguistic concept. The structural approach helps pupils see what words cluster together by spacing related words together in visual clusters. Relationships among the various groups of words are revealed and emphasized by the comprehension questions that focus on word-group answers. Relationships are taught by revealing the grammatical functions of words groups through questions with who, why, what, where, etc.

Does the structural approach aim at converting all the reading materials at schools into structurally-spaced writings? The answer to this question is 'No'. The structurally-spaced reading materials primarily aim at preparing the pupils to read with better comprehension the ordinarily-connected writing forms. The transfer is expected to take place after one or two years of learning to read in the structural approach. Thus only in the beginning stages of learning are books of reading to be printed in structurally-spaced writing. The struc-

⁶ Charles C. Fries, Linguistics and Reading, p.71.

tural approach, in this respect, will play a role to facilitate reading for beginners similar to the role played by the Initial Teaching Alphabet of Sir James Pitman.⁷ However, a special use of structurally-spaced reading materials may be also made in remedial reading at different academic levels. These issues and many others need to be determined by further experimentation under various conditions.

Suggestions for Future Research:

Many aspects of this reading approach are still in need of further experimentation. The following suggestions may constitute suitable points of departure for future research on the structural approach to reading comprehension:

1. A replication of the whole experimental program on a larger scale is needed. The number of subjects and the duration of time should be increased. It is also preferable to give a reading-comprehension post-test similar to the

⁷For more information about the Initial Reading Alphabet, see Learning to Read, by Sir James Pitman.

pretest in the ordinary form of writing. Results of such a posttest are useful to detect whether there is any significant transfer in the experimental group from the structurally-spaced passages to the normally-connected materials within the time of the experiment.

2. Another interesting topic for research is to study the effect of the structural approach on reading speed.
3. The degree of suitability and effectiveness of the structural approach for various types of pupils is worthy of investigation. The approach may be evaluated with advanced pupils or with native speakers of English, for example. Retarded, normal, and gifted pupils may constitute the subjects of other experiments in this field.
4. The steps of the teaching technique of the structural approach may be modified to make them more suitable for teaching various aims of reading comprehension.

5. The effect of using materials with a structural and vocabulary control on the efficiency of the structural approach is another worthwhile subject for investigation.

Conclusions:

1. The structural approach to reading comprehension is significantly superior to the traditional reading approach in teaching situations. This conclusion, however, is valid only in relation to the population and the other conditions of the experiment specified in this study.
2. As a self-study technique, the structural approach is not statistically superior after a week of training. The large difference between the means of the two groups at the end of the experiment, however, indicates that a longer period of training would probably reveal the significant superiority of the structural approach in self-learning situations.
3. The steps of the teaching technique of the structural approach focus the pupils' attention

on noting and recalling details of what they read. With the emphasis on this skill in schools, this characteristic makes the structural approach even more beneficial. The teaching technique may, however, be modified to suit other purposes of reading comprehension that are also as useful.⁸

4. The experimental findings of this study agree with the views of Lefevre and Harris for the improvement of reading comprehension.⁹ The results of the study also verify Coleman's conclusion that shorter sentences and clauses improve reading comprehension.¹⁰ Presenting the pupils with shorter sentence parts, i.e. meaningful word groups, has led to better reading comprehension under the conditions specified in the study.
5. More experimentation is required to obtain a more reliable approximation of the efficiency of the structural approach under various conditions.

⁸The various aims of reading comprehension are discussed in Chapter II.

⁹The Studies of Lefevre and Harris are reported in Chapter I.

¹⁰Coleman's experiment is reported in Chapter I.

APPENDIX

The Pre-test:

Two friends were travelling together when they met a bear. One of them quickly left his friend and climbed up into a tree and hid himself. The other could not fight the bear alone, so he threw himself on the ground and pretended to be dead. He had heard that a bear will never eat a dead body. As he lay, the bear came up to his head and began to smell at his nose and ears, but the man stopped his breath and the bear thought him dead and walked away.

When the bear went away, his friend came down out of the tree and asked what the bear said to him when it put its mouth near his ear. The other replied, "It told me not to go out with those who leave their friends and run away in times of difficulty."

1. The two friends
 - a. met a bird.
 - b. met a bear.
 - c. climbed a tree.
 - d. slept on the ground.

2. One of them
 - a. caught the bird.
 - b. fought with the bear.
 - c. hid under a tree.
 - d. climbed a tree.

3. What happened to the other?
 - a. He died on the ground.
 - b. He ran away.
 - c. He was thought dead by the bear.
 - d. He was eaten by the bear.

4. Bears do not eat
 - a. sleeping men.
 - b. dead men.
 - c. good friends.
 - d. bad friends.

5. The other friend thought that the bear had
 - a. killed his friend.
 - b. spoken to him.
 - c. given him something.
 - d. taken him away.

6. His friend said that the bear told him
 - a. to travel with bad friends.
 - b. to travel with bears only.
 - c. not to travel with bears.
 - d. not to travel with had friends.

A judge was working in his room one day when a neighbour ran in and said, "If one man's cow kills another's, is the owner of the first cow responsible?"

"It depends," answered the judge.

"Well," said the man, "your cow has killed mine."

"Oh," answered the judge. "Everyone knows that a cow cannot think like a man, so a cow is not responsible, and that means that its owner is not responsible either."

"I am sorry, Judge," said the man. "I made a mistake. I meant that my cow killed yours."

The judge thought for a few seconds and then said, "when I think about it more carefully, this case is not as easy as I thought at first." And he turned to his servant and said, "Please bring me that big black book from the shelf behind you."

1. The judge was. in his room.
 - a. eating food.
 - b. killing the cow.
 - c. beating the neighbour.
 - d. doing some work.

2. At first the man said to the judge:
 - a. "My cow has killed yours."
 - b. "Your cow has killed mine."
 - c. "You have killed my cow."
 - d. "You are responsible."

3. According to the judge, if a cow is not responsible,
 - a. its owner is not responsible either.
 - b. its owner must be responsible.
 - c. someone must be responsible.
 - d. the cow is responsible.

4. The man said to the judge
 - a. "You made a mistake."
 - b. "The servant made a mistake."
 - c. "I made a mistake."
 - d. "The cow made a mistake."

5. The Judge said that the case was
 - a. as easy as he first thought.
 - b. more difficult than he first thought.
 - c. very easy.
 - d. not very difficult.

6. What did the judge ask the servant to do?
 - a. To bring him a book.
 - b. To leave the room.
 - c. To take the man's name.
 - d. To kill the man's cow.

7. How many people are there in the story?
 - a. Two.
 - b. Four.
 - c. Five.
 - d. Three.

8. Whose cow was killed?
 - a. The servant's.
 - b. The neighbour's.
 - c. The judge's.
 - d. No one's.

Most of Nasreddin's neighbours were good people, who were always ready to help each other when they were in trouble; but there was one woman who lived on his street who was disliked by everybody because she was always taking things from people and then forgetting to give them back.

Early one morning, Nasreddin heard a knock at his front door, and, when he opened it, found this woman outside.

"Good morning, Nasreddin," she said. "I have to take something to my sister's house in the town today, and I have not got a donkey, as you know. Will you give me yours? I will bring it back this evening."

"I am sorry," answered Nasreddin. "If my donkey was here, I would of course give it to you, but it is not."

"Oh?" said the woman. "It was here last night, because I saw it behind your house. Where is it now?"

"My wife took it into town early this morning," answered Nasreddin.

Just then the donkey brayed loudly.

"You are not telling the truth, Nasreddin!" the woman said angrily. "I can hear your donkey. You should be ashamed of yourself, telling lies to a neighbour!"

"You are the one who should be ashamed, not me!" shouted Nasreddin. "Is it right to believe a donkey's word rather than t h a t of one's neighbours?"

1. The woman was always
 - a. helping others when they are in trouble.
 - b. riding on her donkey.
 - c. not giving her neighbours their things.
 - d. living with her sister.

2. Where did Nasreddin say that the donkey was?
 - a. In town.
 - b. In the house.
 - c. Behind the house.
 - d. Near the sister's house.

3. When did the woman see the donkey?
 - a. While she talked to Nasreddin.
 - b. When she was in town.
 - c. The next day.
 - d. Last night.

4. The woman said that
 - a. It is not right to believe a donkey's word.
 - b. Nasreddin was telling her a lie.
 - c. She was ashamed of herself.
 - d. Nasreddin was sorry.

5. The woman was angry with Nasreddin after
 - a. She heard the donkey bray.
 - b. She went to her sister's.
 - c. She took the donkey.
 - d. His wife took the donkey.

6. Nasreddin
 - a. liked the woman.
 - b. disliked her.
 - c. gave her the donkey.
 - d. took her to town.

TABLE 13
PUPILS' RAW SCORES ON
THE PRE-TEST

<u>Group B</u>	<u>Group A</u>
22	16
8	16
12	20
12	14
24	22
24	16
10	22
8	14
8	26
20	14
18	26
18	16
16	20
16	22
20	16
10	8
14	2
22	16
22	22
16	14
8	20
34	18
14	20
12	16
16	14

TABLE 14
THE CALCULATED VALUE OF PUPILS' RAW SCORES
ON THE PRE-TEST

Mean of Group B.	16.2
Mean of Group A.	17.2
Difference Between the Two Means.	1
Calculated "t".	0.625

The Result:

The calculated "t" from TABLE 13 was found to be 0.625. Under the 0.05 level of significance and at 48 degrees of freedom, the "t" table shows that the "t" value is 2.0013. As the calculated "t" was smaller than the tabulated "t", the null hypothesis that there is no significant difference between the two groups is accepted. We conclude that the two groups can be considered as equated in reading comprehension and thus are suitable for carrying out the experiment. Consequently, Group B is chosen as the experimental and Group A as the control group.

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