

İÇERİK VE SÖYLEM BİÇİMLERİNE İLİŞKİN ÖN BİLGİNİN  
İNGİLİZCE YABANCI DİL ÖĞRENCİLERİNİN  
OKUDUKLARINI ANLAMALARINA ETKİSİ

**EFFECTS OF PRIOR KNOWLEDGE  
OF CONTENT AND RHETORICAL  
STRUCTURES ON EFL LEARNERS'  
READING COMPREHENSION**

**Hasan ÇEKİÇ**

**(Doktora Tezi)**

**Eskişehir, June, 1999**

**EFFECTS OF PRIOR KNOWLEDGE  
OF CONTENT AND RHETORICAL STRUCTURES  
ON EFL LEARNERS' READING COMPREHENSION**

**By**  
**Hasan ÇEKİÇ /**

**Thesis Submitted for the Doctor of Philosophy  
English Language Teaching Department  
Advisor: Prof. Dr. Gül Durmuşoglu Köse**

**Eskişehir  
Anadolu University  
The Institute of Social Sciences  
June, 1999**

## ACKNOWLEDGEMENTS

I wish to express my deepest gratitude to my advisor, Prof. Dr. Gül Durmuşoğlu Köse, for her scholarly contribution to the formulation of the study and for her invaluable guidance throughout it. I would also like to extend my appreciation to Asst. Prof. Dr. Ümit Deniz Turan, Assoc. Prof. Dr. İlknur Keçik and Asst. Prof. Dr. Şeyda Ülsever for their support in many phases of this study.

I would especially like to thank Asst. Prof. Dr. Bahar Cantürk, my colleague and friend, who labored with me through the many phases and drafts involved in this thesis. My thanks are also due to my friends Ayla Balcı and Dr. Aynur Baysal for their reading earlier drafts and providing helpful comments; to the research assistants Gaye Karpaz and Kamile Şanlı for their assistance during statistical analyses; to Bayram Gezer and Nevzat Sarier, who helped me reach the libraries in Holland.

Finally, I owe special thanks to my wife, daughter, and son for their sympathy, encouragement, love, and understanding during this study.

TABLE OF CONTENTS

|                            | <u>Page</u> |
|----------------------------|-------------|
| ÖZET.....                  | ii          |
| ABSTRACT.....              | iii         |
| JÜRİ VE ENSTİTÜ ONAYI..... | iv          |
| ACKNOWLEDGEMENTS.....      | v           |
| ÖZGEÇMİŞ.....              | vi          |
| TABLE OF CONTENTS.....     | vii         |
| LIST OF TABLES.....        | x           |
| LIST OF FIGURES.....       | xi          |

CHAPTER 1: Introduction

|                                                  |   |
|--------------------------------------------------|---|
| 1.1. Background of the Study.....                | 1 |
| 1.2. Statement of the Topic and the Problem..... | 3 |
| 1.3. Hypotheses of the Study.....                | 5 |
| 1.4. Variables of the Study.....                 | 5 |
| 1.4.1. Dependent Variables.....                  | 6 |
| 1.4.2. Independent Variables.....                | 6 |
| 1.4.3. Control Variables.....                    | 6 |
| 1.5. Definitions of the terms.....               | 6 |
| 1.6. The Purpose of the Study.....               | 7 |
| 1.7. Limitations of the Study.....               | 8 |

CHAPTER 2: Review of Literature

|                                                     |    |
|-----------------------------------------------------|----|
| 2.1. Introduction.....                              | 10 |
| 2.2. Traditional Approaches.....                    | 10 |
| 2.3. Psycholinguistic and Cognitive Approaches..... | 11 |
| 2.3.1. Psycholinguistic Model of Reading.....       | 11 |
| 2.3.2. The Schema Theory Model.....                 | 13 |
| 2.4. Interactive Model.....                         | 16 |

|                                                                               |    |
|-------------------------------------------------------------------------------|----|
| 2.5. Possible Causes of Reading Difficulties from an Interactive Perspective: |    |
| Over relying on Top-down or Bottom-up Processing.....                         | 18 |
| 2.5.1. Schema Availability.....                                               | 20 |
| 2.5.2. Schema Activation.....                                                 | 22 |
| 2.5.3. Skill Deficiencies.....                                                | 22 |
| 2.5.4. Conception about Reading.....                                          | 24 |
| 2.6. Research on Content Background Knowledge (Content Schemata).....         | 26 |
| 2.7. Research on Formal Background Knowledge (Formal Schemata).....           | 29 |
| 2.7.1. Meyer's Model of Discourse Processing.....                             | 34 |

### **CHAPTER 3: Methodology**

|                                              |    |
|----------------------------------------------|----|
| 3.1. Introduction.....                       | 38 |
| 3.2. Setting and Subjects.....               | 39 |
| 3.3. Materials.....                          | 43 |
| 3.3.1. Proficiency Test.....                 | 43 |
| 3.3.2. Passages.....                         | 44 |
| 3.3.3. Open-Ended Test.....                  | 47 |
| 3.3.4. True-False Test.....                  | 49 |
| 3.4. Prodecures.....                         | 50 |
| 3.4.1. Content Schemata Building.....        | 50 |
| 3.4.2. Formal Schemata Building.....         | 52 |
| 3.4.3. Treatment of Content-Form Groups..... | 54 |
| 3.4.4. Control Sessions.....                 | 54 |
| 3.4.5. Testing.....                          | 55 |
| 3.4.6. Free Recall Protocols.....            | 55 |
| 3.4.6.1. Identical Idea Units Recalled.....  | 56 |
| 3.4.6.2. Elaborations.....                   | 57 |
| 3.5. Analytic Procedure.....                 | 57 |

**CHAPTER 4: Presentation and Analysis of the Data**

4.1. Introduction.....59

4.2. Analysis of the Scores With Respect to the Identical Idea Units from  
Recall protocols.....60

4.2.1. Analysis of the Scores on the True-False Test (which is based  
on the same identical idea units).....61

4.3. Analysis of the Scores on the Open-Ended Test (High-level Idea Units).....63

4.4. Analysis of the Scores for Elaborations.....65

4.5. Comparison of the Groups on the Basis of Text Types.....67

4.6. Conclusion.....70

**CHAPTER 5: Discussion and Conclusions**

5.1. Summary of the Study.....72

5.2. Assessments of the Study.....74

5.3. Pedagogical Implications.....78

5.4. Implications for Future Research.....83

5.5. Conclusion.....85

APPENDICES.....87

BIBLIOGRAPHY.....147

LIST OF TABLES

|                                                                                                                                                  | <u>Page</u> |
|--------------------------------------------------------------------------------------------------------------------------------------------------|-------------|
| Table 3.1. Mean Scores for TOEFL.....                                                                                                            | 40          |
| Table 3.2. ANOVA for Proficiency level.....                                                                                                      | 41          |
| Table 3.3. The Final Distribution of the Subjects in Groups.....                                                                                 | 43          |
| Table 4.1. Descriptive Statistics for Identical Idea Units Recalled<br>From the Texts.....                                                       | 60          |
| Table 4.2. Results from Multiple Comparison for the Identical Idea<br>Units Recalled from the Texts.....                                         | 61          |
| Table 4.3. Descriptive Statistics for the Scores from the True-False Test.....                                                                   | 62          |
| Table 4.4. Results from Multiple Comparison for the Scores from the<br>True-False Test.....                                                      | 63          |
| Table 4.5. Descriptive Statistics for the High-level Idea Units<br>(Scores for Open-Ended Questions).....                                        | 64          |
| Table 4.6. Results from Multiple Comparison for High-level Idea Units.....                                                                       | 65          |
| Table 4.7. Descriptive Statistics for Elaborations.....                                                                                          | 66          |
| Table 4.8. Results of Multiple Comparison for Elaborations.....                                                                                  | 67          |
| Table 4.9. Descriptive Statistics for Each Pairs of Groups for Identical Idea<br>Units That the Groups Recalled from Different Text Types.....   | 68          |
| Table 4.10. Descriptive Statistics for Each Pairs of Groups for High-level Idea<br>Units that the Groups Recalled from Different Text Types..... | 69          |

## CHAPTER 1

### INTRODUCTION TO THE STUDY

#### 1.1. Background of the Study

It is a recognized fact that reading is possibly the most important skill among the four basic language skills in academic context for many different learners; first language learners, second language learners, and foreign language learners. Due to this importance, a multitude of books and journals have been devoted to the study and teaching of reading, and a large amount of research has been conducted in order to understand the reading process. Nonetheless, it is still the least understood process today, and no theory which has won general acceptance exists (Clarke, 1988; Grabe, 1991).

Clarke (1988) claims, "The quantity and variety of theoretical models of reading in the first language (L1) has resulted in a great amount of theoretical and pedagogical diversity among second language (L2) researchers and teachers." (p. 114). Indeed, based upon the models introduced in the studies of first language reading, research on reading in second or foreign language (FL) and efforts to improve instruction have continued to grow remarkably for the last couple of decades. However, as Grabe (1991) indicates, in agreement with Clarke, "It has become difficult to synthesize the array of research and instructional literature in second and foreign language reading." (p. 379) Due to this complexity of reading process and the lack of a commonly accepted theory, many researchers attempt to understand and explain the fluent reading process by analyzing the process into a set of components (Barnet, 1986; Carrell and Wise, 1998; Lee, 1986; Dowling and Mitchell, 1993; Davis and Bistodeau, 1993; Donin and Silva, 1993; Block, 1992; Blau, 1982; Carrell, 1991; Wolf, 1993; Bernhard and Kamil, 1995; Carver, 1992; Tschirner, 1996; Beck, 1993; Ibrahim, 1979; Meyer, 1977; Calfee and Drum, 1986; Gernsbacher, 1990). A review of literature shows that the following components have been the major concerns of reading researchers:

1. automatic decoding ability
2. vocabulary knowledge
3. structural knowledge



4. content background knowledge
5. formal discourse structure knowledge
6. reading skills and strategies

Early work in second language reading comprehension assumed a rather passive, “bottom-up”, view of second language reading; that is, it was viewed primarily as a decoding process of reconstructing the author’s intended meaning via recognizing the printed letters and words, and building up a meaning for the text from the smallest textual units at the bottom (letters and words) to larger units at the top (phrases, clauses, sentences) (Hammadou, 1991; Carrell, 1988; Barnett, 1986). As a result of this approach to reading, as suggested by Perkins (1983), words and sentence-level structures remained the principal units of linguistic analysis and description, and the object measure in reading comprehension for a long period of time.

After the emergence of schema theoretic views (Adams and Collins, 1977) and Goodman’s (1988) psycholinguistic model of reading, reading comprehension began to be seen as an interactive process between the text and the reader. As a result, the focus of recent research in the field has shifted mainly to the reader’s contributions to the text and reading process. According to these new approaches, a written text does not carry meaning in itself. Rather, a text only provides direction for readers as to how they should retrieve or construct the intended meaning from their own previously acquired knowledge (Adams and Collins, 1977). Schema theorists, according to Adams and Collins (1977), have the idea that readers have several schemata or scenarios which are the organizations of the readers’ past experiences that directly affect readers’ perception of the text. New information is fitted into existing schema; if there is no particular fit, most of the new information is lost and not remembered. Parallel to the schema theoretic views of reading, Goodman’s psycholinguistic model of reading offers a similar explanation of how comprehension takes place: Readers sample the graphemic, phonological, syntactic and semantic cues in the text, predict or hypothesize what the text is about, test the predictions and then confirm or disconfirm the hypotheses. In this process too, readers use world knowledge and previous experience with language to make hypotheses and thereby construct meaning by applying this store of knowledge to the text.

These “top-down” approaches to reading comprehension, which attribute an active role to the reader and great importance to his background knowledge have been prevailing in the field of both first and second language reading comprehension research recently. A great number of empirical studies on prior knowledge and its effect on reading comprehension in first and second language have been based on schema theory and psycholinguistic model of reading (e.g., Carrell and Eisterholt, 1988; Carrell, 1983, 1984a, 1984b, 1987, 1988; Carrell and Wise, 1998; Johnson, 1981, 1982; Gernsbocher, 1990; Gordon and Hanauer, 1995; Block, 1992; Bernhard and Kamil, 1995; Bugel and Buunk, 1996; Chiand and Dunkel, 1992; Block, 1986; Perkins and Jones, 1985; Carver, 1992; Karin, 1993). In general these studies have found that subjects who have prior knowledge about the content of the text, (content schemata) read the passages more rapidly, recall greater amount of information and produce more appropriate elaborations. Some other studies focusing on background knowledge have provided empirical evidence that the prior knowledge readers have about the rhetorical organization of a text (formal schemata) also influences their comprehension (e.g., Carrell, 1985; Allen, Bernhardt, Berry and Demel, 1988; Meyer and Freedle, 1984; Connor 1984; Fayol 1991; Kuntz 1991; Grabe 1997; Johns and Paz, 1997; Kaplan, 1997).

## **1.2. Statement of the Topic and the Problem**

As indicated before, reading comprehension process has been analyzed into a set of components. Two of them are content background knowledge and formal discourse structure knowledge, which are called by Carrel (1987) as ‘Content Schemata’ and ‘Formal Schemata’, respectively. These two factors, content and formal schemata, have been demonstrated to be important for reading comprehension by many reading researchers.

In empirical studies of these two different types of schemata, one of the factors is kept constant in order to test for the effects of the other on reading comprehension. For example, while trying to test for the effects of content schemata, the formal rhetorical structure of the text is kept constant, the content is manipulated, and then each different content is processed by the groups of subjects. Any differences between groups of

subjects with respect to their scores, which are obtained by means of certain techniques such as summaries, question-answers or recall protocols, are then presumed to be due to the manipulation of the content and readers' background knowledge of that content.

Using similar methods, the effect of formal schemata on reading comprehension is measured. Content of a text is kept constant, while the rhetorical organization of it is manipulated. Comparable groups of subjects read the text and carry out certain tasks, then their scores obtained from an assigned task (question-answer, summary, recall protocol) are compared. Possible differences between the scores of the groups are expected to be due to the manipulation of the form.

Although not in abundance in comparison to content schemata research, some studies on formal schemata have been found in first and second language reading literature (Meyer and Freedle, 1984; Carrell, 1984b ; Connor 1984) These studies have investigated mainly the effect of different rhetorical patterns on the reading recall. Meyer and Freedle (1984) studied native readers of English interacting with different types of rhetorical organization of expository prose. Their study showed that the more organized the discourse is the more facilitative effect it has on the reader's reading recall. Carrell's study (1984b) with intermediate second language learners yielded similar results indicating different discourse patterns are processed differently.

In second and foreign language reading research, relevant research seems to be rare. Some recent research has investigated the effects of rhetorical organization on second language reading comprehension. Based on this research, some investigators have begun to suggest a variety of pedagogical techniques for teaching various aspects of text structure to improve reading comprehension (Kurtz, 1991; Fayol, 1991; Grabe, 1997; Kaplan, 1997; Johns and Paz, 1997; Kramsch, 1997). However, not a great deal of empirical research has been reported as to whether explicitly teaching text structure facilitates second language reading comprehension.

In summary, prior research on content schemata suggests that texts with familiar content should be easier to read and comprehend than texts with unfamiliar content. Similarly research on formal schemata, though limited, clearly suggests that texts with familiar rhetorical organization should be easier to read and comprehend than texts with unfamiliar rhetorical organization. Nevertheless, as suggested by Carrell (1987), the

previous research investigating these two factors as independent and control variables in a single study may have confounded content and formal schemata, and thus failed to distinguish clearly the effects of these two types of schemata on comprehension.

Taking into account the discussions about content and formal schemata, this research is designed to test the separate and combined simultaneous effects of these two types of schemata on reading comprehension of intermediate/upper intermediate Turkish EFL (English as a Foreign Language) university students after they are provided with the content schemata and instructed about the rhetorical organization of the text. As can be understood from the problem above, the main concern of the study is to see the effects of content schemata, formal schemata, and their combined simultaneous effects on EFL learners' reading comprehension. However, the design of the study may also allow one to answer some further questions about content schemata, formal schemata, and their relationship to EFL learners' reading comprehension. As a result, the following hypotheses are formed to be tested in the study:

### **1.3. Hypotheses of the Study**

1. Building content schemata facilitates EFL learner's reading comprehension.
2. Building formal schemata facilitates EFL learner's reading comprehension.
3. Simultaneous building of both content and formal schemata may have a cumulative effect on EFL learners' reading comprehension, and increase it to greater extent.
4. Building content schemata increases EFL learner's elaborations.
5. Types of text can influence EFL reader's comprehension in different manners (comparison type of texts are easier to comprehend than collection of descriptions types).

### **1.4. Variables of the Study**

The study includes two dependent variables, four independent variables, and two control variables.

### **1.4.1. Dependent variables**

#### **1. Reading comprehension**

Reading comprehension was measured in three different manners:

- a. Identical idea units in free recall protocols (see 3.4.6.1)
  - b. Answers to true-false questions based on the same identical idea units (see 3.3.4)
  - c. Answers to open-ended questions (high-level information) (see Figure 3.3)
2. Elaborations produced in free recall protocols

### **1.4.2. Independent variables**

1. Building content schemata
2. Building formal schemata
3. Simultaneous building of content and formal schemata
4. Types of text (comparison and collection of descriptions)

### **1.4.3. Control variables**

1. Proficiency level of the subjects
2. Native language of the subjects

## **1.5. Definitions of the Terms**

**Reading comprehension:** Based on his psycholinguistic model of reading, Goodman (1988) defines reading comprehension as “a psychological process which starts with a linguistic surface representation encoded by a writer and ends with meaning which the reader constructs.” (p.12 ). This definition implies an essential interaction between the text and the reader: Meaning does not reside solely in the text itself, rather the text is only a potential for meaning construction, which, in fact, is realized by the reader. This ability of the reader to construct the meaning is based upon his sources of information (schemata) such as world knowledge (content schemata), knowledge of rhetorical structure of the text (formal schemata), and knowledge of linguistic system (linguistic proficiency). In brief, reading comprehension can be said to be the meaning constructed by the reader from the interaction between the information provided in the text and the

information he brings to the task of reading (Badrawi, 1992; Perkins, 1983; Gordon and Hanauer, 1995).

**Content Schemata** is the mental structure(s) of a reader's prior knowledge that he has about the content area of the text he reads (Carrell, 1987).

**Formal Schemata** is the reader's mental structure(s) of prior knowledge he has about the overall organization of texts (Meyer and Freedle, 1984).

**Free Recall Protocol** is a kind of data driving procedure, which requires the reader to write down whatever he remembers from the text that he has read.

**Elaboration** is the information expressed by a reader in his recall protocol, which, in fact, does not exist in the text or/and can not be inferred logically from the text being read, but which the reader brings from his content schemata (Carrell, 1987).

**Identical Idea Units** in this study refer to the pieces of information which are commonly found in the two texts, which were used as measures (for further explanations of identical idea units, see 3.4.6.1)

**High-level Ideas/Information** refer to the answers provided by the subjects to open-ended questions about the topic or main idea, and the major supporting details of the two texts (High-level ideas and their relationship to the topic, main idea, and the major supporting details are explained in 3.3.3)

## 1.6. The Purpose of the Study

Reading comprehension, which is a mental psychological process, can not take place solely on the basis of the information on the printed page. As indicated before, it is an interactive process and requires reader's active involvement. He makes use of information from his background knowledge as well as information from the printed page.

The background knowledge the reader brings to the task of reading and comprehending is generally divided into two; knowledge related to the content area, culture-specific or discipline-specific, and the knowledge related to the rhetorical structure of the text. Both of these schemata have proven to be important factors in reading comprehension of first and second language learners. Empirical evidence, however, seems to be scanty for foreign language reading. Because of this fact, most of

our current views of foreign language reading are generally shaped by research findings on first and second language learners.

Reading in a foreign language, on the other hand, is influenced by factors which are normally not considered in L1 and L2 reading research. These factors may be foreign language learning and training differences, language processing differences and social context differences. In view of these differences, findings from research with first and second language students can not always be applied directly to foreign language reading. Therefore, research on foreign language students seems to be essential.

Along with these differences, previous research doesn't seem to have taken into account the relative strength of content and formal schemata in relation to each other and their possible simultaneous effect on reading comprehension. Considering all of these factors, this study aimed to find out the effects of content and formal schemata separately as well as in a combined simultaneous manner on reading comprehension of foreign language reader when he is explicitly provided with these two types of schemata.

### **1.7. Limitations of the Study**

In the light of the following limitations, caution must be exercised in interpreting the results of this study:

- a)** The population of the subjects consists of only those who were first-year students in 1998-1999 academic year at Anadolu University, Education Faculty, Department of English Language Teaching. Groups of students who participated in the study were homogeneous with respect to their native language (Turkish) and their level of proficiency (intermediate/upper intermediate). Other levels of proficiency were not accounted for.
- b)** Particular interest was in the effects of expository prose rather than in other genres, and only two types of prose, collection of descriptions and contrast/comparison on the same overall topic, were used in the study. This means that research with other genres and other types of rhetorical structures may yield different results.
- c)** Data were obtained from the subjects in the form of immediate free recall protocols, true-false questions, and open-ended questions. No other ways of data driving

procedures such as multiple choice questions were used. That might have produced different results.

**d)** Retention or long-term effects were not taken into account.

**e)** Treatment of the experimental groups lasted two weeks in order to conform to their usual curriculum. They practiced the recognition of rhetorical patterns during their regular class hours and did some kinds of homework to build up content schemata. That is, training about forms of texts for longer period of time and building content schemata in other ways may result in different findings.

**f)** The subjects who participated in the study were adults, so the findings can not be generalized to younger EFL learners' reading comprehension.

**g)** The majority of the subjects was females, which might have affected the results to a certain extent.



### 2.3. Psycholinguistic and Cognitive Approaches

For the last two decades, the accepted theory of ESL reading has changed dramatically, from a serial (or bottom-up) model to “reading as an interactive process” (Samuel and Kamil, 1988; Anderson and Pearson, 1988). Reading has started to be seen as the process of combining textual information with the information a reader brings to a text. In this view, the reading process is not simply a matter of extracting information from the text. Rather, it is one in which the reading activates a range of knowledge in the reader’s mind that he uses, and that, in turn, may be refined and extended by the new information supplied by the text. Reading is thus viewed as a kind of dialogue between the reader and the text (Carrell, 1984a). Carrell (1984a) and Carrell and Eisterhold (1983), reviewing the state of ESL reading, conclude that our understanding of reading is best considered as the interaction that occurs between the reader and the text, an interpretive process. Such a perspective on reading has evolved out of psycholinguistic model of reading as well as the development of schema theory (Adams and Collins, 1977; Anderson and Pearson, 1988; Carrell and Eisterhold, 1983; Goodman, 1988).

#### 2.3.1. Psycholinguistic Model of Reading

Psycholinguistic model of reading was developed by Goodman (Grabe, 1988; Carrell, 1984a; Samuels and Kamil, 1988) and elaborated later by Coady (1979) (in Carrell, 1984a; Carrell and Eisterhold, 1983). The view supported by Goodman and others is that reading is primarily concept driven. The reader samples the text as necessary to confirm hypotheses and form new hypotheses. This view of reading has been called the ‘psycholinguistic guessing game’, and is often referred to as ‘top-down’ approach to reading (Samuels and Kamil, 1988; Carrell, 1984 etc.). Goodman (1988) describes reading as follows:

It is a psycholinguistic process in that it starts with a linguistic surface representation encoded by a writer and ends with meaning which the reader constructs. There is thus an essential interaction between language and thought in reading. The writer encodes thought as language and the reader decodes language to thought.

Further, proficient readers are both efficient and effective. They are effective in constructing a meaning that they can assimilate or accommodate and which bears same level of agreement with the original meaning of the author. And readers are

efficient in using the least amount of effort to achieve effectiveness. To accomplish this efficiency, readers maintain constant focus on constructing the meaning throughout the process, always seeking the most direct path to meaning, always using strategies for reducing uncertainty, always being selective about the use of cues available and drawing deeply on prior conceptual and linguistic competence. Efficient readers minimize dependence on visual detail. Any reader's proficiency is variable depending on the semantic background brought by the reader to any given reading task. (p. 12)

As seen in the extract above, according to Goodman, the reader, especially the efficient reader, does not need to use all of the textual cues. He is selective in the use of cues available and makes effort to minimize his dependence on visual details. In other words, the better the reader is able to make correct predictions on the basis of his background knowledge, the less confirming via the text is necessary; that is, the less visual perceptual information the reader requires. Goodman views the act of the construction of meaning as being an ongoing, cyclical process of sampling from the input text, predicting, testing and confirming, or revising those predictions, and sampling further.

Coady, (1979) (in Carrell, 1984a) elaborates on this basic psycholinguistic model and suggests a model in which the EFL/ESL reader's background knowledge interacts with conceptual abilities and process strategies, more or less successfully, to produce comprehension. By conceptual ability, he means general intellectual capacity. By processing strategies, he means various sub-components of reading ability, including many which are also more general language processing skills. By background knowledge, he refers to the reader's prior knowledge that he has about the content area of the text he reads. Coady emphasizes the role of background knowledge a little more and thinks that it may be able to compensate for certain syntactic and lexical deficiencies. Although the psycholinguistic model of reading and its elaborated forms regard the reader as an important factor in reading process contrary to the traditional views of comprehension, Carrell and Eisterhold (1983) claim that these models have generally failed to give sufficient emphasis to the role of background knowledge.

### 2.3.2. The Schema Theory Model

The role of background knowledge in language comprehension has been formalized as 'schema theory' (Rumelhart, 1980; Carrell, 1984), which has as one of its fundamental assumptions that text, either spoken or written, does not in itself carry meaning. Rather, according to Adams and Collins (1977), provides directions for the listener or reader as how he should retrieve or construct the intended meaning from his own, previously acquired knowledge. This previously acquired knowledge is called the reader's 'background knowledge', and previously acquired knowledge structures are called 'schemata'. According to schema theory, comprehending a text is an interactive process between the reader's background knowledge and the text (Carrell, 1984a, 1988; Adams and Collins, 1977). Efficient comprehension requires the ability to relate the textual material to one's own knowledge. Comprehending words, sentences, and the whole text involves more than just relying on one's linguistic knowledge.

Adams and Collins (1977) describe a schema as a particular class of concepts which are composed of a hierarchy of schemata embedded within schemata. According to them, the representation at the top of the hierarchy is sufficiently general to capture the essential aspects of all members of the class. For example, if the conceptual class represented by a schema were "going to a restaurant", its top level representation would include such information as that a restaurant is a commercial establishment where people pay money to have someone else prepare their food and clean up after them. At the level beneath this global characterization, are more specific schemata (e.g., going to a dinner, going to a fast hamburger operation etc.) In general, as one moves down the hierarchy, the number of embedded schemata multiplies while the scope of each narrows, at the bottom most level, the schemata apply to the unique perceptual event.

According to this theory, the process of interpretation is guided by the principle that every input is mapped against some existing schema, and all aspects of that schema must be compatible with the input information. This requirement results in two basic models of information processing, called 'bottom-up' and 'top-down' processing. Bottom-up processing is evoked by the incoming data: the features of the data enter the system through the best fitting, bottom-level schemata. As these bottom-level schemata converge into higher level, more general schemata, these too become activated. Bottom-

up processing is, therefore, called 'data-driven'. Top-down processing, on the other hand, occurs as the system makes general predictions based on higher level, general schemata and then searches the input for information to fit into these partially satisfied, higher order schemata. Top-down processing is, therefore, called 'conceptually-driven' (Carrell and Eisterhold, 1983).

An important aspect of top-down and bottom-up processing is that both should be occurring at all levels simultaneously (Adams and Collins, 1977). The data that are needed to fill out the schemata become available through bottom-up processing; top-down processing facilitates their assimilation if they are anticipated by or consistent with the reader's conceptual expectations. Bottom-up processing ensures that the readers will be sensitive to information that is novel or that does not fit their ongoing hypotheses about the content or the structure of the text; top-down processing helps the readers to resolve ambiguities or to select between alternative possible interpretations of the incoming data.

To illustrate the effects of background knowledge, schematic interpretation, and simultaneity of top-down and bottom-up processing, consider the following mini-text (Originally from Collins and Quillian 1972; discussed in Carrell and Eisterhold, 1983, p. 557).

The policeman held-up his hand and stopped the car.

In the process of trying to understand this sentence, the reader tries to relate it to something familiar, some schema which will account for the event described. There are many schemata possible, but perhaps the most likely is the one involving a traffic cop who is signaling to a driver of a car to stop. When this mini-text is interpreted against that schema, a number of related concepts come to the fore which are not literally mentioned in the text. In particular, it is imagined that the car has a driver and the policeman got the car to stop through signaling to the driver, who then put on the brakes of the car, which, in turn, caused the car to stop. The cause of the car's stopping is, in this interpretation, the 'operation of the car's brakes. Further, the significance of the policeman's holding up his hand is that of a signal to the driver to stop. This fact is neither stated in the sentence nor is it even in the direct visual perception of such a situation, but is rather a fact in reader's prior cultural knowledge about the way traffic police are known to communicate with automobile drivers. If the policeman were the

superman, and the car had not a driver in it, the reader's interpretation would change. In this situation, a completely different schema would be required to understand the text. When the text is interpreted against the superman schema, the relationship between the policeman's holding up his hand and the car's stopping takes an entirely different interpretation. Now, holding up the hand is not interpreted as a signal at all, but rather the direct physical mechanism for stopping the car. In this interpretation, the hand actually comes into physical contact with the car and is the cause of the car's stopping. The brakes of the car do not come into play in this schema.

Thus, it seems clear that readers activate an appropriate schema against which they try to give a text a consistent interpretation. To the extent they are successful, it may be said that they have comprehended the text. However, one potential source of reading difficulties may be that the reader has a consistent interpretation for the text, but it may not be the one intended by the writer. However, the basic point is that much of the meaning understood from a text is really not in the text, but in the reader, in the background or schematic knowledge of the reader. In other words, "What is understood from a text is a function of the particular schema that is activated at the time of processing the text" (Carrell, 1984a; p. 333).

As could be understood from the explanations above, psycholinguistic models and schema theoretic views point out clearly that effective reading requires both bottom-up and top-down processing. Nevertheless, in practice, the top-down processing strategies have been emphasized greatly, whereas the bottom-up processing has been neglected. The state in the field is explained by Carrell (1988) as follows:

The introduction of a top-down processing into second language reading has had a profound impact on the field. In fact, it has had such a profound effect that there has been a tendency to view the introduction of a strong top-down processing perspective as a substitute for the bottom-up decoding view of reading, rather than its complement (p. 4).

Even though it is accepted that these top-down approaches have resulted in major improvements in the understanding of what good readers do, and in the methods and materials that are now used in ESL/EFL classrooms, some researchers such as Grabe (1991), Clarke (1988), and Eskey (1988) have begun to voice their critiques against

overemphasizing the effects of top-down processing skills. Eskey (1988), for example, states,

...But top-down models do have some limitations. They tend to emphasize such higher-level skills as the prediction of meaning by means of context clues or certain kinds of background knowledge at the expense of such lower-level skills as the rapid and accurate identification of lexical and grammatical forms. That is, in making the perfectly valid point that fluent reading is primarily a cognitive process, they tend to deemphasize the perceptual and decoding dimensions of that process. The model they promote is an accurate model of skillful, fluent reader, for whom perception and decoding have become automatic, but for the less proficient, developing reader -like most second language readers- this model does not provide a true picture of the problems such readers must surmount (p. 93).

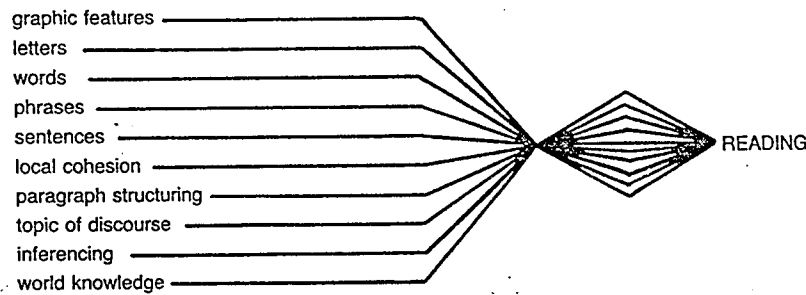
Indeed the totally top-down approaches do not account for some facts: First of all, there is an important distinction between first and second language readers at the time they start to learn reading. When the first language reader starts reading, he has a well-developed linguistic ability; he has attained a sophisticated control over syntax, he possesses a large amount of vocabulary, and he has a phonological system that can adequately communicate his needs. A second language reader, on the other hand, does not have any of these linguistic abilities. Another fact is that there are a number of studies (Carrell, 1988b; Clarke, 1988; Alderson and Urganhart, 1988) which present findings that show linguistic deficiencies as inhibiting factors in reading. This clear distinction between first and second language learners and the research findings mentioned above have led the researchers to formalize another model of reading, which they call “interactive model” (Grabe, 1991; Eskey, 1988).

## **2.4. Interactive Model**

Grabe (1988), by indicating some other constraints and reviewing the findings of some research, explains why ESL/EFL researchers should be interested in interactive models of reading. He suggests that ESL/EFL readers may or may not read in their first language, and that there is little information on how, why, and what they read in other cultures. If ESL/EFL students do have literacy training, it is still not known how they approach reading in their first language as a social phenomenon; that is, do they view reading as a major academic, professional, and entertainment activity, or do they read much less, for far fewer purposes? ESL/EFL readers are often assumed to transfer

decoding abilities in reading process. Supporters of this model argue in a way that the knowledge of the language of a text must be an integral part of whatever background knowledge is required for full comprehension of that text. To them, language is also a kind of schema. In this model, the term ‘interactive’ refers to the interaction between information obtained by means of bottom-up decoding and information provided by means of top-down analysis, both of which depend on certain kinds of prior knowledge and certain kinds of processing skills.

The following graphic display, borrowed from Grabe (1988; p. 59), shows clearly the interrelationships among the components of both bottom-up and top-down processing in reading



**Figure 2.1.** Components of Reading

Over-relying on one of these processing modes, on the other hand, may cause some difficulties in comprehension. In the following part, some possible causes, which, according to Carrell (1988) result from over-reliance on either top-down or bottom-up processing, are discussed.

## **2.5. Possible Causes of Reading Difficulties From an Interactive Perspective: Over-relying on Top-down or Bottom-up Processing**

Research motivated by schema theory and interactive model has shown that efficient reading requires a combination of top-down and bottom-up processing modes. Top-down processing is the making of predictions about the text based on prior experience or background knowledge, and then checking the text for confirmation or refutation of those predictions. Bottom-up processing is decoding individual linguistic units (e.g., phonemes, words, phrases, sentences) and building textual meaning from the smallest units to largest, and then modifying preexisting background knowledge and

current predictions on the basis of information encountered in the text. Skilled readers constantly shift their mode of processing, accommodating to the demands of the particular text and reading situation; less skilled readers tend to over-rely on processes in one direction, which causes comprehension difficulties (Carrell 1988b). Carrell (1988b) refers to over-reliance on text-based or bottom-up processing as text-biased processing or text-boundedness, and over-reliance on knowledge-based or top-down processing as knowledge-biased processing, or schema interference.

In order to understand better what is meant by over-reliance on text-based processing and knowledge-based processing, examining the following sample text (originally from Fillmore, 1981; discussed in Carrell, 1988, p.102) and its interpretations may be explanatory:

The princess ate jam.

The queen slapped her.

The princess began to cry. (p.102)

The text-based processing of this text involves decoding the individual words and their lexical meanings, and decoding the syntactic structures of each sentence and their grammatical-functional meaning as subjects, direct objects etc. If this text-based processing were the only kind of processing going on, one would understand from this text only that somebody who is a princess ate some jam, and somebody who is queen slapped a female being, and someone who is a princess cried. If, however, in reading the sentences, knowledge-based processing is successfully invoked, readers would assume that they were dealing with a cohesive, coherent text, rather than three separate sentences. So readers might assume that the princess in sentence 1 and 3 and the 'her' in sentence 2 all refer to the same person. If the readers engage in yet further knowledge-based processing, they might invoke a royal family schema and assume the queen in sentence 2 is the princess' mother. At a still higher-level of knowledge-based processing, readers might interpret the text in terms of human goals, institutions, and human nature. They might make sense of what is going on in the text by assuming that the queen's act of slapping the princess is related to the princess' having eaten the jam (e.g., as punishment), and assume the princess' tears are in response to the slap (e.g., showing pain, shame). So far, these knowledge-based assumptions about the text seem well-motivated by the text and general, conventional knowledge about human behaviour. In



fact, they seem to be the kinds of knowledge-based assumptions the writer must have intended the readers to make in order to understand the text. However, readers might do additional knowledge-based processing of the text itself or by general conventional knowledge. They might inject their own personal experiences or assumptions about human behaviour and assume, for-example, that the queen was selfish and had wanted the jam herself. If readers engage in much of this latter type of knowledge-based processing, there is then an overreliance on knowledge-based processing.

Studies of ESL reading, like Carrell's (1983), have found that ESL readers may not effectively utilize knowledge-based processes to facilitate comprehension. According to Carrell, they seem to engage almost exclusively in text-based processing to the detriment of comprehension. By contrast, other studies of ESL reading (Steffensen and Joag-Dev, 1986; Johnson, 1981) have found what appears to be evidence of overreliance on or interference from top-down or knowledge-based processes. They have shown the effects of culturally biased content schemata. Carrell (1988) speculates about possible causes of such unidirectional bias in text processing, especially in reading in a second language. According to him, there may be some possible causes of over-relying on one of the processing modes, top-down, or bottom-up. Four of them (schema availability, schema activation, skill deficiencies, and misconceptions about reading), which may be relevant to EFL readers as well, will be summarized. To summarize them here would give additional insight into the interactive nature of ESL/EFL reading and possible problem areas to be taken into account by ESL/EFL teachers.

### **2.5.1. Schema Availability**

In order to understand the role of schema availability, it is important that the distinction between formal schemata (background knowledge of the formal rhetorical organizational structure of the text) and content schemata (background knowledge of the content area of the text) be taken into account (Grabe, 1988, 1991; Carrell, 1984, 1988b). One type of schema a reader needs to possess in order to comprehend a text is background knowledge about rhetorical organization, for-example, differences in structure of short stories, newspaper articles, and expository text types. The other type of schema a reader needs to possess is background knowledge about the content area of

In summary, a number of empirical studies have shown that the absence of the content and formal schemata appropriate to a particular text can result in processing difficulties with that text. If ESL/EFL readers are not able to engage successfully in an appropriate degree of knowledge-based processing because they lack the appropriate content or formal schemata, they can resort to other strategies. They may either over-rely on text-based processes, and try to construct the meaning totally from the textual input, which, according to Carrell (1988), is impossible because no text contains all the information necessary for its comprehension, or substitute the closest schema they possess and try to relate the incoming textual information to that schema, resulting in schema interference. In both case, comprehension can suffer.

### **2.5.2. Schema Activation**

Having the necessary schemata may not be sufficient condition for adequate comprehension. Relevant schemata must be activated (Carrell, 1984, 1988; Carrell and Eisterhold, 1983; Lee, 1986). Carrell (1983) shows that ESL reading comprehension may be affected not because ESL readers lack the appropriate schemata, but because they fail to activate the appropriate schemata. In this study, he compares native speakers to second language learners with respect to their comprehension on the basis of their background knowledge, and concludes,

It seems clear that they (ESL learners) aren't behaving like native readers. What the results of this study suggest is that high-intermediate and even advanced ESL readers tend to be linguistically bound to a text. They may be processing the literal language of the text, but they are not making the necessary connections between the text and the appropriate background information. Even when they are explicitly provided with that appropriate background information (p. 200).

The disability to activate the existing relevant schemata may be one of the comprehension difficulties. The same study replicated by Lee (1986) yielded similar conclusions.

### **2.5.3. Skill Deficiencies**

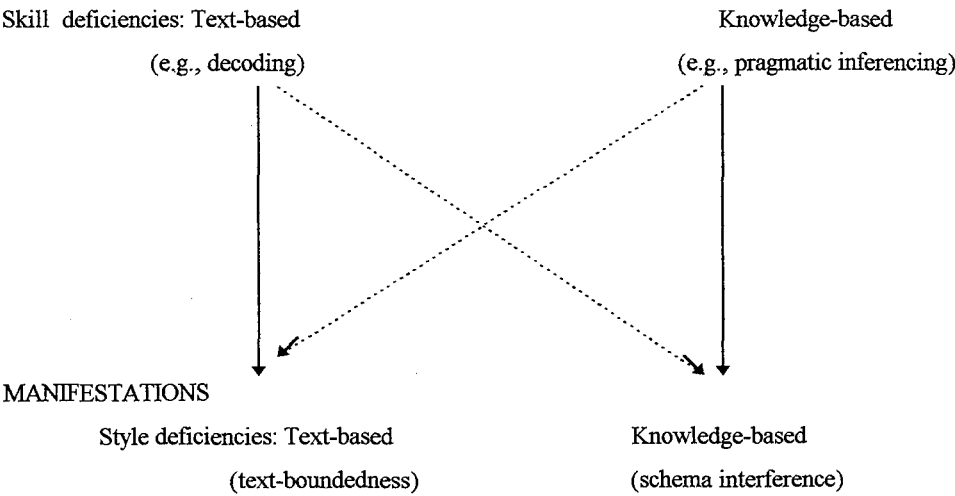
According to Carrell (1988), there are two different but related types of skill deficiencies that may cause the inefficient interaction of text-based and knowledge-based processing in ESL reading: Linguistic deficiencies and reading skill deficiencies. Text-

based processing can not take place without appropriate skill levels in decoding the syntactic structures, and possibly more important, the content vocabulary of a text (Seedhouse, 1997; Hunston, Francis and Manning, 1997; Clarke, 1988; Eskey, 1988). Clarke’s (1988) research on native Spanish and ESL reading shows that second language proficiency may limit the transference of good L1 reading skills to reading in the second language. Carrell (1991) reports similar results. Thus, the crucial role of English language skills in text-based processing should be recognized. Without these skills, efficient interaction between text-based and knowledge-based processing can not occur. However, there is also research which indicates that efficient knowledge-based processing can compensate for lower proficiency levels in language (Hudson, 1988).

As for reading skill deficiencies, Spiro (1978) (in Carrell, 1988) argues for a two-level approach. The first level concerns the various component skills of reading comprehension and deficiencies among these component skills; the second level concerns how reading skill deficiencies manifest themselves in a reading comprehension style (see Figure 2.2.).

---

CAUSES



Source: Carrell, 1988 (p. 108)

**Figure 2.2.** Reading Skill and Reading Style Deficiencies.

Solid lines = persevere; dashed lines = opt out

He argues that there is no determinate effect of the first level on the second; that is, different skill deficiencies may result in the same comprehension style, or one skill deficiency may result in differing comprehension styles. At the first level, reading problems may involve skills that are either predominantly text-based (e.g., decoding) or knowledge-based (e.g., pragmatic inferencing). Spiro reasons that two options are open to readers confronted with a skill problem of one of these two types. They may persevere in the problem area (with detrimental effects on the other process), or they may escape from the problem by shifting processing resources in an effort to compensate for the problem. For example, consider readers who are laborious, effortful decoders. They may persevere with their decoding efforts. However, given the limitations on information-processing capacity and short-term memory, this behaviour soon produces a 'log-jam' in the system -the reader attempts to store too many separate pieces of information without any higher-order relationship among them. In this style, higher-order knowledge-based processes are neglected. On the other hand, readers who are effortful decoders may seek to avoid the unpleasant decoding task. One way to do that would be to rely on prior knowledge to infer or guess what is likely to be in the text rather than actually sampling or processing much of the text. In this style, text-based processing is neglected in favor of wild guessing about the text's content. That is, the same skill deficiency (effortful decoding) may lead to either one of two totally different comprehension styles -text-biased or knowledge-biased -depending on what reader does in either persevering in the problem area or trying to escape from it. What this means is that manifestation of a unidirectional reading comprehension style (text-biased or knowledge-biased) may be caused by two opposite reading skill deficiencies. The manifestation does not equal the cause.

#### **2.5.4. Conceptions About Reading**

By reviewing some work with native English-speaking children's reading (Fillmore, 1981 and Spiro, 1979), Carrell (1988) concludes that these children do not seem to make use of the knowledge-based processing in an appropriate way. According to him, they fail to correctly answer questions about text that require extra-textual knowledge, but when they are informally interrogated, they are perfectly able to answer

the same questions. When they are asked why they do not utilize the same knowledge to answer the questions on the basis of the text, the children indicate that they think they are not supposed to. Carrell (1988) says that these children suffer from what he calls 'a meaning is in the text fallacy'. This fallacy is observed only in children's reading for school.

It could then be asked whether ESL/EFL readers suffer from the same misconception about reading in classroom setting where reading is generally done for the teacher's purposes rather than the students', and where reading comprehension is usually tested by question-answer tests. When the traditional EFL classrooms, where reading materials are used often as supplements to teach vocabulary and syntactic structures to especially the students in early stages of EFL, are considered, it may be expected that many EFL learners misconceive reading as primarily a bottom-up process. Reading passages that lack relevance to readers' existing knowledge and interest, and tests of reading that stress literal text content rather than its integration with related prior knowledge (content schemata) may lead EFL learners to such a misconception of reading.

Four different kinds of possible causes for over-reliance on text-based or knowledge-based processing in ESL/EFL reading have been summarized. Some of them have been more or less grounded in both theory and empirical research; others have been based on Carrell's (1988) speculations related to schema theory and interactive models of reading. According to Carrell (1988), it is important for researchers and teachers of second and foreign language reading to be aware of the fact that there are different styles among students -text-based and knowledge-based- but it is even more important that they be aware of the causes of these styles. An approach which is likely to help an EFL reader with a text bias that results from insufficient background knowledge (schema unavailability) may be different from what can help other readers with similar text biases that result from a misconception about ESL/EFL reading, or from a decoding problem.

So far various approaches to reading have been reviewed. It seems that they differ from each other depending on the emphasis they place on reading processes, bottom-up and top-down. Traditionally the primary emphasis was on textual decoding (bottom-up). Later, under the influence of schema theory and psycholinguistic model, a

shift in the emphasis was experienced and reader's prior knowledge was considered important (top-down processing came to the fore). Finally interactive processing (both top-down and bottom-up) seems to have been going on gaining a general acceptance in the field of ESL/EFL. This newer interactive approach claims that reading involves both an array of lower-level rapid, automatic identification skills and an array of higher-level comprehension/interpretation skills (Grabe,1988; Eskey,1988). As a result, the components of these two type of processing -automatic decoding ability, vocabulary knowledge, structural knowledge, content background knowledge, and formal discourse structure knowledge keep on being the major concerns of ESL and EFL researchers. Now that the two of these components, content background knowledge and formal discourse structure knowledge, are under focus in this study, previous research on them may need to be reviewed in a little more detailed way.

## **2.6. Research on Content Background Knowledge (Content Schemata)**

As indicated before, the reader and his background knowledge gained primacy under the influence of schema theoretic views of reading comprehension. Content schemata are previously established patterns of background knowledge existing in the mind of a reader and are used to create meaning from the text. During the reading process, selected new information from the text is related to old information acquired from the reader's previous world knowledge (Aron, 1986). Previous research on the effects of content schemata seems to have been done mainly with the texts comprehension of which requires culture-specific background knowledge. It is assumed that through membership in a culture, an individual has privileged information which is represented in a rich system of schemata (Steffensen and Joag-Dev, 1986). However, when the cultural backgrounds of the author and the reader of a text differ, the reader is expected to instantiate inappropriate schemata. The culture-specific schemata needed for reading comprehension in a second language are often nonexistent or contain information inaccurate for the L2 setting. That is, there is a mismatch between the background knowledge presupposed by the text and the background knowledge possessed by the reader (Carrell and Eisterhold, 1983; Aron, 1986).

An example of cross-cultural research on content schemata is Steffenson and Joag-Dev's (1986). In this study, two groups of subjects with different cultural heritage

were investigated -a group of Asian Indians living in the United States and a group of Americans. Each subject was asked to read and recall two personal letters, both of which were constructed with similar rhetorical organization. However, the cultural content of the two letters differed; one described a traditional Indian wedding, the other a traditional American wedding. It was assumed that all adult members of a society would have a well-developed system of background knowledge about the marriage customs of their own culture and a relative lack of knowledge about the marriage customs of a more distant culture. This is exactly what Steffenson and Joag-Dev found. Both the Indian and American Groups read the material dealing with their own cultural background faster and recalled more of the content. Moreover, members of the culture provided appropriate cultural elaborations; nonmembers provided inappropriate cultural distortions, frequently outright intrusions from their own culture. In short, the study showed the clear and profound effect of cultural content schemata on reading comprehension.

Johnson (1981), who also investigated content schemata, used two authentic folktales and two groups of readers -a group of Iranian students studying in America and a group of Americans. Both groups read a Mullah Nasr-el-Din story from Iranian folklore and a story about Buffalo Bill from American folklore. Of the two folktales, according to Johnson, "both contained similar motifs which were culturally distinct yet were equivalent in plot construction" (p. 170). Thus, as with the Steffensen and Joag-Dev's (1986) study, Johnson manipulated the content and held the rhetorical structure constant. Johnson's results were much like those of Steffensen et al. -superior performance on a given text by members of the cultural group- thus clearly showing strong effects of cultural content schemata. In another study with ESL learners in America, Johnson (1982) obtained similar results to those of his study in 1981. In this study, he compared the students' knowledge of vocabulary to their familiarity to the topic (Halloween) of the text. He found that subjects' prior experience in the American culture affected their comprehension, whereas exposure to meanings of difficult vocabulary in the passage did not influence the comprehension of ESL learners.

Aron (1986) compared a group of native speakers of English to a group of nonnative speakers from various national origins. The subjects read two passages selected from a standard placement test (New Jersey Collage Basic Skills Placement

Test, 1982). One of the passages had a theme which, according to Aron, was universal, whereas the other was about the historic problem of Indians versus whites, thus specific to the United States. She found that there was no significant difference in the recall of the passage with a universal theme, but that the difference in group performance on the text with a United States culture-bound theme was significantly higher. This indicates that while native and nonnative subjects appear to bring similar previous knowledge to the passage with a universal theme, they seem to bring differing degrees of previously acquired knowledge to the passage with a culture-bound theme.

Another study examining the effects of culture-based content schemata on listeners' comprehension was carried out by Chiang and Dunkel (1992) with EFL Chinese learners. In Chiang and Dunkel's study, the subjects were given two lectures on two different topics: One was on "The Amish People and the Pennsylvania Dutch Country", and it was assumed that the topic of the lecture would be unfamiliar to the Chinese subjects. The other was on "Confucius and Confucianism", which was thought to be familiar. The subjects' comprehension was tested through two 30-item multiple-choice tests; 15 of the items were passage-dependent, and 15 were passage independent. The subjects who listened to the familiar-topic lecture scored higher on the test than those who listened to the unfamiliar-topic lecture, indicating that culture-based prior knowledge is an important factor in EFL Chinese learners' listening comprehension.

Not all the studies investigating the effects of content schemata have used texts, comprehension of which is assumed to require culturally bound prior knowledge. Some studies on content schemata have proven the importance of 'general topic knowledge' in ESL/EFL reader's comprehension as well. Hammadou (1991), for example, investigated the effects on content schemata of French and Italian EFL readers on their comprehension by utilizing newspaper passages about various topics. In this study, he judged the subjects' familiarity to each topic by means of a three-point interval scale. The subjects were asked to show how much prior knowledge they had about each topic by assigning a number from one to three (high, mid, low). However, the results of this study showed that the subjects did not comprehend familiar topics significantly better than unfamiliar ones. Hammadou attributes this lack of significance for the familiarity variable to two factors; inaccuracy of subjects' rating their prior knowledge or inactivation of the



content schemata. He says, “The subjects’ rating of their own familiarity with a topic was unable to predict their ability to comprehend what they read about that topic” and continues, “The measure of familiarity may well have been perfectly accurate, but group results are confused because of those readers who never instantiated the appropriate prior knowledge in memory.” (pp. 32,33).

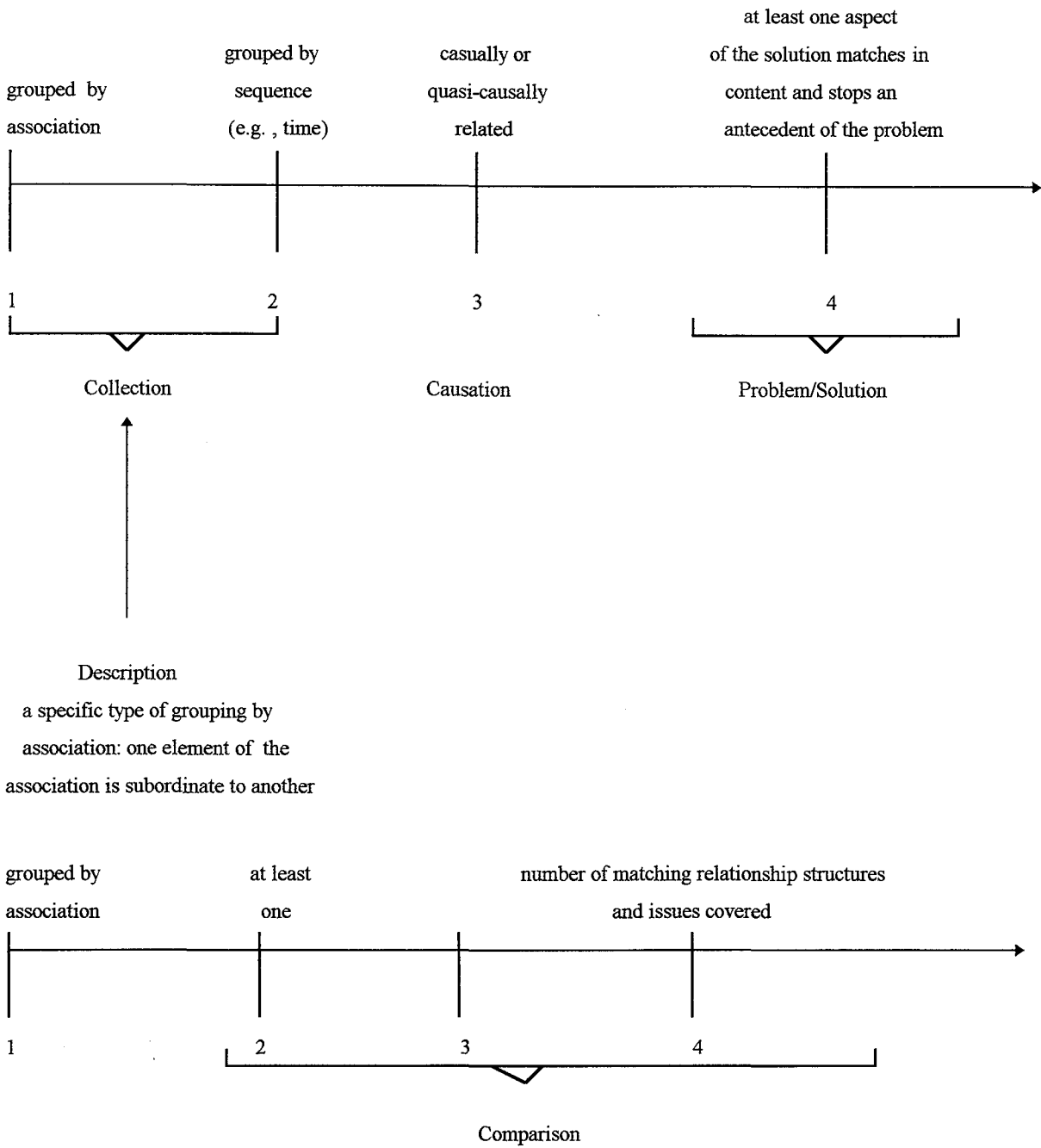
Alderson and Urganhard (1988) examined the effects of discipline-specific content schemata on ESL learners’ reading comprehension. They compared groups of university students majoring in different disciplines (administration and finance, engineering, science and mathematics, and liberal arts) with respect to their scores obtained from cloze-tests. In this study, they hypothesized that students reading texts in a familiar content area, that is, related to their area of study, would perform better than students unfamiliar with that subject. The latter, Alderson and Urganhard argue, would lack familiarity not only with the content of the subject area, but also with such aspects as genre and rhetorical organization. The hypothesis was supported by the findings of the study. Students from a particular discipline performed better on tests based on texts taken from their own subject discipline than students from other disciplines. This study again shows that not only culture-bound prior knowledge but also general or domain-specific prior knowledge is important in reading comprehension.

### **5.7. Research on Formal Background Knowledge (Formal Schemata)**

A number of studies have provided evidence that the rhetorical organization of a text interacts with the reader’s formal schemata -that is, the reader’s background knowledge of and experience with textual organization- to affect reading comprehension (Urganhard, 1986; Allen, Bernhard, Berry and Demel, 1988; Connor and McCagg, 1983; Connor, 1984; Meyer and Freedle, 1984; Carrell, 1984b; Carrell1985). The effect of text structure on reading comprehension has been shown to be operative for both narrative and expository texts. In the realm of narrative texts, Carrell (1985) claims that a large number of studies have demonstrated that narratives have a hierarchical schematic structure. The native readers are sensitive to such structure, and when the structure is used to guide comprehension, it is facilitated. In the field of expository prose, the research of Meyer (1977), Meyer and Freedle (1984), Connor and McCagg (1983), and

Carrell (1984, 1985, 1987) has shown effects on reading comprehension of differences in the rhetorical structures of expository prose.

According to Meyer and Freedle (1984), there are five basic ways of organizing expository discourse; collection, description, causation, problem/solution, and comparison. These five types of expository organization are not intended to be exhaustive or definitive, but their research has shown that there is good support for the belief that these are significantly distinct types of prose. Meyer's description of the essential features of each of these discourse types is presented in Figure 2.3. The 'collection' type represents the loosest organizational type, being only a grouping or listing of concepts or ideas by association. If the association is by sequence (by time or space, for example), then the listing becomes more organized (yielding a chronology). The 'description' type is a specific kind of grouping by association in which one element of the association is subordinate to another, namely to the topic. By presenting a particular attribute, specification, or setting, the description gives more information about the topic. When a number of collection of attributes, specifications, or settings are given about a topic, the structures of 'collection' and 'description' are combined to form a sixth type - 'collection of descriptions'. The 'causation' type represents ideas which are grouped not only chronologically, but which are also casually related. This discourse type is like if-then statements of logic, or like cause-effect (antecedent-consequence) statements. The 'problem/ solution' type contains all the features of 'cause-effect', with additional feature of overlapping content between propositions in the problem and solution. One or more propositional elements of solution can neutralize a causal antecedent of the problem. The 'comparison' type is on a different scale from causation and problem/solution. Rather than being organized on the basis of time or causality, it is organized on the basis of opposing viewpoints (either alternative views giving equal weight to two sides, or adversative views clearly favoring one side). It can be noted from Figure 2.2. and the description above that the least tightly organized discourse types are the description, collection, and collection of descriptions types. The other types of discourse organization are more tightly structured.



Source: Carrell and Freedle, 1984 (p. 123)

**Figure 2.3.** Components of Each Discourse Type

As noted by Raymond (1993) and Carrell (1984b), these five basic expository types are common in various contexts. Political essays are often of the comparison type. News articles are typically of the description type -retelling who, what, where, when, and

how. Scientific texts are usually of the problem/solution type -first raising a problem and then presenting the solution. Experimental research reports, such as this one, follow a specific version of the problem/solution plan -having well-marked sections for the problem, method, results and conclusion. History texts often follow the time-sequence type of collection.

The following brief texts borrowed from Carrell (1984b) may be more explanatory:

**Collection of Descriptions**

Our 25<sup>th</sup> high school reunion was held last year. We saw many old friends, danced until dawn, and agreed to meet again in five years.

**Causation**

Sally wasn't eating well, exercising, or resting enough. As a result, she felt weak and run-down and never wanted to do anything

**Problem/Solution**

Pollution is a problem; polluted rivers are health hazards and eyesores. One solution is to bar the dumping of industrial wastes.

**Comparison**

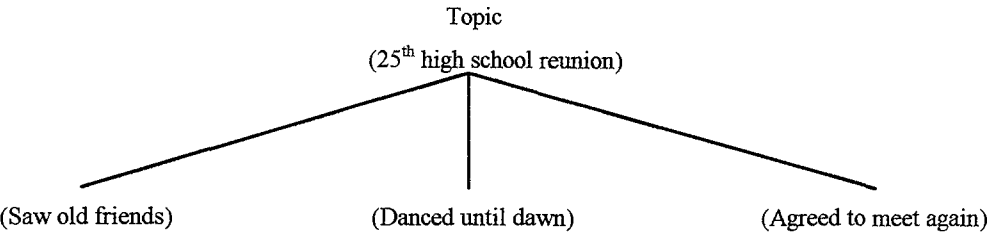
Despite the evidence that smoking is harmful, many people claim this is not so. Although smoking has been related to lung and heart disease, for some people smoking may relieve tension ( p. 444).

The top-level structures of each of these four texts are presented in the form of tree diagrams in Figure 2.4.

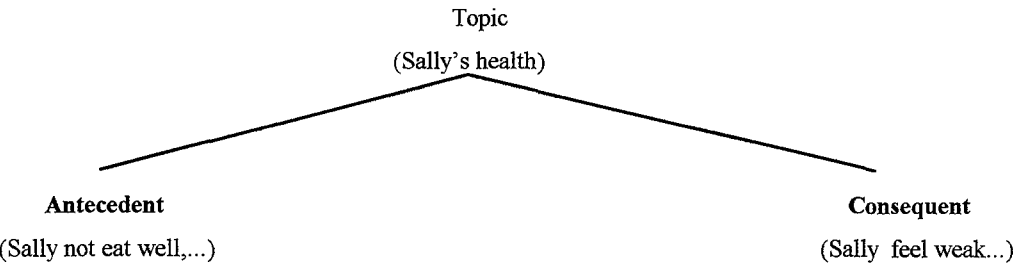
Most prose consists of combinations of these rhetorical patterns; for example, a folktale may contain description, causation, and collection (time-sequenced events) within an overall problem/solution organization where the hero confronts and resolves a problem. The following text (cited from Carrell, 1984b) illustrates a causation embedded in an overall problem/solution top-level organization (see Figure 2.5. for a tree-diagram representing the top-level organization of this text).

Sally's eating, sleeping, and exercising habits are so poor that they are causing her to feel weak and listless. If Sally would develop a healthier life-style, she would feel better. (p: 444)

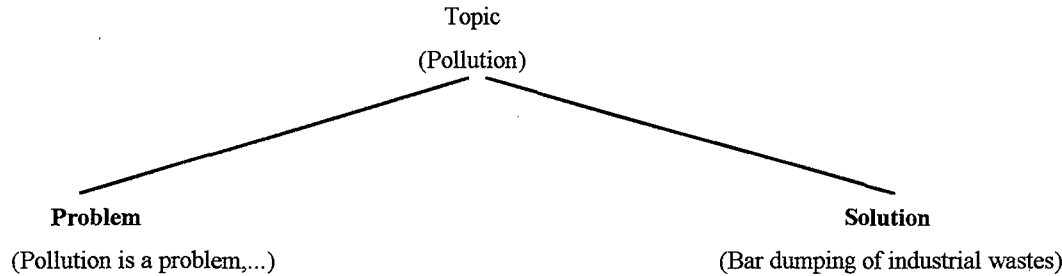
**Collection of Descriptions**



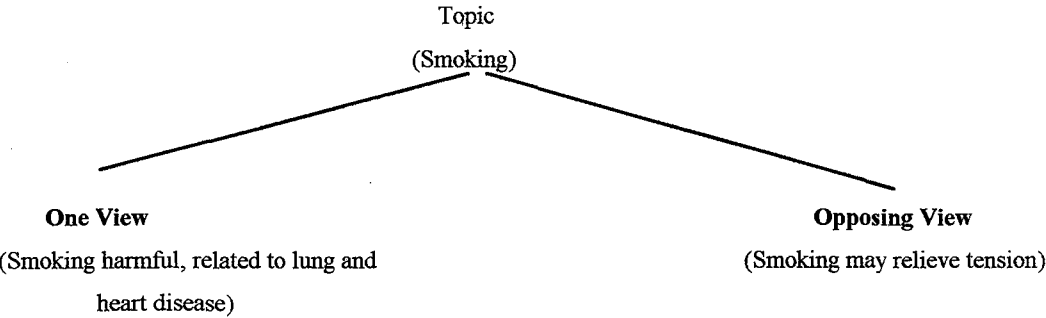
**Causation**



**Problem/Solution**

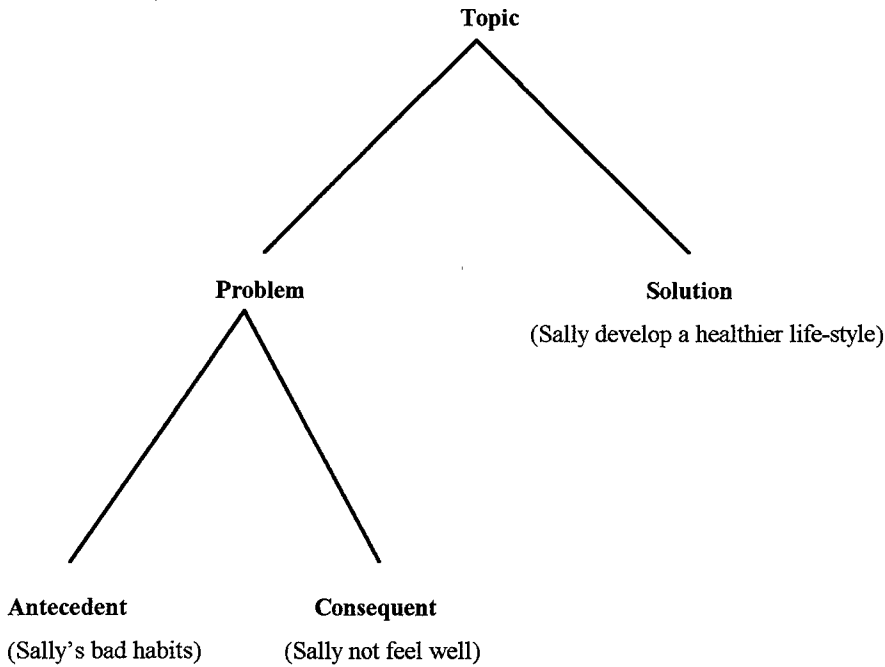


**Comparison**



Source: Carrell, 1984b (p. 445)

**Figure 2.4.** Top-Level Structure of Illustrative Mini-Texts



Source: Carrell, 1984b (p. 446)

**Figure 2.5.** Top-level Structure of Illustrative Mini-Text (Causation Embedded in Problem-Solution)

Generally, in most texts, there is a readily identifiable overall organizational plan. Meyer’s (1977), Meyer and Freedle’s (1984), and Carrell’s (1984b) studies have shown that these different ‘top-level’ overall organizational types have specific kinds of impact on reading comprehension in English language. They have found better recall of discourse when it is organized with the comparison, causation, and problem/solution structures than with the collection of descriptions. In order to understand why some types of discourse structure should be more easy to comprehend than other types, Meyer and Freedle’s (1984) model of discourse processing should be explained further.

**2.7.1. Meyer and Freedle’s Model of Discourse Processing**

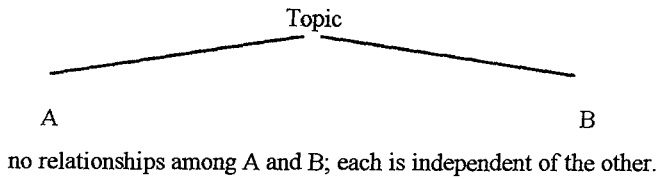
According to Meyer and Freedle (1984), a skilled reader possesses a finite number of formal schemata related to text organization, and approaches text comprehension with the knowledge of how certain texts are conventionally organized. For a particular text, the reader selects that formal schema in his repertoire which best accounts for that text. The schema employed to comprehend a text acts like an outline

which guides the reader in organizing the text during the process of encoding into memory. Likewise, during recall, the skilled reader activates this same kind of superordinate schema which began the encoding and uses it to retrieve information in stored memory about the text.

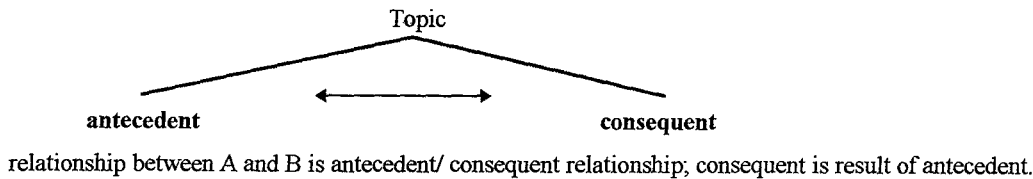
Not all the information in hierarchically organized schema is equally important or accessible in encoding, storing or retrieving. The superordinate, or top-level, structure, which corresponds to the major ideas of a passage and the interrelationships among these major ideas, is cognitively more salient than the lower levels, which correspond to minor ideas, detailed subordinate information. According to Meyer and Freedle (1984), the reason why top-level information is more memorable, that is, more cognitively salient, is that the superordinate structure gets rehearsed with each new piece of information that the reader processes and attempts to integrate with the major ideas of the text. Peripherally related information gets less rehearsed in memory; each piece of subordinate information gets stored in the proper place in the hierarchy but does not get rehearsed again as each new piece is taken in. It is, thus, more quickly forgotten than the top-level information, which gets rehearsed frequently.

The causation, problem/solution, and comparison structures are more highly organized types of top-level structures than the collection of descriptions top-level structure because of the particular relationships which hold between the top-level nodes in the former structures. There are no particular relationships holding between the top-level nodes in the latter structure. As can be seen in Figure 2.6, the A and B nodes in the causation, problem/solution, and comparison structures are highly interrelated. The A and B nodes of the collection of descriptions structure are not related. Thus, the causation, problem/solution, and comparison structures, with their more highly organized components, are expected to facilitate encoding, economy of storage in long-term memory, and subsequent retrieval processes. So, for example, during recall, remembering that a discourse was presented in a comparison structure should provide more retrieval cues than remembering that the discourse consisting of a collection of descriptions about a topic.

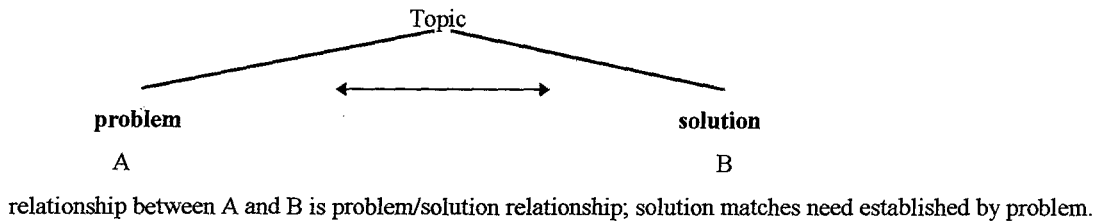
**Collection of Descriptions**



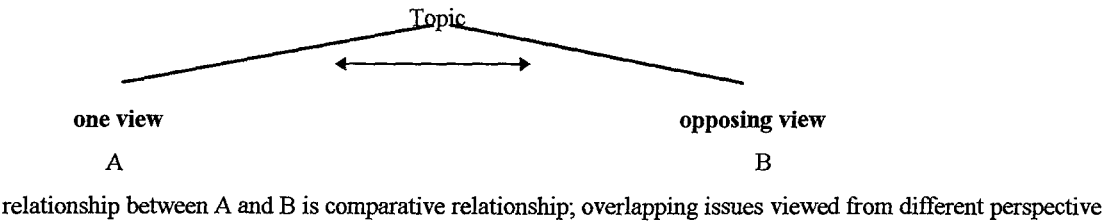
**Causation**



**Problem/Solution**



**Comparison**



Source: Carrell, 1984b (p. 453)

**Figure 2.6.** Relationships Between Nodes in Four Top-Level Structures

Some studies have shown the effects on ESL reading comprehension of differences in the rhetorical organization of text. Carrell’s (1984b) study shows the effects of four different English rhetorical patterns on the reading recall of ESL readers of various native language backgrounds. This study shows that the more tightly organized patterns of comparison, causation, and problem/solution generally facilitate the recall of specific ideas from a text more than the more loosely organized collection of descriptions pattern. In this study, ESL readers generally appear to be similar to the



native readers tested by Meyer and Freedle (1984). However, this study also shows significant differences among the native language groups.

Hinds' (1983) and Connor's (1984) studies may also be relevant. Hind (1983) has compared Japanese and English speakers in their reading, in their respective native languages, of texts with a typical Japanese rhetorical structure. His findings show that not only is the Japanese structure generally more difficult for the English readers, but that particular aspects of that rhetorical organization are extraordinarily problematic for English readers, especially in delayed recall. He concludes that traditional (*lei-sho-ten-ketsu*) pattern of Japanese expository prose is more difficult for English readers because of its absence in English expository prose. That is, native English readers lack the appropriate formal schemata against which to process the Japanese rhetorical pattern. Connor (1984) has compared the reading comprehension of Japanese and Spanish readers of ESL to that of a group of native English readers. She used an expository text with Meyer's problem-solution type of top-level structure. In the analysis of recall protocols, Connor found that although the native English readers generally recalled more propositions from the original text than the non-native readers, the difference was in the number of low-level ideas rather than in the number of top-level ideas. That is, the non-native readers recalled about the same number of top-level ideas as the native readers but far fewer low-level ideas.

Carrell (1987) and Raymond (1993) have also investigated the effects of teaching ESL students the text structures on their reading comprehension. These studies show that training experiment yields promising results, which, as Carrell 1987 states, "demonstrate that explicit, overt teaching about the top-level rhetorical organization of texts can facilitate ESL students' reading comprehension, as measured by quantity of information recalled." (p. 741).

## CHAPTER 3

### METHODOLOGY

#### 3.1. Introduction

Current views of reading comprehension defines it as a kind of interactive process. It is interactive because it results from the interaction between the reader's background knowledge, culturally bound or general topic knowledge, and the information picked up from the printed page. Comprehension is also interactive in the sense that many components such as vocabulary knowledge, syntactic knowledge content knowledge (content schemata), formal knowledge (formal schemata) etc. work together simultaneously in the process (Grabe, 1991).

In most of the previous research conducted about the effects of content schemata, the researchers have taken these schemata for granted on the basis of their subjects' membership to a given nation, or the subjects' rating of their own familiarity with a topic. However, some other research like Hammadau's (1991) has shown that subjects' rating their own familiarity with a topic is unable to predict their ability to comprehend what they read about that topic. And every member of a given nation may not be equally knowledgeable in a given culturally bound topic. It may then be concluded that the exact strength of content schemata in reading comprehension may have been underestimated.

Another line of research prompted by discourse analysis (William, Flick and Anderson, 1980; Fischer and Mandl, 1984; Schnotz, 1984; Meyer and Freedle, 1984; Kaplan, 1997; Grabe, 1997 among others) has demonstrated that text structure knowledge (formal schemata) -especially with expository texts- is an effective resource for reading comprehension. This line of research has presented two kinds of findings: Types of text such as description and comparison, which have different top-level information structures (or rhetorical macro-propositions), influence reader's comprehension in different ways, and top-level structuring can be taught so that students will recognize this aspect of text and use it to assist in their own comprehension.

Almost in all of the previous research except for Carrell's (1987), content schemata and formal schemata have been taken as separate independent variables. While

one is kept constant, the other is manipulated and its effect on reading comprehension is measured by means of recall protocols. Carrell (1987) studied not only their separate effects but also their possible interactive effects on reading comprehension of second language readers. In her study, the subjects were supposed to have the related formal schemata depending on the existence of it in their recall protocols, and content schemata were measured by subjects' rating. Thus, no training treatment was carried out about the top-level structures of texts.

This thesis project, which is partly modeled on Carrell's (1987) study, considers the above reservations and aims at demonstrating the separate effects of content and formal schemata, and their simultaneous interactive effects on Turkish University EFL students' reading comprehension. The design of the study may allow one to see the relative strength of content and formal schemata with respect to each other when they are explicitly formed in the readers. Moreover, the question whether the types of texts on the same overall topic have different effects on reader's recall is expected to be answered.

Because the purpose of the study is to show the possible differences in effectiveness of three different independent variables; content, form, and content and form together, on reader's comprehension, the research was designed as a 'planned-variation experiment'. Such experiments are generally done when different models used in a program are to be evaluated; that is, this kind of research design allows the researcher to compare more than two sample means. (Hatch and Farhady, 1983).

### **3.2. Setting and Subjects**

In the spring term of the academic year 1998-1999, this study was conducted with the EFL students in first-year classes in Education Faculty of Anadolu University, Eskişehir, Turkey. In Turkey, the students who want to study at the universities are chosen on the basis of their scores they obtain from a nation-wide university entrance exam. According to these scores, they are placed in the related departments of the universities; that is, the students who have the right to enroll in EFL departments are the ones who get the highest scores from the English language section of the university

entrance exam. This means that first-year students must have a great deal of English background when they come to the EFL departments of the universities.

The EFL department of Education Faculty at Anadolu University gives the students another challenging exam, which includes a standard placement test, a proficiency test (TOEFL), a writing test and a spoken one, before they are admitted to the department's first-year classes. The students who fail the exam given by the department register themselves for the prep-classes, which offer a full-time intensive English language training for an academic year. At the end of the academic year, the prep-class students have the same exam once more, and the ones who pass can enroll in the first year classes of the department. The ones who fail the exam must repeat the prep-class courses one more year.

In summary, the students in first-year EFL reading classes, who were formed the subjects of this study, had enough experience with English language and were categorized traditionally as high-intermediate or advanced students with respect to their proficiency. Nevertheless, in order to ensure that the subjects had the same level of proficiency in English, another TOEFL test (see 3.3.1) was given to all of the first-year reading classes at the faculty at the beginning of the study. There were seven first-year reading classes in the academic year 1998-1999, but for the sake of the study, the most crowded class, the students of which formed the subjects of the control groups later, was divided into two to enable the formation of another group. The mean scores of the groups on the proficiency test can be seen in Table 3.1.

**TABLE 3.1**  
**Mean Scores For TOEFL**

| GROUPS | NO. OF STUDENTS | MEAN SCORES |
|--------|-----------------|-------------|
| 1      | 16              | 62.56       |
| 2      | 19              | 62.15       |
| 3      | 19              | 63.31       |
| 4      | 17              | 62.88       |
| 5      | 20              | 61.75       |
| 6      | 21              | 62.90       |
| 7      | 11              | 61.00       |
| 8      | 11              | 62.09       |

A superficial examination of these mean scores shows that there does not seem to be any differences among groups of students with respect to their proficiency levels. In order to confirm that there were really not any differences among the groups, a variance analysis (ANOVA) was used as a statistical test. The results of the statistical analysis supported the impression (see Table 3.2).

**TABLE 3.2.**  
ANOVA for Proficiency Level

| Source Of Variance | ss        | d.f. | MS     | F    |
|--------------------|-----------|------|--------|------|
| Between Groups     | 57.795    | 7    | 8.256  | .146 |
| Within Groups      | 7.118.802 | 126  | 56.498 |      |

P<05

After making sure that all the groups had almost the same level of proficiency, each group was assigned randomly to one of the treatment groups. The two groups, which were formed from the largest class, assigned to control groups. As a result of the design of the study, eight different groups were formed; six of them were included into treatment groups and two into control groups. Each group was represented by a different class of students except the one which was divided into two for the purpose of forming an eighth group. This was necessary because it was impossible to find a class of students with the same level of proficiency who were following the same curriculum at the university in the academic year 1998-1999.

Each two of these eight groups of subjects (see Table 3.1) received different treatments; group one and four were provided with information about the overall content of the texts (content groups), group five and six were instructed about the rhetorical structures of texts (form groups), group two and three were both provided with information about the overall content and instructed about the rhetorical structure of the texts (content-form groups), and group seven and eight were left intact, didn't receive any of the above treatments (control groups).

As observed in the explanations above, these eight groups composed four major groups: Three of them were treatment groups; content, form, and content-form group, and the other one was control group. Each of these groups, treatment and control,

contained two sub-groups within themselves for the purpose of some further comparisons (see Table 3.3.). When the proficiency test (TOEFL) was administered, content-form group was composed of two sub-groups; one comprised 19 subjects; 16 females and 3 males; the second one included 19 subjects; 13 females and 6 males. Form group contained two sub-groups; the first one consisted of 20 subjects; 15 females and 5 males; in the other one there were 21 subjects; 15 females and 6 males. Content group consisted of two sub-groups; the first one included 16 subjects; 14 females and 2 males; the second one included 17 subjects; 14 females and 3 males. Control group consisted of two sub-groups; the first one included 11 subjects; 7 females and 4 males; the other contained 11 subjects; 7 females and 4 males.

Before giving the proficiency test, all of the subjects were informed about the purpose of the study and required to participate on a voluntary basis. They were also told they would not be affected in any way except few changes in the order of the topics to be covered in the reading comprehension course; during the research period, some of the classes would handle certain topics related to the research questions, whereas the other ones would deal with some other topics included in the schedule of the course. In the course of the academic year, all of the students would have covered all the topics included into the schedule. All the subjects taking part in the study were native speakers of Turkish, their average age being 20; ranging from 18 to 24. In order to avoid any teacher's effect, the researcher substituted for his partner and gave the reading comprehension course to all of the first year EFL students during the study. Until the study started, the reading comprehension courses had been conducted by two different teachers in cooperation with each other, and all of the classes had handled the same topics.

A total of 134 subjects participated in the study when the proficiency test was administered. These students were placed in different treatment and control groups as indicated before. However, 19 subjects were excluded from the study later on account of their absenteeism in either the lessons or the test. Therefore, the performance of the remaining 115 subjects on reading and comprehending the texts comprised the data set. The final distribution of the subjects in groups is presented in Table 3.3. It should be

structure and discourse was an important variable in reading comprehension that might affect the results, and therefore, needed to be controlled.

The proficiency test was given to the groups of subjects two weeks before the treatment began, and it took 70 minutes to administer. The time and day for the exam were determined in consultation with the subjects and announced beforehand. The subjects were observed to be very eager to participate as they wished to know how much progress they had made since they last took such a standard test. In scoring, one point was given to each correct answer to a total of hundred questions. The mean scores of the groups are shown in Table 3.1.

### **3.3.2. Passages**

In order to control for the structure and content of information while investigating the effects of discourse type, four versions of a single text were written by Meyer and Freedle (1984) and used in their research with native speakers of English. Later the same four versions were used by Carrell (1984b) in a research study with second language learners. Two (collection of descriptions and comparison) of these four texts were used in this study with foreign language learners. Both texts contained identical content information. The overall discourse structures differed, as did a minimal number of ideas which were necessary for altering this structure. Collection of description passage contained 135 words and comparison passage contained 137 words. The passages are given in Figure 3.1. Identical content information across the two passages is in lower-case letters; different information is capitalized. The capitalized and underlined words identify different ideas in the two passages. The capitalized words without the underlining explicitly signal the discourse type of each passage.

---

**Collection of Descriptions**

SEVERAL ASPECTS OF THE LOSS OF BODY WATER WILL BE DISCUSSED. FIRST, athletic coaches frequently require wrestlers, boxers, judo contestants, karate contestants, and football team members to lose body water so that they will attain specified body weights. These specified weights are considerably below athletes' usual weights. SECOND, THE LOSS OF BODY WATER SUSTAINED BY A 150-POUND INDIVIDUAL EACH DAY IS THREE PINTS OF WATER. THIRD, loss of body water impairs cardio-vascular functioning, which limits work capacity. More specifically, a loss of three percent of body water impairs physical performance and a loss of five percent results in heat exhaustion. Moreover, a loss of seven percent of body water causes hallucinations. Losses of ten percent or more of body water results in heat stroke, deep coma, and convulsions; if not treated, death will result.

**Comparison**

Athletic coaches frequently require wrestlers, boxers, judo contestants, karate contestants, and football team members to lose body water so that they will attain specified body weights. These specified weights are considerably below the athletes' usual weights. IN CONTRAST TO THE ACTION TAKEN BY COACHES, THE AMERICAN MEDICAL ASSOCIATION STRONGLY CONDEMNS THE LOSS OF BODY WATER FOR ATHLETES. THEY CONDEMN LOSS OF BODY WATER DUE TO THE FACT THAT THE loss of body water impairs cardio-vascular functioning, which limits work capacity. More specifically, a loss of three percent of body water impairs physical performance and a loss of five percent results in heat exhaustion. Moreover, a loss of seven percent of body water causes hallucinations. Losses of ten percent or more of body water results in heat stroke, deep coma, and convulsions; if not treated, death will result.

---

Source: Carrell (1984)

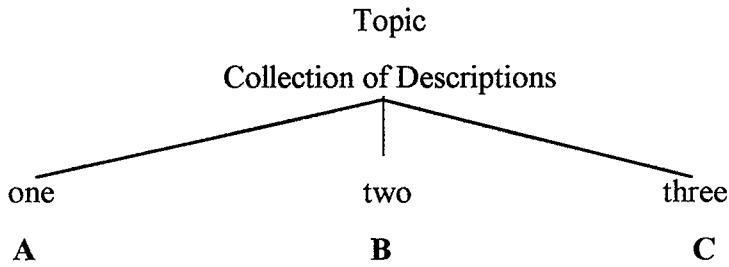
**Figure 3.1.** The Two Different Versions of the Text, “The Loss of Body Water”



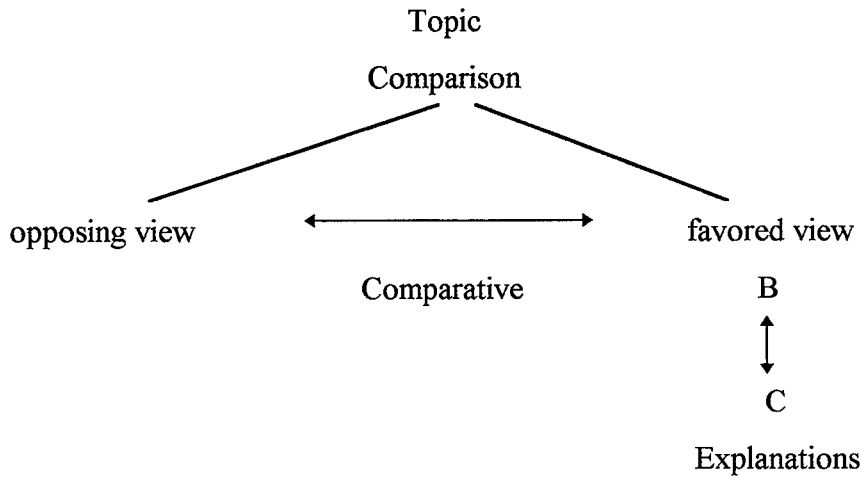
The difference in the organization of the two discourse types can be seen graphically in Figure 3.2. “A” in the figure refers to the identical information in the first part of each passage; “B” corresponds to the different information of each passage. “C” stands for the identical information in the last part of each passage. The comparison organization chunks A, B and C into two major components and relate these components to a general topic and to each other in specific ways (comparative). In chunking B and C, a specific relationship exists between B and C ; that is, C explains B. Thus, for this pattern of organization A, B, and C are interrelated in a number of specified ways. In contrast, in the collection of descriptions organization, there are no relationships among A, B, and C.

---

**Collection of Descriptions**



**Comparison**



---

**Figure 3.2.** Difference in Organization between the Two Different Versions of the Text

### 3.3.3. Open-Ended Test

Traditionally in reading courses and course books, information in a passage is analyzed into such constituents as topic, main idea, major (supporting) details, and minor (supporting) details. These components except the last one are said to be the most important in reading comprehension, and to form the basic framework of the passage. On the other hand, discourse analysts and some reading experts believe that each text has a hierarchical content structure which is the organization that binds the information (idea units) to a specified topic as well as to each other in specific ways. At the top of this hierarchical content structure is the overall or top-level structure that characterizes the discourse type; and the ideas found in the overall/top-level structure are of central importance to the author's message (Fischer, 1984; Schnotz, 1984; Meyer, 1984). The ideas found in the top-level structure of a given text correspond to the topic/main idea and major supporting details, and the top-level structure itself refers to the basic framework in traditional conceptualization. The discourse analysts call the ideas high in the hierarchy high-level ideas which represent, in traditional reading classes, the topic or main idea and major supporting details. The ideas low in the hierarchy stand for minor supporting details.

In this study, some open-ended questions (see Appendix G) were placed at the back of the free recall papers in order to see how many of these high-level idea units the subjects would recall. It was in fact possible to analyze the recall protocols qualitatively and see how many of high and low-level idea units were recalled. However, in the study, the open-ended questions which asked the subjects directly the topic, the main idea and the major supporting details of the texts were preferred instead, for all of the subjects without any exception had been traditionally taught these components explicitly as parts of their reading class program before the treatment started. This way of testing the subjects' recall of high-level idea units was expected to show the real differences, if there were any, among the groups. Otherwise, the results of the study would probably be contaminated by other factors rather than the treatment: There was, for example, the possibility for non-treatment groups not to give the high-level ideas in their recall protocols even though they understood and stored them. This might be due to the fact

that all the subjects were possibly accustomed to being asked directly to recognize those traditional components in their previous exams during prep-years and the first term.

Only the groups who received training about rhetorical pattern were shown how recognizing the pattern of text helped them identify the main idea and major supporting details. This was emphasized several times during the treatment. The open-ended questions were given together with free recall papers for its practicality, and were scored by assigning one point to each correct answer. The following statements, or paraphrases of them in Figure 3.3 were regarded as correct answers. The total correct answers the subjects might provide were four for each of the texts used as testing materials.

|                                                                                                                                                                                                                                                                                      |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Collection of Description</b>                                                                                                                                                                                                                                                     |
| <b>Topic/Main Idea:</b><br>Aspects of the loss of body water/There are several aspects of the loss of body water.                                                                                                                                                                    |
| <b>Major Supporting Details:</b><br>1. Coaches require athletes to lose body water so they will attain specified body weights.<br>2. A 150-pound athlete loses three pints of body water every day<br>3. Loss of body water impairs cardio-vascular functioning/limits work capacity |
| <b>Comparison</b>                                                                                                                                                                                                                                                                    |
| <b>Topic/Main Idea:</b><br>Different views about the loss of body water/Coaches and American Medical Association have different views about the loss of body water.                                                                                                                  |
| <b>Major Supporting Details:</b><br>1. Coaches are in favor of the loss of body water.<br>2. American Medical Association is against the loss of body water.<br>3. They are against it because it impairs cardio-vascular functioning/limits work capacity.                          |

**Figure 3.3.** Correct Answers to the Open-Ended Questions for Each Text (High-Level Ideas)

A list of example answers provided by the subjects are given below:

### **Collection of descriptions**

- Three factors of athletes' losing body water
- Several aspects of loss of body water
- Some aspects of loss of body water are discussed
- The text is about aspects of water loss while doing sports
- Athletic coaches think that the loss of body water is necessary for athletes to have a specific weight
- An average athlete loses three pints body water every day
- This loss (of body water) can influence the athlete in negative ways
- This (loss of body water) can cause some health problems

### **Comparison**

- Coaches and doctors think differently about loss of body water
- American Medical Association and coaches don't agree on athletes' water loss
- Opinions of coaches and American doctors on loss of body water are different
- American doctors are against the loss of body water because it can be very dangerous for their health
- In contrast, some researchers do not accept this way (of loss of body water) because of health problems
- American doctors think that loss of body water is dangerous
- Coaches want the sportsmen to lose body water, but doctors are against it because it is harmful for athletes' health.

#### **3.3.4. True-False Test**

In order to see whether the same or similar results to the results of the free recall protocols could be obtained from the experiment, this true-false test was constructed. The texts used in the study were given to three instructors who had been teaching English at the department of EFL for more than ten years, and they were asked to prepare a true-false test. On the basis of common items found in these three, the test used in this study was constructed. It consisted of 15 items, six of which were false (items 3, 5, 6, 8, 10, 11), and nine of which were true (items 1, 2, 4, 7, 9, 12, 13, 14, 15)

according to the texts. The formation of items was based on the identical information in both of the texts. The different information in them was not considered. However, three of the true statements (13, 14, 15) were inference-based (text-independent). That is, they could be logically inferred from the identical information in each text. As a result, finding the correct answers, either true or false, required the subjects to use information in the text as well as to infer. Each correct answer to true-false statements was given one point in grading, so the total score expected was fifteen (see Appendix G for the true-false test).

### **3.4. Procedures**

The following procedures were followed to build up content and formal schemata, to test the subjects, and to score the free recall protocols.

#### **3.4.1. Content Schemata Building**

In normal regular reading classes, the lessons are taught in such a way that students are first presented with the topic included in the schedule of the course, and then explanations and examples are given until they feel they understand the ideas presented. At the end of each class, the students are assigned homework concerning the topic handled: They are asked to find a certain number of passages from a variety of sources and apply to the reading of those passages what they have learned. If the topic is, for example, Understanding the Main Idea, they are required to find five or so different passages, and work on them to find the main ideas. The same passages with which they carry out their homework are brought to the classroom and form the course material for the following class' activities. When the next class starts, the students change the passages they have brought with one another and practice to a great extent what they have learned during the previous class. While practising, they compare and contrast their answers to one another's. When they have a conflict, the teacher is invited into their discussions. The reading class is held three hours a week. Thus each topic included in the schedule is handled first by presenting, explaining, exemplifying and exercising for three hours in a week, and then by practising for another three hours in the following

week. On each topic in the schedule of reading class, at least six hours are spent in two successive weeks.

As a result of the research design, four of the reading classes were supposed to be provided with content background knowledge (two in the content schemata group and two in the content-formal schemata group). After handling the topic ‘Supporting Details’ which was one of the subject-matters scheduled for regular reading class, the students were assigned their weekly homework as expected. They were asked to find passages from different sources and apply to the reading of those passages what they had learned previously about determining the ‘Supporting Details’: They were to distinguish the major supporting details from the minor ones in each paragraph of the passages they found themselves.

When the students were given this homework as part of their reading class requirement, they were directed on purpose to find passages on the topic of “Weight affair in Sports” as well. The language of passages was not limited to English only; they would also find and read texts in Turkish. This topic was thought to be general enough to include information about the topic of ‘the Loss of Body Water’, which is a little more specific in comparison to “Weight Affair in Sports”. The topic of ‘the Loss of Body Water’ is, in fact, the overall topic of the two texts, which were used as testing materials in this study (see Figure 3.1., or Appendix G). The students were also required to take notes, either in Turkish or in English, considering the major and minor supporting details while doing their homework with the passages. It was expected that, in this way, they would have knowledge about ‘the Loss of Body Water’ to a certain extent, and prepare themselves for the discussion that was planned for the following class. During the following class, a discussion on the same topic was held for a class hour. All of the students participated in the discussion and contributed to it depending on their notes (Examples of subjects’ notes can be seen in Appendix A).

In addition to the indicated homework and classroom activities, the groups of subjects were given some further homework so that they would expand their knowledge about the topic ‘the Loss of Body Water’: They were supplied with two passages related to this topic, one of which was in Turkish and the other was in English, and asked to write a summary either in Turkish or in English. (The two passages can be seen in

Appendix B, and examples of summaries in Appendix C ). The weekly assignments were a part of course requirements and were considered in the evaluation of students' final achievement. Therefore, the students seemed to be eager to do the assignments given and participated actively in the classroom activities carried out during the treatment as well as the whole term.

### 3.4.2. Formal Schemata Building

Training the group of subjects (two in the form group, two in the content-form group) about the overall rhetorical structures of texts was largely based on Langan's (1989) course book, **Ten Steps to Improving Reading**. A chapter on "Patterns of Organization" from this book was used as the main teaching material in building the formal schemata. In the book, texts are divided into five common types on the basis of their overall rhetorical structures; *time order*, *list of items*, *cause and effect*, *comparison*, and *definition and examples*. Previous research, Like Carrell's (1985) and Raymond's (1993), on similar topics were, however, based on Meyer and Freedle's (1984) classification of expository prose. In their studies, they used four major types; *collection of descriptions*, *causation*, *problem solution*, and *comparison*. Three of Langan's (1989) text types, *time order*, *list of items*, and *definition and examples* refer to Meyer and Freedle's (1984) *collection of descriptions* only. His *cause and effect* corresponds to their *causation*, and *comparison* type exists in both classifications. Based on primarily Langan's course book, the subjects in these treatment groups covered factually three of Meyer and Freedle's four major types of discourse: collection of descriptions, causation, and comparison.

Training of the subjects, as explained before, was conducted in two separate three-hour sessions in two successive weeks. During the first session, first of all the objectives of training were made clear to the students, and then Langan's five common types of expository texts were presented. The key aspects of each type were explained and illustrated (through Meyer's tree diagram) in a clear and simple way, and then a series of practice exercises were provided. The session ended with two review tests, a discussion on correct answers of the tests, and a review of objectives (see Appendix D for presentation of rhetoric patterns). The basic objectives of training were explicitly

communicated to the students; they were particularly told that it did sometimes not matter how they read -for instance, when they read for pleasure but at other times, it did when they, for example, had to prepare for exams and do class assignments. It was explained to them that the efficiency with which students could read under such circumstances was important, that if they could get the necessary information quickly and effectively, it was likely they would perform well and feel better about the task. It was emphasized that by learning about the ways in which expository texts are typically organized at the top level, they would improve their reading comprehension.

When the students left the first session, as usual in the regular reading classes, they were assigned homework requiring them to find passages -at least one for each pattern of organization- from different sources. They were to bring the passages to the following week's class so that all of the students in class would have the opportunity to practise with a variety of materials from various sources. While searching for passages, the students also had the opportunity to practise the related topic; in this case, pattern of organization or rhetorical structures of expository prose.

The passages supplied by students (see examples in Appendix E) formed the basis for further practice on recognizing the types of expository texts during the second treatment session. During this session, the students went on practising what they had learned before, were encouraged to compare and discuss one another's ideas about the passage's basic overall pattern in pairs or groups, and got immediate feedback from the teacher when they conflicted. This session also ended with a review of the objectives and the main points of training: They were told once more that

1. identifying the organization in what they read was key to understanding
2. identifying the top-level organization needed their attention before, during and after reading.
3. to determine the organization, they had to ask what the passage was about (this gives the topic ) and how the topic was discussed: They would answer these questions while reading, and check the answer after reading.
4. there were many different patterns of organizations, but the ones we handled were the most common ones.



5. different words (transitions words) would help them to ascertain the overall pattern of organization
6. each of these common types of organization had a special way to pattern the sentences in a passage (examples were provided).

A mastery test combined from Langan and Kay (1989), Langan (1989), and Langan and Jenkins (1989) was given to the subjects for additional practice at the end of the session. They did the test at home. Correct answers were provided later at the beginning of the next class for comparison, and brief discussions were held on the basis of questions asked by the students (see Appendix F for the mastery test).

### **3.4.3. Treatment of Content-Form Groups**

No special treatment for the two sub-groups of subjects in content-form groups was given. As explained before (see 3.4.1. and 3.4.2.), the subjects in these groups followed the same procedures as content groups did in order to build content schemata. To build formal schemata, they were taught the overall rhetorical structures of texts in the same way as form groups were trained.

### **3.4.4. Control Sessions**

While the formal schemata and the content-formal schemata groups were going through the training session, the control and content schemata groups followed through the schedule omitting only the topic, Pattern of Organization, and went on with 'Drawing Inferences', which was the next topic in the schedule. Until then, all of the reading classes had handled the topics; Understanding Vocabulary in Context, Recognizing Main Ideas, and Identifying Key Supporting Details. During the treatment, the form groups and the content-form groups were trained about the rhetorical organization, and the control and the content groups about inferring for two weeks. The control groups did not receive any special training. No specific class hours were assigned to the content groups for the formation of content schemata except for an-hour discussion. All the classes handled later the course topics which they had to omit during the treatment. In this way, no diversion from the regular reading classes took place.

### **3.4.5. Testing**

The date and time for testing were decided in consultation with the groups of students in order to find the most suitable time and ensure the maximum participation. The test was administered to all of the subjects at the same time in eight different classrooms, which were invigilated by eight colleagues. Four of the groups were given the collection of descriptions text, and the other four groups of subjects were exposed to the comparison text. One sub-group from each major group, content-form, form, content, and control, read collection of descriptions text, whereas the other sub-groups read comparison text. Both of the texts were accompanied by written instructions which informed them that they would be asked to carry out certain tasks on the basis of their readings. The instructions also demanded them to imagine that they had come across the text in a newspaper or magazine they liked reading, and that the topic of the text was of interest to them. They were further asked to read the text at their own reading rates to find out what it said about the topic, but not try to memorize. The texts were given back to the invigilators after the completion of reading task.

In order to reduce the effect of short term memory, they were then administered a brief questionnaire which required their rating of how difficult or easy they found the text's grammar, vocabulary, content and pattern of organization. When they finished completing the questionnaire, a written recall was administered. The subjects were asked to write down everything they could remember from the text, using their own words or words from the text. They were asked to try to write in complete sentences and not just list isolated words or ideas. They were to try to show in their writing how the ideas from the text were related to each other. Just after recall protocols, they answered the open-ended questions, which were placed at the back of the recall protocol papers, and then the true-false test was given. The testing procedure lasted 40-45 minutes. (see Appendix G for the two texts, the questionnaire, the recall protocol paper, the open-ended questions, and the true-false test).

### **3.4.6. Scoring Free Recall Protocols**

The free recall protocols of the subjects were scored on the basis of the identical idea units they recalled and the elaborations they produced.

### 3.4.6.1. Identical Idea Units Recalled

As mentioned earlier, the two texts used in this study were taken from Carrell (1984b). The identical information in two versions of the text was divided into 21 idea units, and these idea units were used as the basic criteria for the analysis in her research. Figure 3. 4. presents the 21 common idea units.

- 
1. Loss of body water is required by athletic coaches
  2. This is required of wrestlers
  3. This is required of boxers
  4. This is required of judo contestants
  5. This is required of karate contestants
  6. This is required of football team members
  7. This is done so athletes will attain specified body weights
  8. These specified weights are lower than their usual weights
  9. Loss of body water impairs cardio-vascular functioning
  10. This limits work capacity
  11. A loss of 3% of body water
  12. impairs physical performance
  13. A loss of 5% body water
  14. results in heat exhaustion
  15. A loss of 7% of body water
  16. causes hallucinations
  17. A loss of 10% or more of body water
  18. results in heat stroke
  19. results in deep coma
  20. results in convulsions
  21. If not treated, death will result
- 

Source: Carrell (1984b)

**Figure 3. 4.** Analysis of Identical Information into 21 Common Idea Units

It appears that identical information in the two texts has been broken into its smaller meaningful components, each of which represents an idea unit. Each idea unit in Carrell's analysis corresponds to a simple sentence, a sentence including an adverb clause, a noun phrase, or a verb phrase. For the purpose of comparing the results with those of previous research with native and second language learners, the same idea units formed the basis of scoring the recall protocols in this study as well. Each recall protocol was scored for the presence of these 21 identical idea units, and each idea unit recalled correctly was assigned one point.

### **3.4.6.2. Elaborations**

The recall protocols were also scored for elaborations. Each single sentence including information that does not exist in or can not be logically inferred from the texts was regarded as an elaboration and assigned one point. Following is a list of elaborations produced by the subjects in their recall protocols:

- Losing weight is very important in sports.
- You shouldn't lose weight too much or you shouldn't put on weight too much. Otherwise, it make your metabolism extraordinary and you will loose in sport.
- Sportsmen lose body water because they want to meet under their weight.
- For athletes, it is important to loose weight in healthy ways.
- Coaches usually want the athletes to lose weight in an efficient way, or else unconscious exercises or methods of losing weight can be hazardous for health.
- It (loss of body water) is beneficial, but when people do it unconsciously, they meet health problems.
- There should be balance in body to succeed in sports.
- People who do sports need more water in their body. They should drink more water.
- First the weight loss must be controlled by coaches

### **3.5. Analytic Procedure**

To analyze the scores for identical idea units, true-false questions, open-ended questions, and elaborations statistically, the one-way analysis of variance (ANOVA) was performed. In this way, four major groups of subjects, content-form, form, content, and

control, were compared to one another depending on the scores they obtained from the text they read: Four groups read the collection of description text, whereas the other four read the comparison text. The ones who read the same text were compared to one another. An alpha level of .05 was chosen as the significance level. When the results of ANOVA reached the significance level (.05), a Post Hoc multiple comparison test was performed in order to see where the difference among the groups was.

When the pairs of groups were compared on the basis of text type, the mean scores of each pair for identical idea units and high-level idea units were analyzed by means of Independent Samples t-test. Significant results were reported, and non-significant ones were indicated by **n.s.** To see the effects of text type, groups of subjects who received the same treatment were compared to each other on the basis of the text they read. For example, a group who received the treatment about both content and form was compared to the other group who had the same treatment. They were different only with respect to the text they read: One group read the collection of descriptions text, whereas the other read the comparison text.

## **CHAPTER 4**

### **PRESENTATION AND ANALYSIS OF THE DATA**

#### **4.1. Introduction**

In this study, the main aim was to find out the separate effects of content and formal schemata, and their simultaneous interactive effects on university level EFL learners' reading comprehension. The study was designed in such a way that it would also supply information about the relative strength of these two factors (content schemata vs. formal schemata) as well as the effects of different rhetorical patterns (collection of descriptions vs. comparison). In addition, it would show the effects of content schemata on the subjects' production of elaborations. In other words, the following hypotheses were tested in this study.

1. Building content schemata facilitates EFL learner's reading comprehension.
2. Building formal schemata facilitates EFL learner's reading comprehension.
3. Simultaneous building of both content and formal schemata may have a cumulative effect on EFL learner's reading comprehension, and increase it to a greater extent.
4. Building content schemata increases EFL learner's production of elaborations.
5. Types of text can influence EFL reader's comprehension in different manners (comparison type of texts are easier to comprehend than collection of descriptions types).

Sets of data derived by means of different methods were subjected to statistical analysis in order to answer the questions above: Identical idea units and elaborations were obtained from recall protocols. High-level ideas (see 3.3.3.) were obtained from the open-ended questions, and answers to true-false questions (which were based on the same identical idea units) were gotten through the true-false test (see 3.3.4.). All kinds of data analyzed statistically were based on the two texts, which were used as testing materials (see 3.3.2 ).

4.2. Analysis of the Scores with respect to the Identical Idea Units from Recall Protocols

Descriptive statistics for the identical idea units recalled by the groups of subjects from the two texts, collection of descriptions and comparison, are presented in Table 4.1. In the table, there seem to be differences among the mean scores of the groups. Indeed, a statistically significant difference is confirmed by the results of the one-way ANOVA ( $F=5.097$ ,  $p=.004$  for collection of descriptions, and  $F =3.475$ ,  $p =.022$  for comparison).

**Table 4.1.**  
Descriptive Statistics for Identical Idea Units  
Recalled from the Texts

| COLLECTION OF DESCRIPTIONS | N. OF SS. | MEAN   | STD. DEVIATION | STD.ERROR |
|----------------------------|-----------|--------|----------------|-----------|
| CF                         | 14        | 4.9286 | 2.9991         | .8015     |
| F                          | 17        | 2.9412 | 2.7265         | .6613     |
| C                          | 16        | 6.2500 | 3.2352         | .8088     |
| Cr.                        | 11        | 2.8182 | 1.9400         | .5849     |
| TOTAL                      | 58        | 4.3103 | 3.1131         | .4088     |

| COMPARISON | N. OF SS. | MEAN   | STD. DEVIATION | STD. ERROR |
|------------|-----------|--------|----------------|------------|
| CF         | 12        | 5.9167 | 2.6097         | .7534      |
| F          | 17        | 3.9412 | 2.7493         | .6668      |
| C          | 17        | 6.2941 | 3.6188         | .8777      |
| Cr.        | 11        | 3.4545 | 1.4397         | .4341      |
| TOTAL      | 57        | 4.9649 | 3.0176         | .3997      |

CF: content-form group; F: form group; C: content group; Cr: Control group

In order to see where the difference is, the Post Hoc LSD multiple comparison was performed on the data. The results of multiple comparison can be seen in Table 4.2. According to this table, for both of the texts, the content-form groups do not differ from the rest of the groups, whereas the content groups are significantly different from the form groups (for collection of descriptions,  $p=.001$ ; for comparison,  $p=.019$ ) and the control groups (for collection of descriptions,  $p=.003$ ; for comparison,  $p=.012$ ). There is

no significant difference between the content groups and the content-form groups. These data show that content schemata is a stronger predictor of EFL readers’ comprehension than is formal schemata and any interaction between content and formal schemata.

**Table 4.2.**  
Results from Multiple Comparison for the Identical Idea  
Units Recalled from the Texts

| COLLECTION OF DESCRIPTIONS |      |      |      |      |
|----------------------------|------|------|------|------|
| GROUPS                     | CF   | F    | C    | Cr.  |
| CF                         |      | n.s. | n.s. | n.s. |
| F                          | n.s. |      | .001 | n.s. |
| C                          | n.s. | .001 |      | .003 |
| Cr.                        | n.s. | n.s. | .003 |      |

| COMPARISON |      |      |      |      |
|------------|------|------|------|------|
| GROUPS     | CF   | F    | C    | Cr.  |
| CF         |      | n.s. | n.s. | n.s. |
| F          | n.s. |      | .019 | n.s. |
| C          | n.s. | .019 |      | .012 |
| Cr.        | n.s. | n.s. | .012 |      |

CF: content-form group; F: form group; C: content group; Cr: control group; n.s.= non-significant  
p>.05

**4.2.1. Analysis of the Scores on the True-False Test (which is based on the same identical idea units)**

Even though recall protocol is an extensively used way of testing reading comprehension in research, it is not so common in second or foreign language reading pedagogy. Therefore, the same statistical procedure was applied to the groups’ mean scores which were obtained by means of the true-false test (see 3.3.4.). True-false type of test is one of the common ways of measuring reading comprehension in foreign language reading. The descriptive data from this test is given in Table 4.3. From the mean scores, it seems that the groups are different from one another. This result is



confirmed by the one-way ANOVA results ( $F=5.429$ ,  $p=.002$  for collection of descriptions, and  $F=2.923$ ,  $p=.042$  for comparison).

**Table 4.3.**

Descriptive Statistics for the Scores from the True-False Test

| COLLECTION OF DESCRIPTIONS | N. OF SS. | MEAN    | STD. DEVIATION | STD. ERROR |
|----------------------------|-----------|---------|----------------|------------|
| CF                         | 14        | 10.6429 | 2.4371         | .6513      |
| F                          | 17        | 9.1176  | 2.6665         | .6467      |
| C                          | 16        | 10.3125 | 1.4477         | .3619      |
| Cr.                        | 11        | 7.5455  | 1.4397         | .4341      |
| TOTAL                      | 58        | 9.5172  | 2.3563         | .3094      |

| COMPARISON | N. OF SS. | MEAN    | STD. DEVIATION | STD. ERROR |
|------------|-----------|---------|----------------|------------|
| CF         | 12        | 10.6667 | 1.4975         | .4323      |
| F          | 17        | 9.2941  | 2.0846         | .5056      |
| C          | 17        | 10.5882 | 2.3994         | .5820      |
| Cr.        | 11        | 8.5455  | 2.5045         | .7551      |
| TOTAL      | 57        | 9.8246  | 2.2766         | .3015      |

CF: content-form group; F. Form group; C: content group; Cr: control group

Table 4.4. below, which presents the results of multiple comparison, reveals where the difference is: The content-form groups are different from the control groups (for collection of descriptions,  $p=.004$ ; for comparison,  $p=.023$ ), and the content groups are different from the control groups as well (for collection of descriptions,  $p=.008$ ; for comparison,  $p=.018$ ). But neither the content groups nor the content-form groups are different from the form groups. There is also no significant difference between the control and the form groups. Here again, it seems obvious that students with content schemata performed better than those without content schemata. However, the lack of significant difference between the form groups, the content groups, and the content-form groups may indicate that formal schemata also helped the subjects to a certain extent in their comprehension.

**Table 4.4**

Results from Multiple Comparison for the Scores from the True-False Test

| COLLECTION OF DESCRIPTIONS |       |      |       |       |
|----------------------------|-------|------|-------|-------|
| GROUPS                     | CF    | F    | C     | Cr.   |
| CF                         |       | n.s. | n.s.  | 0.004 |
| F                          | n.s.  |      | n.s.  | n.s.  |
| C                          | n.s.  | n.s. |       | 0.008 |
| Cr.                        | 0.004 | n.s. | 0.008 |       |

| COMPARISON |      |      |      |      |
|------------|------|------|------|------|
| GROUPS     | CF   | F    | C    | Cr.  |
| CF         |      | n.s. | n.s. | .023 |
| F          | n.s. |      | n.s. | n.s. |
| C          | n.s. | n.s. |      | .018 |
| Cr.        | .023 | n.s. | .018 |      |

CF: content-form group; F: form group; C: content group; Cr: control group; n.s.= non-significant  
 $p>.05$

**4.3. Analysis of the Scores on the Open-Ended Test (High-Level Idea Units)**

So far, groups' mean scores obtained from both tests, free recall and true-false, have indicated more gains in favor of content schemata when the idea units are analyzed quantitatively. However, when the quality of idea units is taken into account; that is, when the high-level ideas (see 3.3.3 and Figure 3.3.) are analyzed, formal schemata seem to be more effective in the readers' comprehension. Table 4.5. gives the descriptives for high-level idea units. The one -way ANOVA, conducted on these mean scores, reveals a significant difference among the groups ( $F=20.513$ ,  $p=.000$  for the collection of descriptions text and  $F=23.673$ ,  $p=.000$  for the comparison text).

**Table 4.5**  
Descriptive Statistics for the High-Level Idea units  
( Scores for Open-ended Questions)

| COLLECTION OF DESCRIPTIONS | N. OF SS. | MEAN   | STD.DEVIATION | STD. ERROR |
|----------------------------|-----------|--------|---------------|------------|
| CF                         | 14        | 2.7143 | .4688         | .1253      |
| F                          | 17        | 2.7059 | .4697         | .1139      |
| C                          | 16        | 1.5000 | .8165         | .2041      |
| Cr.                        | 11        | 1.4545 | .5222         | .1575      |
| TOTAL                      | 58        | 2.1379 | .8470         | .1112      |

| COMPARISON | N. OF SS. | MEAN   | STD. DEVIATION | STD. ERROR |
|------------|-----------|--------|----------------|------------|
| CF         | 12        | 2.9167 | .7930          | .2289      |
| F          | 17        | 2.6471 | .7859          | .1906      |
| C          | 17        | 1.0588 | .7475          | .1813      |
| Cr.        | 11        | 1.0909 | .7006          | .2113      |
| TOTAL      | 57        | 1.9298 | 1.1317         | .1499      |

CF: content-form group; F: form group; C: content group; Cr: control group

When the results from Post Hoc multiple comparison, which are presented in Table 4.6, are examined, it is seen that the content-form groups and the form groups outperformed the other two, the content and the control groups, in answering the open-ended questions correctly: For the collection of description text, the content-form group is significantly different from the content group ( $p=.000$ ) and the control group ( $p=.000$ ). Similarly the form group is significantly different from both the content group ( $p=.000$ ) and the control group ( $p=.000$ ). The same results are observed for the comparison text as well. The content-form group is significantly different from the content group ( $p=.000$ ) and from the control group ( $p=.000$ ). The form group is also different from both the content group ( $p=.000$ ) and the control group ( $p=.000$ ). This means that knowledge of rhetorical pattern may be an effective factor in reading comprehension, especially with respect to the recalling of high-level information in the text.

**Table 4.6**  
Results from Multiple Comparison for High-Level Idea Units

| COLLECTION OF DESCRIPTIONS |      |      |      |      |
|----------------------------|------|------|------|------|
| GROUPS                     | CF   | F    | C    | Cr.  |
| CF                         |      | n.s. | .000 | .000 |
| F                          | n.s. |      | .000 | .000 |
| C                          | .000 | .000 |      | n.s. |
| Cr.                        | .000 | .000 | n.s. |      |

| COMPARISON |      |      |      |      |
|------------|------|------|------|------|
| GROUPS     | CF   | F    | C    | Cr.  |
| CF         |      | n.s. | .000 | .000 |
| F          | n.s. |      | .000 | .000 |
| C          | .000 | .000 |      | n.s. |
| Cr.        | .000 | .000 | n.s. |      |

CF: content-form group; F: form group; C: content group; Cr: control group; n.s.= non-significant  
p>.05

The findings indicating a non-significant difference between the content groups and the control groups points out that content schemata may not be an important factor in recalling the high-level information, whereas it is important in recalling the idea units when their quality is not regarded.

**4.4. Analysis of the Scores for Elaborations**

Descriptive statistics for the elaborations produced by the subjects in their recall protocols are given in Table 4.7. The table shows that the groups are different from one another with respect to their mean scores for the elaborations they produced. This is supported by the results of the one-way ANOVA (F=9.033, p=.000 for the collection of descriptions, and F=10.124, p=.000 for the comparison).

**Table 4.7**  
Descriptive Statistics for Elaborations

| COLLECTION OF DESCRIPTIONS | N. OF SS. | MEAN   | STD. DEVIATION | STD. ERROR |
|----------------------------|-----------|--------|----------------|------------|
| CF                         | 14        | 2.5714 | 1.5549         | .4156      |
| F                          | 17        | .7647  | 1.1472         | .2782      |
| C                          | 16        | 2.8750 | 1.5438         | .3860      |
| Cr.                        | 11        | .9091  | 1.3751         | .4146      |
| TOTAL                      | 58        | 1.8103 | 1.6802         | .2206      |

| COMPARISON | N. OF SS. | MEAN   | STD. DEVIATION | STD. ERROR |
|------------|-----------|--------|----------------|------------|
| CF         | 12        | 2.4167 | 1.5643         | .4516      |
| F          | 17        | .6471  | .7019          | .1702      |
| C          | 17        | 3.0000 | 2.2638         | .5491      |
| Cr.        | 11        | .4545  | .8202          | .2473      |
| TOTAL      | 57        | 1.6842 | 1.8628         | .2467      |

CF: content-form group; F: form group; C: content group; Cr: control group

When the results of Post Hoc multiple comparison (see Table 4.8 ) are examined, it is observed that the content-form groups and the content groups brought out more elaborations than the form groups and the control groups: For the collection of descriptions text, the differences between the content-form group and the form group ( $p=.004$ ), and the content-form group and the control group ( $p=.025$ ) are statistically significant. The content group is different as well from the form group ( $p=.000$ ) as from the control group ( $p=.004$ ). Similar results can be seen for the comparison text; the content-form group is significantly different from the form group ( $p=.017$ ) and from the control group ( $p=.017$ ). The content group is also significantly different from both the form group ( $p=.000$ ) and from the control group ( $p=.000$ ). These data indicate that content schemata is the determining factor in producing elaborations.

**Table 4.8**  
Results of Multiple Comparison for Elaborations

| COLLECTION OF DESCRIPTION |      |      |      |      |
|---------------------------|------|------|------|------|
| GROUPS                    | CF   | F    | C    | Cr.  |
| CF                        |      | .004 | n.s. | .025 |
| F                         | .004 |      | .000 | n.s. |
| C                         | n.s. | .000 |      | .004 |
| Cr.                       | .025 | n.s. | .004 |      |

| COMPARISON |      |      |      |      |
|------------|------|------|------|------|
| GROUPS     | CF   | F    | C    | Cr.  |
| CF         |      | .017 | n.s. | .017 |
| F          | .017 |      | .000 | n.s. |
| C          | n.s. | .000 |      | .000 |
| Cr.        | .017 | n.s. | .000 |      |

CF: content-form group; F: form group; C: content group; Cr: control group; n.s.= non-significant  $p > .05$

No difference is seen between the form groups and the control groups. This means that formal schemata does not play any role in the subjects' bringing out elaborations in their recall protocols.

#### 4.5. Comparison of the Groups on the Basis of Text Types

With respect to the effects of text type on reading comprehension, the subjects' scores for identical idea units (see 3.4.6.1) from the free recall protocols and high-level idea units (see Figure 3.3) from the open-ended questions were subjected to the Independent Samples t-test. The group statistics of each pair of groups for identical idea units are presented in Table 4.9.

**Table 4.9**

Descriptive Statistics of Each Pair of Groups for Identical Idea Units That the Groups  
Recalled from Different Text Types

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR MEAN |
|-----------|-------|-----------|--------|-------------------|-----------------|
| CD        | CF    | 14        | 4.9286 | 2.9991            | .8015           |
| COMP      | CF    | 12        | 5.9167 | 2.6097            | .7534           |

**CD:** Collection of Descriptions; **COMP:** Comparison; **CF:** Content-Form Groups

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR<br>MEAN |
|-----------|-------|-----------|--------|-------------------|--------------------|
| CD        | F     | 17        | 2.9412 | 2.7265            | .6613              |
| COMP      | F     | 17        | 3.9412 | 2.7493            | .6668              |

**CD:** Collection of Descriptions; **COMP:** Comparison; **F:** Form Groups

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR<br>MEAN |
|-----------|-------|-----------|--------|-------------------|--------------------|
| CD        | C     | 16        | 6.2500 | 3.2352            | .8088              |
| COMP      | C     | 17        | 6.2941 | 3.6188            | .8777              |

**CD:** Collection of Descriptions; **COMP:** Comparison; **C:** Content Groups

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR<br>MEAN |
|-----------|-------|-----------|--------|-------------------|--------------------|
| CD        | Cr.   | 11        | 2.8182 | 1.9400            | .5849              |
| COMP      | Cr.   | 11        | 3.4545 | 1.4397            | .4341              |

**CD:** Collection of Descriptions; **COMP:** Comparison; **Cr:** Control

$p > .05$

Even though the mean scores of the groups show that the groups of subjects who read the comparison text are a little better in recalling the identical idea units than those who read the collection of descriptions text, the results of Independent Samples t-test do not confirm this ( $t = -.888$ ,  $df=24$ ,  $p=.383$  for the content-form groups;  $t = -1.065$ ,  $df=32$   $p=.295$  for the form groups;  $t = -.037$ ,  $df=31$ ,  $p=.971$  for the content groups, and  $t = -.874$ ,  $df=20$ ,  $p=.393$  for the control groups ).

As can be seen from Table 4.10 below, similar results were obtained for the high-level idea units which represent the correct answers to open-ended questions.

**Table 4.10**  
Descriptive Statistics of Each Pair of Groups for High-Level Idea Units that the Groups  
Recalled from Different Text Types:

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR MEAN |
|-----------|-------|-----------|--------|-------------------|-----------------|
| CD        | CF    | 14        | 2.7143 | .4688             | .1253           |
| COMP      | CF    | 12        | 2.9167 | .7930             | .2289           |

CD: Collection of Descriptions; COMP: Comparison; CF: Content -Form Groups

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR MEAN |
|-----------|-------|-----------|--------|-------------------|-----------------|
| CD        | F     | 17        | 2.7059 | .4697             | .1139           |
| COMP      | F     | 17        | 2.6471 | .7859             | .1906           |

CD: Collection of Descriptions; COMP: Comparison; F: Form Groups

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR MEAN |
|-----------|-------|-----------|--------|-------------------|-----------------|
| CD        | C     | 16        | 1.5000 | .8165             | .2041           |
| COMP      | C     | 17        | 1.0588 | .7475             | .1813           |

CD: Collection of Descriptions; COMP: Comparison; C: Content Groups

| TEXT TYPE | GROUP | N. OF SS. | MEAN   | STD.<br>DEVIATION | STD. ERROR MEAN |
|-----------|-------|-----------|--------|-------------------|-----------------|
| CD        | Cr.   | 11        | 1.4545 | .5222             | .1575           |
| COMP      | Cr.   | 11        | 1.0909 | .7006             | .2113           |

CD: Collection of Descriptions; COMP: Comparison; Cr: Control Groups

p>.05

A superficial examination of the group means in Table 4.10 indicates almost no difference between the pairs of groups, which is also supported by the results of the Independent Samples t-test ( $t=-.806$ ,  $df=24$ ,  $p=.428$  for the content-form groups;



$t = .265$ ,  $df = 32$ ,  $p = .793$  for the form groups;  $t = 1.620$ ,  $df = 31$ ,  $p = .115$  for the content groups, and  $t = -1.38$ ,  $df = 20$ ,  $p = .183$  for the control groups ).

#### 4.6. Conclusion

Based on the statistical results, it could be said that content schemata affects the EFL learners' reading comprehension in two ways: First, it enables the learners to recall more idea units regardless of their quality, whether high-level or low-level. Second, it causes more elaborations in the learners' recall. This observation confirms the first (building content schemata facilitates EFL learners' reading comprehension) and the fourth hypotheses (content schemata causes more elaborations in readers' recall). Content schemata facilitate comprehension, and it causes more elaborations at the same time (see Table 4. 2., 4.4., and 4.8.).

Formal schemata also affect EFL readers' comprehension, but in a different way: When only the number of idea units recalled are considered, it does not seem to play an important role in reading comprehension when compared to content schemata. However, when the quality of idea units recalled is taken into account, it is seen that formal schemata is an important factor in comprehension. Thus the second hypothesis, which claims that formal schemata enhance reader's comprehension, is also confirmed in a sense depending on one's understanding of comprehension. That is, if comprehension is to pick up the high-level information, then it is a facilitating factor as can be seen in Table 4.6., but if comprehension is regarded as picking up as many ideas as one can regardless of their quality, the content schemata can be said to be more facilitative with respect to formal schemata. Which one of these two factors, content schemata or formal schemata, is more effective in reading comprehension depends then on one's understanding of comprehension.

Analysis of the data does not confirm the third hypothesis, which claims that combined simultaneous effects of content and formal schemata would be more powerful in reading comprehension. The analysis of identical idea units indicates that the content-form groups are not significantly better than the content groups (see Table 4.2. and 4.4), and the analysis of high-level idea units suggests that they are not significantly better

formal schemata seem to be the determining factor, so it can not be said that the combination of content and formal schemata have a more significant interactive effect on reading comprehension. As Table 4.9. and 4.10 show, types of texts do also not seem to cause any significant differences in EFL readers' comprehension. This means that the fifth hypothesis is not confirmed by the data.

## CHAPTER 5

### DISCUSSION AND CONCLUSIONS

#### 5.1. Summary of the Study

Recent research on first and second language has shown that content schemata, one's mental structure of prior knowledge about the content area, has an important impact on reading comprehension (Carrell, 1983; Lee, 1986; Aron, 1986; Chiang and Dunkel, 1992 etc.). Similarly formal schemata, one's mental structure of prior knowledge about the rhetorical structures of the texts, has been proven to be an important factor in reading comprehension of first and second language learners (Carrell, 1984, 1985; Meyer and Freedle, 1984; Connor, 1984; Raymond 1991 etc.). However, empirical evidence seems to be rare for foreign language reading. As a result, most of our present views of foreign language reading are shaped by research findings on first and second language readers.

This study, therefore, aimed at finding the effects of content schemata as well as formal schemata on reading comprehension of Turkish foreign language learners. The study also aimed to find out the possible simultaneous interactive effects of these two factors on reading comprehension of Turkish EFL learners. In addition, the effects of the text type itself on comprehension and the relationship between elaborations and content schemata were investigated in the study.

Depending on the findings of previous research in first and second language reading, five hypotheses were formed to be tested: 1) Content background knowledge of EFL reader enhances his reading comprehension. 2) EFL readers' comprehension can be facilitated when he is taught the rhetorical structures of the texts. 3) When both content and formal schemata are built at the same time, the reader's comprehension can increase much more as a result of their possible cumulative effects. 4) Readers with content schemata produce more elaborations. 5) Types of texts can affect reader's comprehension in different manners.

To test the hypotheses above, eight groups of subjects were formed from 115 Turkish EFL university students (see Table 3.3 for the distribution of the subjects to the groups). Each two of these groups composed either one of the experimental groups;

## 5.2. Assessment of the Study

The overall finding of this study seems to be that when both content and formal schemata are factors in EFL reading comprehension, content schemata is generally more important than formal schemata, especially when the identical idea units in free recall protocols and the answers to the true-false questions are considered (see Table 4.1., 4.2., 4.3., and 4.4.). For both of the texts, the reading comprehension is relatively easy for the subjects who have the content schemata and both content and formal schemata in comparison to those who have only formal schemata or none of these two schemata. However, when the high-level idea units are taken into account, prior knowledge of rhetorical form (formal schemata) seems to be more important than content schemata in EFL learners' reading comprehension (see Table 4.5. and 4.6.). For both of the texts, comprehending the high-level idea units is significantly easier for the subjects who have formal schemata and both content and formal schemata than for the subjects who have only content schemata or none of them.

Nevertheless, a closer examination of the results with respect to the analysis of the identical idea units and the correct answers to the true-false questions raise some points to be noted: first of all, the mean scores of identical idea units of all the groups are fairly low -ranging from 2.81 to 6.29 (see Table 4.1.) out of a maximum of 21, approximately 13% to 29% of the total idea units. This suggests that this was a fairly difficult task for these EFL readers. However, comparable data from Meyer and Freedle's research (1984) with native speakers show a range of recall scores between 39% and 67% for graduate-level readers, and data from Carrell's (1984b) study with second language university students show a range of mean scores between 7% and 25%. Thus, on this same task, the Turkish intermediate-level EFL readers are only slightly above Carrell's ESL learners, but much below Meyer and Freedle's native speakers.

The second point to be considered is that the content-form groups were not better in recalling the identical idea units than the form groups and the control groups, whereas they were better than control groups in answering the true-false questions correctly (see Table 4.2. and 4.4.). This may be indicating that readers' comprehension interacts with different testing tasks in different manners as suggested by Gordon and Hanauer (1995). It may also be regarded as a result of the treatment: As indicated

before, while the form groups and the content-form groups were receiving the treatment about the rhetorical structures of texts, it was emphasized how they could take advantage of their knowledge about the types of texts to pick up the high-level information (topic, main idea and major details) in a text they read. The relationship between the high-level ideas and the types of texts were made clear in the introduction of the related topic (patterns of texts) and during the practice session. This treatment may have led the concentration of the subjects in these groups to the high-level ideas particularly rather than the low-level ones. This may explain why the numbers of identical idea units recalled by the form and the content-form groups were lower than those of the content groups. It could be then asked why the content-form groups answered almost equal number of true-false questions correctly as the content groups did on the true-false test. This, when taken together with the fact that neither the content-form groups nor the content groups differed significantly from the form groups on the true-false test, can be explained by the fact that while content schemata was helping these readers (in content-form and form groups) give correct answers to the true items 'to a limited extent', their formal schemata may have helped them answer especially the false items correctly 'to a great extent' by directing their concentration to the text-based information. It should be remembered that six of the items of the true-false test were false, and two of the true items were based on the major details (high-level ideas). Taking into account the obvious effects of formal schemata on the recall of high-level idea units, it could be concluded that the probability for the subjects with formal schemata to pick out the major details on the true-false test was fairly high. In brief, the content-form groups' and the form groups' success on the True-False test may be due to their formal schemata, which possibly may have helped them answer correctly especially the false items and the items related to major details. It is also possible to talk about the fact that formal schemata may have some constraints on the effects of content schemata, especially when the information of a given text is explicitly reminded to the readers in a testing task.

In any way, the results of both of the tests, free recall and true-false, reveal clearly the facilitating effects of content schemata on reader's comprehension. These results confirm the first hypothesis stating that content schemata enhances the EFL

reader's comprehension. The findings of the study with respect to the effects of content schemata appear to be in accordance with the findings of previous research on the same topic. (Carrell, 1987; Chiang and Dunkel, 1992; Hammadou, 1998, Steffensen and Joag-Dev, 1986 etc.)

As for the second and the third hypotheses about the effects of formal schemata and the possible cumulative effects of content and formal schemata, the results indicate that formal schema is not so effective as content schemata in recalling the identical idea units as well as answering the true-false questions. However, when the results of the open-ended test are examined, it is seen that formal schemata is more important than content schemata (see Table 4.5 and 4.6.). That is, the subjects who have the formal schemata possibly concentrate their attention on the high-level ideas rather than the lower ones and pick them up more easily. Similar results were reported by some previous researchers such as Connor (1984), Fisher and Mandl (1984) and Carrell (1985). These findings confirm the hypothesis that formal schemata facilitates EFL readers' comprehension, but in a different way from the content schemata. Regarding the third hypothesis whether content and formal schemata may have a cumulative effect which can lead to more increase in readers' comprehension, it could be said that the findings do not give support to such an idea. No differences were observed in any of the measures used in the study between the content-form groups and the content groups, and between the content-form groups and the form groups. However, it may be deduced from the discussion above that readers' awareness about the rhetorical structure of texts may prevent them from relying unnecessarily on their content schemata, which, in turn, may lead them to avoid the distractors and find the correct options depending on the testing task.

The findings with respect to the production of elaborations in free recall protocols also confirm the previous findings reported by Johnson (1981) and Carrell (1987). Readers who have the content schemata seem to have the tendency to produce more elaborations, the kind of information which is not found in or logically inferable from the text, but related to the overall topic of the passage (see Table 4.7. and 4.8.). This finding may have some implications for testing reading in foreign language.

The results regarding the effects of text type itself on reading comprehension do not show any parallels to the results of previous research. Previous research on the effects of text type shows that readers' recall is better when they read comparison type of texts than when they read collection of descriptions type of texts (Meyer and Freedle, 1984 and Carrell, 1987). Meyer and Freedle's study with native speakers and Carrell's research with second language learners confirm the claim that the more organized the discourse is the more facilitative effects it has on readers' recall. However, in this study, no significant difference was found between pairs of groups on the basis of their scores on both the identical idea units and the high-level idea units. Although the mean scores indicate a little more increase in favor of the comparison text, they are not statistically significant (see Table 4.9. and 4.10). The absence of significant difference between content-form pairs, and between form pairs with respect to the text types they read is not surprising because the subjects in these groups were already taught both types of texts during the treatment. Why weren't there then any differences between content pairs and between control pairs, who were not taught the types of texts? There could be only one possible explanation of this question; this may be due to the fact that Turkish EFL readers are probably more accustomed to these two types of texts. Some researchers like Connor (1984), Carrell (1984b), and Hinds (1983) indicate the existence of a kind of relationship between native language groups and the types of texts. Some native language groups are better in recalling the information in certain types of texts, whereas others are better in comprehending the passages based on other types of rhetorical organization.

To sum up, both content schemata and formal schemata affect EFL readers' comprehension. However, their effects seem to differ depending on the quality of the information to be comprehended. If the information of a given passage is analyzed qualitatively, it appears that formal schemata is more effective than content schemata in understanding the high-level information, but if the quality of information is not considered, content schemata seems to be more effective. This conclusion may be interpreted in such a way that content schemata possibly causes more recall of minor details rather than major details. Content and formal schemata can not be said to have a cumulative effect on EFL readers' comprehension. Nevertheless, it is possible to talk

about a kind of interaction between content and formal schemata; formal schemata seems to function as a sort of moderator which helps the reader avoid excessive use of his content schemata by directing his attention to the text itself. All of these conclusions may have certain implications for EFL reading pedagogy.

### **5.3. Pedagogical Implications**

The overall purpose of a foreign language reader is to obtain information from the written material or the so-called texts. The immediate goal of an EFL teacher is to minimize reading difficulties and to maximize comprehension by developing in the reader the attitudes, abilities, and skills he needs for comprehension. Comprehension is a mental process which can not take place solely on the basis of the printed page. Rather, it is the result of interaction between the text and the reader's prior knowledge of content and rhetorical pattern of the text, which are referred to as content schemata and formal schemata respectively in this study. The findings, which confirmed the claim of previous theoretical and empirical research about the content and formal schemata, suggest that building and learning to activate appropriate background knowledge of the content and rhetorical organization of the text may produce better reading comprehension. What should or could then be done in EFL reading class in order to build or to activate the related schemata ?

As suggested by Carrell (1984a), Barnet (1986), and Carrell and Eisterhold (1983), one way of building or activating appropriate background knowledge of content (content schemata) may be various kinds of pre-reading activities such as lectures; viewing movies, slides, pictures, demonstrations; real-life experiences; class discussions or debates; plays, skits, and other role play activities; teacher-, text-, or student-generated prediction questions about the text; introduction and discussion of special vocabulary to be encountered in the text; key-word/key-concept association activities; and prior reading of related texts.

Prior reading of related texts is a technique/strategy used in this study, and caused significant improvement in readers' recall of identical idea units. Therefore, it may be expected that lectures; viewing movies, slides, pictures, demonstrations; and having the students listen to each other's previous experiences about the related topic



could yield similar results. In other words, these kinds of pre-reading activities can help the EFL reader either build or activate prior knowledge and facilitate his comprehension. By citing from Pearson and Johnson (1982), Carrell (1988) discusses the key-word or key-concept association task as a kind of pre-reading activity for 'top-down' processing for especially lower-level ESL readers. He proposes the use of this task in instructional settings to yield a diagnosis of what students already know and what they need to know about a key concept. In key-word or key-concept association task, initial associations made by students may be of various types -superordinates, subordinates, attributes, definitions, synonyms, antonyms, contradictories etc. These associations may be organized into a 'semantic map' which may then form the basis for further classroom discussions or debates (another kind of pre-reading activity).

When the EFL course books and the time spent on actual teaching of reading in EFL classroom are considered, it may be seen that schemata building and activating are not given the emphasis to the extent they deserve. Some existing course books include certain number of exercises in the form of information-seeking or prediction questions for the reader to keep in mind while reading (Grenall and Swam, 1992). Besides, some texts which have comprehension questions following the passages suggest that these may be used as pre-reading questions (Walter, 1991; Robinson, 1983). Other course books intersperse questions throughout a reading passage (Dubin and Olshtain, 1981). These kinds of pre-reading exercises primarily function to motivate students to read for a purpose; for example, to gain the required information to answer the questions. They also supposedly function to get the students to predict, within a general content area, what the text will be about. However, even if they perform these two functions, in many reading situations they seem to be limited to be the only kind of pre-reading activity. These sorts of pre-reading questions may function to help readers predict which prior, existing knowledge to access or activate; they can not do much toward actually building that knowledge in the reader. Other types of pre-reading activities listed above may be needed to help EFL learners both to build the background knowledge they need for their reading and show them how they can activate or access such knowledge if there is any. Pre-reading activities thus should accomplish both goals: building new background knowledge, as well as activating existing background knowledge.

In addition, the passages included in the course books are generally used to teach vocabulary and syntax of this language. Even in reading courses, most of the class time is spent either on these aspects of language or on some other aspects such as giving and checking assignments rather than on actual teaching of comprehension. Even if it can be argued that assessing comprehension is a necessary phase of instruction, the total class time spent on explicit instruction of comprehension skill, including testing, is still less than twenty percent according to Carrell (1988). What, then, should go in EFL reading class to teach students how to read? How can the students be taught to activate their existing schemata, go beyond the literal information in the text, and relate textual input to previous knowledge? Some of the pre-reading activities mentioned before, especially those which involve student self-generated prediction questions, may be useful for teaching comprehension. These self-generated questions stand in contrast to either teacher- or text-posed questions, which have the disadvantage of teaching students to read to satisfy the teacher's or the text's purpose and not their own. Apart from this, teacher- and text-posed questions may or may not take into account the students' possible schemata. However, questions formed by the students themselves will unavoidably be based on their existing schemata.

In addition to the pre-reading activities for construction or activation of appropriate background schemata, selection of reading materials may be of importance to EFL reader's comprehension. Students' interest should be taken into account when selecting materials. Even the materials should be selected by the students themselves. In the case of beginning readers, Rigg's (1981) Language Experience Approach (LEA) may be useful in controlling content. The LEA technique uses students' ideas and their own words in preparation of reading materials. The students decide what they want to say, how to say it, and dictate them to the teacher. The students write in this way their own text, and it is used as the reading material in class. The LEA technique may increase the students' motivation to read and eliminate the possible schemata problems. Another way to eliminate schemata problems may be encouraging Krashen's (1981) narrow reading. Narrow reading refers to reading that is confined to a single topic or to the texts of a single author. As suggested by Carrell and Eisterhold (1983), providing the reader with diverse areas or diverse writers does not allow students to become

familiar with a single content area, an author's style, or the specialized vocabulary of a given topic. EFL teachers should then encourage narrow reading, they should have their students read longer, conceptually complete texts in a single content area rather than short, conceptually incomplete ones. The more of a content area students are exposed to, the greater could be their building of appropriate background knowledge. Selecting materials appropriate to the reader's cultural schemata may also be helpful. As indicated by a great deal of research in literature ( Carrell and Eisterhold,1983; Aron, 1986; and Hammadou, 1991), one of the greatest sources of miscomprehension is the mismatch between culture-specific schemata of a reader and the cultural information presupposed by the text. To overcome such an obstacle in reading comprehension, the EFL teacher can make use of the texts related to the local issues.

Regarding the formal schemata, a number of instructional techniques or strategies have evolved from the recent research to help make readers aware of the rhetorical structures of texts. These strategies are intended to help readers use knowledge about the rhetorical organization of a text to guide and organize their interaction with the text. These strategies generally involve selecting key content from an expository text and representing it in some sort of visual display (boxes, circles, tables, tree diagrams etc. ) in which the relationships among the key ideas are made explicit. Carrell (1988) and Grabe (1997) present and discuss in detail such instructional techniques and strategies. They claim that 'mapping', 'flowcharting', 'networking', and 'top-level rhetorical structures' can be used successfully as instructional tools. Meyer's (1984) 'top-level rhetorical structure', which refers to representing the high-level ideas and their relationships to each other through tree diagrams, was used to a certain extent in the treatment sessions of this study and shown that it can have a facilitating effect on EFL learner's reading. Similar results had already been reported by Carrell (1985), who used the same strategy with ESL readers. As a result, Meyer's three diagrams and the other ways of graphic representation of the information in a text can be said to be useful in teaching the foreign language learners to read. If the students are not familiar with the rhetorical structures before teaching, the formal schemata may be built through such teaching which can also cause the activation of the schemata if there are any.

Another pedagogical point that this study implies is related to testing of reading. As known, many tests which are designed to test the proficiency of second or foreign language learners have sections on reading. However, the developers do not seem to consider the effects of background knowledge on comprehending, and failure in those parts of the tests are generally assigned to the lack of linguistic proficiency. Steffensen and Joag-Dev (1986) state that "In order not to confound linguistic proficiency and knowledge of the world, the content of a language measure must consider the experience of the students being tested." (p. 51). The fact that there is a relationship between success in reading and reader's background knowledge should be taken into account by foreign language reading teachers as well as the developers of standard tests. Otherwise, the results can be confounded, and it can not be known what they represent; the reading ability of the reader or the knowledge of the reader about the content area?

One more point to be considered is the method of testing. Gordon and Hanauer (1995) suggest that test-taking process has to be seen within the framework of a dynamic mental model which is continuously developing. In their research, they show that different testing tasks on the same passage result in different findings which are compatible with the findings of this study (Numbers of identical idea units are considerably lower than the correct answers to true-false questions which were based on the same identical idea units). They interpret such results as follows: "The task itself can be active in the continuing construction of meaning in that it constitutes a source of information which serves as input to the mental model" (p. 318). Tests such as multiple choice or true-false provide the reader with extra sources of information which can be said to help the reader either build or activate the existing schemata, whereas testing tasks such as open-ended questions or free recalls do not. This certainly may affect the results obtained. Gordon and Hanauer suggest that a more valid test of comprehension should be one which asks fewer test questions on a larger number of texts. They think that this could limit the cumulative effects of test questions on mental model construction, thus providing a more valid reflection of the meaning the test taker has constructed on a variety of texts. Producing more elaborations (see Table 4.7. and 4.8.) and its relationship to content schemata may also be relevant to this discussion. This fact suggests that, contrary to the belief of most readers, having the greatest knowledge of a

content area may not always help the reader succeed in a given test as expected. The type of test itself may interfere with the reader's comprehension and lead him to mistake the wrong options for the correct ones, especially on the kinds of tests which offer options.

To sum up, the study implies that the EFL teachers ought to try to find ways of building and activating the students' schemata, content and formal, in order to improve their comprehension of texts. Reading classes had better be involved in actual teaching of reading rather than on teaching other aspects of foreign language. The schemata should also be considered in assessing the readers' comprehension. With respect to the methods of assessing reading comprehension, the relationship between content schemata and production of elaborations should be taken into account. To build up schemata or to activate them, the kind of activities mentioned before should be considered by EFL teachers, who, in Carrell's (1998) opinion, should be a source of relevant information as well as a teacher of reading skills.

#### **5.4. Implications for Future Research**

The subjects who participated in the study were limited to 115 intermediate level Turkish EFL students studying English language teaching (ELT) at the Education Faculty of Anadolu University, Eskisehir, Turkey. Thus, caution should be exercised in relating the findings of the study to other groups of EFL or ESL readers. Since the subjects were homogeneous with respect to their native language (Turkish) and proficiency level (intermediate), the findings may not be generalized to other groups of Turkish EFL students with different proficiency level (advanced or lower intermediate) and to other native language speakers. Replication of the study with the groups of EFL students speaking different native languages and those from different proficiency levels is, therefore, called for.

The subjects in the study were all first-year reading class students. By chance, the majority in all the groups (experimental or control) was females. Since there are some studies which show that sex is an important factor in EFL readers' comprehension (Bugel and Buunk, 1996), this may be said to have affected the results. In addition, all of the subjects were majoring in English language teaching (ELT), so their attitude

toward English may be expected to be positive, and their motivation to learn and read in this language may be expected to be higher. This might also have affected the results in a way. Future research may consider these factors.

English was the language of assessment in this study. That is, all of the tasks given during the testing session were carried out in English. However, when the discussion in literature about the process/product distinction (Chastain, 1988) is considered, it can be asked whether the results would have been different if the language of assessment had been Turkish. Process in this case is comprehension, and the product is the scores on an assessment task. The product of comprehension is supposed to give insight into the process of comprehension. By replicating Carrell's (1983) study on the components of background knowledge, but using a 'native' language assessment task (Spanish), Lee (1986) found that the product of comprehension was significantly altered. He claims that assessing comprehension with a 'target' language task may limit learners' ability to demonstrate what they comprehended, but assessing comprehension with the 'native' language allows learners' to more fully demonstrate their comprehension. This study may be replicated by future researchers with native language tasks as well.

Another point that future researchers should consider is the fact that recall protocol is almost the only method of measuring comprehension in 'research'. Hammadou (1991) states, "Recall as an operational definition of comprehension has gained widespread acceptance in current empirical research" (p. 36). According to him, it avoids the contamination of text comprehension by further discourse in the form of questions, and matches current models of comprehension that emphasize the central role of individual reader. However, in foreign language reading pedagogy, a variety of methods, from cloze test to multiple choice test, are used to test the students' comprehension except for the recall protocols. There seems to be a clear contrast between the researchers and the EFL teachers with respect to measuring comprehension. Future researchers may invest interest in this particular issue.

In this study, particular interest was in the effects of expository prose rather than in other genres, and only two types of expository prose, collection of descriptions and contrast/comparison on the same overall topic (Loss of Body Water ) were used (see Figure 3.1. or Appendix G). Further studies are needed with other genres, other topics,

as well as other types of expository texts such as problem solution and causation. Moreover, long-term effects of both content schemata and formal schemata were not considered in this study, so retention may be another factor to be investigated. Although the results of the study did not show any simultaneous effects of these two schemata, there seems to be an interaction between them. The nature of possible interaction between formal schemata and content schemata should also be studied.

In the study, the teaching of text structures was based principally on Langan's (1989) course books. As an instructional tool, Meyer's (1984) 'top-level rhetorical structures' were used in the explanations of key aspects. Other strategies or techniques such as mapping, flowcharting, and networking are suggested in the literature to build formal schemata (Grabe, 1997; Carrell, 1988). Future researchers may make use of these strategies. In addition, the treatment to teach rhetorical structures of texts lasted six class hours spread over two weeks. Although previous researchers such as Carrell (1985) and Raymond (1993) indicate that three to five hours are enough to teach Meyer's four common types of texts, one can still think whether a longer period of time spent on teaching and practising can yield better result. Content schemata, on the other hand, were built through two kinds of pre-reading activity; prior reading of related texts and discussions. Other types of pre-reading activities discussed in previous parts of this chapter may be tried in future research.

## **5.5. Conclusion**

This study has aimed primarily to investigate the separate as well as compound simultaneous effects of content and formal schemata on EFL readers' comprehension. The results of the study have demonstrated that content schemata improves the EFL readers' recall when the idea units are analyzed quantitatively, but when the quality of idea units recalled are considered, formal schemata seems to have a clear impact on EFL readers' comprehension of high-level ideas. There doesn't seem to be any compound simultaneous effects of these two schemata. In addition, contrary to the previous research, the study has indicated no relationship between the types of texts and the readers' recall. It has, however, shown that content schemata is the cause of more elaborations produced by the subjects in their recall protocols.

These results may have certain implications for foreign language reading pedagogy: First of all the EFL teachers should make efforts to make the students aware of the effects of content and formal schemata on their comprehension, to help them build these schemata, and to encourage them to take the advantage of 'top-down' processing which requires the use of the schemata. The results may also be of relevance to the test developers as well as the foreign language reading teachers when they intend to test the students' comprehension. They ought to avoid confounding the effects of content schemata (one's knowledge of world) with the readers' linguistic competence in reading task. Moreover, for correct understanding of the readers' comprehension, the discussion about the effects of testing method and testing language (foreign vs. native) should be taken into account.

The study, conducted in a foreign language setting, may shed further light on reading comprehension process. However, further research is clearly needed, especially on the combined effects of content and formal schemata in EFL reading comprehension and the nature of possible interaction between these two.



APPENDICES

|                                                                                                                              | <u>page</u> |
|------------------------------------------------------------------------------------------------------------------------------|-------------|
| <b>Appendix A:</b> Sample Notes of Subjects on “ Weight Affairs in Sports” .....                                             | 88          |
| <b>Appendix B:</b> The Two Passages on “Weight Affairs in Sports” .....                                                      | 92          |
| <b>Appendix C:</b> Sample Summaries of Subjects on “Weight Affairs in Sports” .....                                          | 102         |
| <b>Appendix D:</b> Texts ( Longan’s Chapter) on “ Pattern of Organization” .....                                             | 106         |
| <b>Appendix E:</b> Sample Passages Supplied by the Subjects “On Patterns” .....                                              | 125         |
| <b>Appendix F:</b> Mastery Test on “Patterns of Organization” .....                                                          | 128         |
| <b>Appendix G:</b> Testing Package (The Two Texts, Questionnaire, Recall Protocols,<br>Open-Ended Test, True-False Test..... | 141         |

## APPENDIX A

### SAMPLE NOTES OF SUBJECTS ON "WEIGHT AFFAIRS IN SPORTS"

#### — KİLO IN SPORTS —

- Kilo is so important for individual sports because when a player who is only 60 kilos compete with another player who is 80 kilos, it couldn't be understood that who is more strenght.
- If weight difference is more than 10 kilos, there are certain strength difference. Also in sports it can be differ only grams.
- In the past weight wasn't considered but now there are sensitive scales for minimum weight differences.
- Players are paying more attention to their weights and this causes a great competition.

Trainers are training players by considering that one player can be more successful at one certain weight.

- Sometimes trainers want players to gain kilos or lose and this can affect the health of the player
- Losing and gaining kilos too much and doing this often affect the productivity of a player in negative ways.

Bazı durumlarda sporcular tartılabmadan önce bel su içerek yarım saatte içinde avarantı sağlamaya çalışırlar. Bazıları da saunalarda sıcaklara bideyerek kilo vermeye çalışırlar. Bu anı kilo alıp ve verip olayı vücudun dengesini bozabilir.

- Siz kilo alıp verme problemleriniz sizinkilere yol açabilir.

Fazla kilolu olması gereken sporcular ileriki yaşlarda bu kiloları kaybetmelerinin sağlık problemleri yaratabilirler.

Günümüzde hemen hemen her bireysel sporlarda kilo göz önünde bulundurulmamaktadır.

- Although it is sometimes relevant to lose weight, sometimes players who lose kilos may be weaker than they must be.

### — SPORDA KİLO PROBLEMİ —

Güreş, box gibi spor dallarında ağırlık ayarlamaları istenir. Sporcu beslenmeyi kısıtlıya kullanma, dehidrasyon baskınlıklarıyla kısıtlı karşıya gelebilir. Sporcudaki aşırı kilo kaybı yemek düzensizlikleri (anorexia nervosa) olmaktadır.

Çok sayıda sporda (güreş, halter, boks) sporcular normal ya da aşırı ağırlık altındaki sınıfta yarışmayı isterler. Böyle olunca teorik olarak hafif rakiple karşılaşılır. Fazla kilo almaya istemi genellikle karşılaşma öncesi yapılır. İdrar söktürücüleri, saunaları, egzersizi deneyebilirler.

#### Uzman Görüşlere Göre:

- Sporcunun kilo kazanması, kaybetmesi 300-500 gr. arasında olmalı. Bunun aşığı - yuksu önlenmemektedir.
- Sporcuların kilo ayarlamaları saunaları, ilaçlar kullanarak değil, sporla yapılmalıdır.
- Ağırlık ayarlamaları son günlere bırakılmamalıdır.
- Yorgunluğu sikleti, uzun vadeli biçimde kontrolde tutulmalı.
- Sporcu antrenmanları sırasında verdiği kiloyu, spora ara verdiği zamanlarda alırsa, zararlı şişmanlıkla karşılaşır.
- Bedenin tamamen yağsız olması mümkün değildir, önlenemez. Çünkü beden yağı - nın bir kısmı enerji ve kuma için ihtiyas vardır.

X X

\* Her sporcu en uygun vücut ağırlığını kazanmaya ve bunu korumaya çalışmalı. Karşılaşmalarındaki baransına uygun gelecek müsabaka kilosunu bilmeli, korumalıdır.

\* Sabahın erken saatlerinde vücut ağırlığı öğrenilmeli. Çünkü aştan küçük ve büyük tuvalet sonrasında ölçümler çok değerlidir.

\* Spor yapan atletler, spor yapmayanlara göre daha zayıftır.

\* Sporcular, kendi kılolarından daha düşük kıldaki rakipleri karşılaşmayı tercih ederler. Çünkü bu onlar için bir avantajdır. Her sporcu böyle düşünür. Oysa bu sanıldığı gibi değildir. Çünkü hızlı kilo kaybı, sporcuyu dezavantaja iter.

\* Kilo kaybının en etkili yolu, kalori girişini azaltmak, çıkışını arttırmakla olur.

\* Aşırı ağırlık kaybı, az besinli aalık ve sınırlandırılmış diyetler önlenemez. Bu tutumlar sağlığa zararlıdır. Aynı, beslenme yeterlilikleri, su kaybına yol açar, enerji ağına yol açar. Sporcular gerekli çalışmaya, yünitence hale gelirler.

#### AĞIRLIK KAYBINDA ŞUNLARA DİKKAT EDİLMELİ

- Her hafta kilo ölçülmeli
- Günlük yenilenin ağızu sporla yakılmı,
- Besinlerin kalon içerkleri öğrenilmeli.
- Al su içilmeli.

### Tekli ve Çiftli Sportlarda Kilo Sorunu

— Kızların harcadığı toplam kalori, bedenli kitesine, cinsiyete ve yapıları spor türüne göre değişir.

— Güreş, boks, bincilik, yüzme ve koşu gibi spor yarışmaları için belirli ayarlamaları istenir.

— There are some ranges of relative body fat values for men and women athletes in various sports. Some of them are

below:

| Tekli Sportlarda:   | % kilo oranı |          |
|---------------------|--------------|----------|
|                     | Erkekler     | Kadınlar |
| • Vücut geliştirme  | 5-8          | 6-12     |
| • Kayak             | 6-12         | 10-16    |
| • Bincilik          | 5-11         | 8-15     |
| • Ağırlik kalistrma | 5-12         | 10-18    |
| • Koşu              | 5-16         | 8-15     |
| Çiftli Sportlarda:  |              |          |
| • Tenis             | 6-14         | 10-20    |
| • Yüzme             | 6-12         | 10-18    |
| • Kisek sekme       | 6-14         | 8-16     |
| • Jiu-jitsu         | 5-12         | 8-16     |
| • Güreş             | 5-16         | —        |

— Çok sayıda sporcu, beden ağırlığı grupları vardır. (örn: güreş, ağırlik kalistrma, boks) vardır. Bu dallarda sporcular normal ya da antrenman ağırlığının altındaki sınıfta yarışmayı arzu ederler. Böyle olursa da, teknik olarak daha hafif rakiple karşılaşılır.

— Ağırlık ayarlamaları son günler bırakılmalıdır.

— Yarışmacının kilesi, uzun vadeli biçimde kontrolde tutulmalıdır.

— Karşılaşmalarda daha çok güç, direnç ve hız sahip atletler en iyi yarışmacı kilesine, ağırlıklarını düşürdükleri zaman erişirler.

— Sporcuların kilo ayarlamaları, saunalar ve ilaçlar kullanılarak değil; yike sporla gerçekleştirilmelidir.

— Kilo artışı ya da korunması ancak yürütülen yoğun spor çalışmalarıyla birlikte geçerli ve sağlıklı olacaktır.

— Her sporcu en uygun vücut ağırlığını kazanmaya ve bunu da korumayı çalışmak zorundadır. Her sporcu, karşılaşmalarındaki başarılarına uygun gelecek normal kilesini bilmeli ve kilesini korumakta çok titiz davranmalıdır.

— Genellikle spor yapan atletler, atlet olmayanlardan daha zayıftır.

— Profesyonel sporcu, kilosunu korumakta çok daha fazla güçlük çeker. Düşük siklette müsabakaya girme istiyorsa, haftada 500 gramdan fazla ağırlık vermemelidir. Bu, sporcu beslenmesinin önemli bir kuralıdır. Boksörler, güreşçiler, bincicilerce ağırlık kaybederken, karşılaşmayı da kazanamazlar.

The establishment of weight standards should translate into the establishment of standards of relative body fat for each sport.

For each sport an optimal value or range of values for relative body fat should be established outside of which the athlete's performance is likely impaired.

! It's important to establish realistic weight standards for athletes. This is generally best accomplished by using a range of relative fat values that are considered acceptable on the basis of the sport, age and gender.

- Body weight has been a general concern in several sports for many years. Over the past 10 to 15 years, this concern has become more widespread, and most sports have now adopted weight standards designed to ensure that athletes have the optimal body size and composition for maximum performance.

## APPENDIX B

### THE TWO PASSAGES ON "WEIGHT AFFAIRS IN SPORTS"

#### AĞIRLIK (KİLO)

Kişilerin harcadığı total (toplam) kalori, bedenin kitlesine, cinsiyete, spor türüne göre değişir. Güreş, boks, binicilik gibi spor yarışmaları için ağırlık ayarlamaları istenir. Durum böyle olunca, sporcu beslenmeyi kötüye kullanma, dehidrasyon, ısı stresinin yüksek riski ve böbrek ischemaası bozukluklarıyla karşı karşıya gelebilir. Bu arada, sporcudaki aşırı kilo kayıpları, yemek düzensizlikleri (anorexia nervosa) önemli çıkmazlar (handikap) olmaktadır.

Birçok "ağırlık ayarlama" tekniklerinde, bedenin hep su kaybetirilmesi vardır. Gerçek ağırlık kaybında aslında su kaybı vardır ve bu da performansla atbaşı yürür. Hiçbir atlet, bedeni su kaybına uğradığı zaman en iyi performansına kavuşamaz.

Sporda ıcrleme (dehidrasyon: su kaybı), her zaman istek dışı olmayabilir. Çok sayıda sporda, beden ağırlığı grupları (örnek; güreş, ağırlık kaldırma, boks) vardır. Bu dallarda sporcular normal ya da antrenman ağırlığının altındaki sınıfta yarışmayı arzu ederler. Böyle olunca da, kuramsal (Teorik) olarak daha hafif rakiple karşılaşır. Fazla kilo atma işlemi, genellikle hemen karşılaşma öncesi gerçekleştirilmeye çalışılır ve bu amaçla sporcular yeterli besin ve su almayabilirler. İdrar söktürücüleri (düretik), saunaları ve egzersizi deneyebilirler. Ağırlık atma, genellikle beden kitlesinin % 5-10'u arasındadır ve bazı durumlarda bu işlem bir haftayı kapsayabilir. Uzman görüşlerine göre, ağırlık ayarlamaları son günlere bırakılmamalıdır.

**Yarışmanın sikleti (kilo), uzun vadeli biçimde kontrolde tutulmalıdır.**

Açlığın ya da yarı-açlığın performans üzerine etkilerinin ölçülmesi üzerine çalışmalar, iş performansının mekanizmasını anlamaya yaramıştır. Bu sırada oksijen kullanımı azalmıştır, aerobik güç, hız, koordineasyon (uyum) ve muhakemede zayıflamalar ortaya çıkmıştır. Bu kötü durumun geriye dönüşünü sağlamak üzere yeniden uygun beslenmeye geçildiğinde, önceki iyi performansı yeniden kazanmak, en az üç gün gibi uzun bir süre gerektirebilir.

Karşılaşmalarda daha çok güç, direnç ve hıza sahip atletler en iyi yarışmacı kilosuna, ağırlıklarını düşürdükleri zaman erişirler. Ama bu ağırlık, hiç bir zaman bedenın susuz kalmış ağırlığı değildir.

Vücut ağırlığının korunması, uygun bir yemek alışkanlığı ve düzenli bir spor aktivitesini gerektirir. Sporcuların kilo ayarlamaları, saunalar ve ilaçlar kullanılarak değil; yine sporla gerçekleştirilmelidir.

Birçok uzmana göre, sporcunun kilo kazanması veya kaybetmesi, haftada 300-600 gram arasında olmalıdır. Bunun aşağısı veya yukarısı, pek arzu edilmemektedir. Kilo kazanma, kas kitlesinin artmasıyla olmalıdır. Bu bakımdan kilo artışı ancak yürütölen yoğun spor çalışmalarıyla birlikte ise, geçerli ve sağlıklı olacaktır. Yoksa, az kalori yakımından veya fazla kalori alımından ileri gelen kilo alımı, yağlanmaya karşılıktır.

Direnç antrenmanını yürüten sporcu, vücut yağlarını daha çok kullanmaya yatkınlaşır. Ayrıca, direnç antrenmanlı sporcunun glikojen depolama kapasitesi de yüksektir.

Enerji harcamasını artırarak sağlanan kilo kaybında başlıca kaybedilen kitle yağ kitlesidir.

Sporcunun diyeti, ihtiyacı kaloriye göre ayarlanmalıdır; Sporcu antrenmanları veya ağır spor çalışmaları sırasında aldığı diyeti, spora ara verdiği zamanlarda da alırsa, zararlı şişmanlıkla karşılaşır.

Zayıflığı tanımladığımız zaman, beden ağırlığı iki kısma ayrılır; yağ

ağırlığı ve zayıf beden ağırlığı : Yağ ağırlığı, organları çevreleyen yağ birikintilerini, kemik iligi, kaslar, organlar ve sinir dokusundaki yağları kapsar. Normal diye düşündüğümüz zayıf beden ağırlığı, kasların, kemik ve öteki yağsız dokuların toplamıdır.

Beden yağının bir kısmına enerji, izolasyon (tecrit) ve koruma için ihtiyaç vardır. **Bedenin tamamen yağsızlığı mümkün değildir ve arzu edilmez.** Normal, yani sağlıklı zayıf kişilerde bulunması gerekli yağ miktarlarının oranlarını, birçok kitaplardan ya da tablolardan öğrenebiliriz. Beden yapısı aslında, kalıtım ve birçok öteki faktörlerin etkisinde kalır. Toplam beden yağını ileri ölçüde azaltmakla performans sınırlanabilir, hatta hastalıkla sonuçlanabilir.

Vücudun yağ miktarını (oranını) ölçmekte birçok metod kullanılır: Su altında ağırlık belirlenmesiyle yağ oranının ölçülmesi, vücuttan düşük voltajlı cereyan geçirilerek yağ oranının ölçülmesi, deri kalınlığını ölçerek yağ yüzdesinin belirlenmesi, nötron aktivasyon analizi, bilgisiyarlı tomografi ve NMR görüntüsü ile vücut yağ oranlarının ölçülmeleri.

Vücut ağırlığı normalin üstüne çıkmış olan bir sporcu ile, kilosunu uygun bir sporcu arasındaki müsabakada, şişman olanın aynı eforu göstermek için, fazla kilosunu ile ilgili olarak, daha çok kaloriye ihtiyaç duyacağı ve zorlanacağı açıktır. Bu bakımdan, **her sporcu en uygun vücut ağırlığını kazanmaya ve bunu da korumaya çalışmak zorundadır.** Her sporcu, karşılaşmalarındaki başarısına uygun gelecek normal kilosunu (müsabaka kilosunu) bilmeli ve kilosunu korumakta çok titiz davranmalıdır.

**Sabahın erken saatlerinde vücudun ağırlığının öğrenilmesi önemlidir** (açken, büyük ve küçük tuvalet sonrası); çünkü bunun, günlük ağırlıklar arasında en değerli olduğu düşünülür.

Genellikle, spor yapan atletler, atlet olmayanlardan daha zayıftırlar. Bir örnek verelim: Lise öğrencisi kızların vücut yağ oranları % 20 bulunmuşken, atlet liseli kızlarda bu oran % 12-20 arasında hesaplanmıştır. Öyleki, belli



mesafe koşucularında bu oran daha da düşük (% 10) görülmüştür. Başka bir incelemede, liseli erkek çocukların vücutlarında % 15 yağ oranı hesaplanırken, aynı yaş grubu atletlerde oran % 8-12 olmaktadır.

Vücut ağırlığının azalması, iki sebebi düşündürmelidir: Ağırlığın kaybı vücudun yağlarının atılmasından ya da vücudun suyunun kaybindan ileri gelebilir. Ama her ikisinin aynı anda olabileceği de hatırd tutulmalıdır.

Sporcular kendi kilolarında daha düşük kilodaki rakipleriyle karşılaşmayı tercih ederek, kilo avantajlarını kullanmaya çalışırlar. Her sporcu bunu düşünür. Bir sporcu inanır ki, rakibi gerçek kilosunda bulunmamaktadır. Aslında bu sanıldığı kadar da öyle değildir.

Çünkü hızlı kilo kaybı, sporcuyu ya da atleti ağır bir dezavantaja iter.

**Kilo kaybının en etkili (efektif) yolu, kalori girişini azaltmak ve çıkışını artırmak şeklinde olur.**

Günde yarım saat hızlı (calı) yürüyüş yapan bir kimse, bir haftada 250 g zayıflar.

Yapığı spor gereği günde 3500 kilokalori alan bir sporcu, haftada 500 g zayıflamak isterse, bir günde ortalama fazladan 500-1000 kilokalori harcamak zorundadır.

Aşırı ağırlık kaybı, su kaybını veya zayıf beden kitlesini gösterir. Az besinli açlık, ya da sınırlandırılmış diyetler önerilmez. Bu çeşit zararlı tutumlar, sağlığa tehlikeli olabilirler. Ayrıca beslenme yetersizliklerine, su kaybına yol açabilirler ve sporcuları enerji açıklarına iterler. Sporcular böylece gerekli çalışmayı yürütemez duruma düşerler ve arzuladıkları kiloyu (ağırlık sınıfını) sürdürecek yeme alışkanlıklarını canlı tutamazlar.

Vücudun yağ kitlesini azaltma, aynı ölçüde ağırlık kaybıyla birlikte olur da, olmaz da. Vücut yağ kitlesi azalması, kaybolan yağın geçici biçimde yerini alan suyun tutulmasından dolayı, toplam vücut ağırlığında geçici artmaya bile eşlik edebilir. Vücut yapısındaki bu değişme, bir kaç gün sonra genellikle fazla idrara çıkmayla (diuresis) sonuçlandığından, hızlı bir kilo kaybı gerçeğe yansır.

Sporcuların düşük enerji alırken, siklet (ağırlık) azaltmasına gitmeleri, parlak sonuç vermez.

Ağırlık kaybında şu bilgilere herkes dikkat etmelidir:

-Her hafta kilo ölçülür; az kilo kazanmaları böylece kolay denetlenir duruma getirilir;

-Besin ve içeceklerin kalori içerikleri öğrenilir. Yüksek kalori varsa düşürülme, düşük kaloride yükseltülme yoluna gidilir;

-İki veya üç öğün yemek yerine beş veya altı öğün yemek yenmelidir. Yemek ağızda çok iyi çiğnendikten sonra yutulmalıdır,

-Bol su içilir;

-Tabağa daha önce yemek konmuşsa, yarısı veya üçte birini yememelidir. Kişi tabağa konanı, yemek zorunda değildir;

-Spor çalışmasıyla, günlük yenenden daha çoğu yakılmalıdır.

Beden yapısı spora, oyun pozisyonuna, yarışmalara, spor federasyonlarının görüşlerine göre farklılaşabilir ya da değişikliğe uğrayabilir. Her sporcu vücudunda belli bir **tipik profil** geliştirmektedir. Sporcunun uzaktan görüntüsünden, branşı böylece anlaşılır duruma gelir.

Unutmamalıdır ki, beden kitlesi ve yapısı sporcunun kalıtım (genetik), diyet ve antrenmanı ile ilgilidir. Bunlara bağlı olarak, beden kitlesi ve yapısı, uygulanan spora yatkınlığı sağlayan bedenin çatısını ve fonksiyonel özelliklerini yansıtır. **Sporcunun final fiziği hem kalıtsal özelliklerinin, hem de yüksek seviyedeki antrenmanlarının sonucu değişmelerin bir göstergesidir.**

Bazı sporcular, en iyi (optimum) beden kitlesine ve yapısına kolayca ulaşırlar, bazıları ise enerjilerine ve antrenmanlarına çok dikkat ederek, arzuladıkları değişimi tamamlayabilirler. Özellikle bu sporcuların önerilen hedeflere varmaları, değişimleri başlatmak için gerekli önlemleri almaları, daha da önem taşır. Elde ettikleri sonuçları da metodlu biçimde değerlendirerek izlemeleri uygun olur. Örnek verelim; beden kitlesi kaybı, beden yağı kaybı-

yla birliktedir; oysa, kilo artması elbette, yağsız beden kitlesinin artmasıyla tamamlanmalıdır. Beden yapısını diyetle düzenlemeye önem vermeksizin, bir sporcunun sadece beden kitlesini ölçmekle, arzulanan değişimlere kavuşturulması düşünülmemelidir.

Sporcu, kendisini düzenli ve çok sık olarak ağırlık kontrolünden geçirmelidir. **Vücut ağırlığının tartılmasında, özellikle dikkat edilmesi gerekenleri şöyle sıralayabiliriz:**

- Tartımlarda ayakkabı ve ağır giysiler çıkarılır. Hep aynı ve çok hafif giysilerle tartımlar yapılır;

- Tartımlar günün hep aynı saatinde ve yemeklerden önce gerçekleştirilmelidir;

- Tartımların dışkı ve idrar çıkartmalarından sonra gerçekleştirilmesine dikkat edilir;

- Tartımlar, doğruluğu kontrol edilmiş basküllerle değerlendirilir ve mümkün olduğunca aynı baskül kullanılır;

- Profesyonel sporcu, kilosunu korumakta çok daha fazla güçlük çeker; Düşük siklette müsabakaya girmek istiyorsa, haftada 500 gramdan fazla ağırlık vermemelidir. Bu, sporcu beslenmesinin önemli bir kuralıdır. Boksörler, güreşçiler, bilinçsizce ağırlık kaybederken, karşılaşmayı da kazanamazlar. **Karşılaşma öncesinde kilo kaybı haftada 500 gramdan fazla olursa, sporcu dayanıklılığı önemli ölçüde düşer;**

- İzleyen günlerde müsabaka varsa, müsabaka öncesindeki günlerde az da olsa, hiç alkol alınmaz. Çünkü, alkol vücudu susuz bırakır. Ayrıca, su vücudu alkolün etkisiyle, idrarla terk ederken; vücut için çok önemli B vitaminlerini, kalsiyumu, magnezyumu ve potasyumu da birlikte dışarı atar.

- Karşılaşmalar sonrasında, vücudun yitirdiği suyu ilk önce yerine koymak amacıyla bol su içilir. Yemek, daha sonra düşünülecek konudur.



## Weight Standards

Coaches and athletes alike are always looking for that winning edge. Once a coach or an athlete hits on something that works and performances improve, the word quickly spreads. The widespread use of anabolic steroids is a classic example. What started out in the late 1940s and early 1950s as experimentation among a small number of bodybuilders and weight lifters has spread throughout the world of sport to where the majority of the elite athletes in certain sports are habitual steroid users. A similar phenomenon has accompanied the emphasis on leanness in athletes.

The elite athlete has long been esteemed for representing the most desirable physical and physiological characteristics for performance in a sport or activity. Theoretically, the elite athlete's genetic foundation and years of intense training have combined to provide the ultimate athletic profile for that sport. These elite athletes set the standards toward which others aspire.

In the 1970s, we [JHW] had the opportunity to test many of the United States' elite women track and field athletes.<sup>21</sup> In addition to treadmill testing, each athlete underwent a body composition assessment. The results of these assessments are presented in Figure 16.8. Looking just at the distance runners, many of the best were below 12% body fat. The two top distance runners had only about 6% fat. One of these had won six consecutive international cross-country championships, and the other held what was then the best time in the world for the marathon. From these results, we could be tempted to suggest that any girl or woman distance runner should have between 6% and 12% relative body fat if she has world-class aspirations. However, one of the best distance runners in the United States at that time, who was within 2 years of taking over the top spot, had a relative body fat of 17%. Furthermore, one of the women in this study had a relative body fat of 37%, and she set the best time in the world for the 50-mi run within 6 months of her evaluation! More than likely, neither of these women would have gained an advantage if they had been forced to drop their weight to achieve 12% body fat or lower.

Body weight has been a general concern in several sports for many years. Over the past 10 to 15 years, this concern has become more widespread, and most sports have now adopted weight standards designed to ensure that athletes have the optimal body size and composition for maximum performance. Unfortunately, this is not always the result.

### Inappropriate Use of Weight Standards

Weight standards have been seriously abused. Coaches have seen that athletes' performances generally improve as body weight decreases. This has led some coaches to adopt the philosophy that if small weight losses improve performance a little, then major weight losses should improve it even more. Not only coaches are guilty of making this assumption—athletes and their parents also are drawn into this way of thinking. As an example, a university athlete, considered one of the best in the United States in her sport, had dieted and exercised down to such a low body weight that her relative body fat was less than 5%. If anyone who joined the team appeared to be leaner, she would work even harder to reduce her weight and fat content. This woman's athletic performance began to deteriorate, and she started to develop injuries that never seemed to heal. She was eventually diagnosed with anorexia nervosa (chapter 19) and underwent professional treatment. But her career as an elite athlete is over.

## Making Weight: Risks With Severe Weight Loss

Male athletes are not immune to problems associated with excessive weight loss and disordered eating. The medical and scientific communities have been concerned over problems in male athletes associated with making weight. The major concern has centered around the sport of wrestling. In 1986, a survey was conducted that involved 63 collegiate wrestlers representing 15 teams at the Eastern Intercollegiate Wrestling Association Championships.<sup>22</sup> These wrestlers began wrestling at an average age of 10.9 years. They started cutting weight by the age of 13.5 years, and these wrestlers lost weight an average of 15 times during a normal season. The average for the most weight lost at any one time was 15.8 lb (7.2 kg). For this specific championship meet, the average weight loss for these wrestlers was 9.7 lb (4.4 kg) in less than 3 days. Wrestlers typically make weight by combining food restriction, fluid deprivation, thermal dehydration, and increased activity. The influence of these practices on performance and physiological function is outlined in Table 16.4. The potential health hazards of such practices led the American College of Sports Medicine to publish the 1976 position statement "Weight Loss in Wrestlers."<sup>23</sup>

Many schools, districts, or state-level organizations organize sports other than wrestling on the basis of size, with weight as the predominant factor. Often the athlete attempts to achieve the lowest possible weight to gain an advantage over opponents. In so doing, many athletes have jeopardized their health. In the following sections, we examine a few of the consequences of severe weight loss in athletes.

Dehydration  
Fasting or very low calorie diets lead to large amounts of weight loss, primarily through dehydration. Athletes trying to make weight might exercise in rubberized sweat suits, sit in steam and sauna baths, chew on towels to lose saliva, and keep their fluid intake to a minimum. Such severe water losses compromise kidney and cardiovascular function and are potentially dangerous. Weight losses of 2% to 4% of the athlete's weight through dehydration can impair performance. The consequences of dehydrative weight loss, discussed in chapter 15, include

- decreased blood volume and blood pressure,
- decreased submaximal and maximal stroke volume and maximal cardiac output,
- decreased blood flow to and through the kidneys, and
- impaired thermoregulation.

### Chronic Fatigue

Pushing body weight too low can have major repercussions. When weight drops below a certain optimal level, the athlete is likely to experience performance decrements and an increased incidence of illness and

injury. The performance decrements can be due to many factors, including chronic fatigue that often accompanies major weight losses. The causes of this fatigue have not been established, but there are several likely possibilities.

The symptoms of an athlete who is chronically underweight (below optimal competitive weight) mimic those seen with overtraining (chapter 13). Both neural and hormonal components are involved in the phenomenon of overtraining. In most cases, the sympathetic nervous system appears to be inhibited and the parasympathetic system dominates. In addition, the hypothalamus does not function normally. These alterations lead to a cascade of symptoms that include chronic fatigue.<sup>24</sup>

This chronic fatigue could also be due to substrate depletion. Energy for almost all athletic activities is derived predominantly from carbohydrate. Carbohydrate also represents the smallest source of stored energy. The combined carbohydrate storage pools in muscle, liver, and extracellular fluid account for approximately 2,000 kcal of stored energy. When athletes are training hard and are not eating an adequate diet (when they are deficient either in total calories or in total carbohydrate calories), their carbohydrate energy stores become depleted. Most importantly to the athlete, liver and muscle glycogen levels decrease, which in turn reduces blood glucose levels. The combined effect of these decreases can be chronic fatigue and considerable declines in performance.<sup>16</sup> In addition, under these conditions the body also uses its protein stores as an energy substrate for exercise. This can, over time, gradually deplete muscle protein.<sup>7</sup>

#### Eating Disorders

The constant attention given to achieving and maintaining a prescribed weight goal, particularly if the weight goal is inappropriate, can lead to disordered eating. A high proportion of athletes, particularly females, have disordered eating. This term can simply refer to restricting food intake to levels that are below energy expenditure, but disordered eating can also involve pathological behaviors, such as self-induced vomiting and laxative abuse, to control body weight. Disordered eating can lead to clinical eating disorders, such as anorexia nervosa or bulimia nervosa. These disorders have become prevalent among female athletes. Each has strict criteria for diagnosis that set them apart from disordered eating in general.

Obtaining accurate estimates of the prevalence of eating disorders is difficult, if not impossible, particularly in athletic populations. However, a significant number of indicators suggest a high prevalence in select athletic populations. Over 90% of people with eating disorders are women. Among athletes, those in

appearance sports (such as gymnastics, figure skating, diving, and dancing) and in endurance sports (such as running and swimming) seem at greatest risk. On certain teams, such as in these appearance and endurance sports, the prevalence of eating disorders might approach or even exceed 50% at the elite or world-class level. Athletes and coaches must realize the importance of the potential link between weight standards and eating disorders. The issue of eating disorders in athletes is a major focus of chapter 19.

Furthermore, a female athlete who is prone to disordered eating is open to a triad of disorders that are likely interrelated: anorexia nervosa or bulimia nervosa, menstrual dysfunction, and bone mineral disorders. This is now referred to as the female athlete triad.

#### Menstrual Dysfunction

Menstrual dysfunction, or abnormal menstruation, is widely recognized in female athletes, but its pathophysiology is not well understood. High prevalences of oligomenorrhea (infrequent or scant menstrual flow), amenorrhea (cessation of menstrual flow), and delayed menarche (first period) have been associated with sports that emphasize low body weight or low body fat. The combination of caloric restriction and a vegetarian diet is common among women endurance athletes. Substantial weight loss induced by either or both of these is associated with a shortened luteal phase and menstrual dysfunction.<sup>17</sup>

A strong link exists between anorexia nervosa and menstrual dysfunction. In fact, amenorrhea is one of the strict criteria necessary for the diagnosis of anorexia nervosa in females. A similar relationship has not yet been established with bulimia (see chapter 19), but an increasing number of athletes are found to be both bulimic and amenorrheic.

#### Bone Mineral Disorders

Bone mineral disorders are recognized as a potentially serious consequence of menstrual dysfunction.<sup>7</sup> The link between the two was first reported in 1984. Now a number of scientists are researching the relationship between athletic-induced amenorrhea and low bone mineral content or density. Past studies suggest that bone density increases with the resumption of normal menses (menstruation), but more recent observations suggest that the amount of bone that is regained might be limited and that bone density might remain well below normal even with reestablishment of normal menstrual function.<sup>7</sup> The long-term consequences of chronically low bone densities in an athletic population have not yet been established.

#### Establishing Appropriate Weight Standards

The potential for abuse of weight standards is clearly established. If standards are not set appropriately, athletes could be pushed well below optimal body weight. Thus it is critically important to properly set weight standards.

Body weight standards should be based on an athlete's body composition. Once body composition has been determined, the amount of fat-free mass is used to estimate what the athlete should weigh at a specific relative body fat. Consider an example in which the goal is to get a 160-lb (72.5-kg) woman swimmer with 25% body fat down to 18% body fat, as shown in Table 16.5. We know that her goal weight will be composed of 18% fat and 82% fat-free mass. So to estimate her goal weight at 18% body fat, we divide her fat-free mass by 82%, which is the fraction of her goal weight that is to be represented by her fat-free mass. This calculation (120 lb, or 54.4 kg, divided by 0.82) gives us a goal weight of 146 lb (66.3 kg), so this woman needs to lose 14 lb (6.4 kg).

Thus, the establishment of weight standards should translate into the establishment of standards of relative body fat for each sport. With this in mind, what is the recommended relative body fat for an elite athlete in any given sport? For each sport an optimal value or range of values for relative body fat should be established outside of which the athlete's performance is likely impaired. And, because fat distribution shows definite gender differences, the weight standards should be gender-specific. Representative ranges for

males and females in various sports are presented in Table 16.6. In most cases, these values are representative of the elite athletes in those sports.

However, these values might not be appropriate for all athletes who engage in a specific activity. The existing techniques for measuring body composition include inherent errors, as we discussed earlier. Even with the better laboratory techniques, measurement of body density can introduce a 1% to 3% error, and an even greater error is associated with converting that

density to relative body fat. In addition, we must understand the concept of individual variability. Not every male distance runner will have his best performance at 6% body fat. Some will improve performance with slightly lower values. Others won't be able to get down to such low relative fat values, or they will find that their performance starts to decline at the suggested values. For these reasons, a range of values should be set for males and females in specific activities, recognizing individual variability, methodological error, and gender differences.

### IN REVIEW

1. Many sports enforce weight standards, with the goal of ensuring that the athletes are of optimal body size for participation. Unfortunately, athletes often turn to questionable, ineffective, or even dangerous methods of weight loss to reach their goal weight.
2. Severe weight loss in athletes can cause potential health problems, such as dehydration, chronic fatigue, disordered eating, menstrual dysfunction, and bone mineral disorders.
3. The chronic fatigue symptoms that often accompany severe weight loss mimic those of overtraining. This fatigue can also be caused by substrate depletion.
4. Body weight standards should be based on body composition. Thus these standards should emphasize relative body fat rather than total body mass.
5. For each sport, a range of values should be established, recognizing the importance of individual variation, methodological error, and gender differences.

## Achieving Optimal Weight

Many athletes discover that they are considerably above their assigned playing weight with only a few weeks remaining before they report to training camp. Consider a 25-year-old professional football player who realizes his weight is 20 lb (9 kg) above his playing weight in the previous season. He must lose this excess weight by the start of the preseason training camp, a mere 4 weeks away. Failure will cost him a fine of \$5(X) per day for each pound over his assigned weight. Exercise alone is of little value because he would need 9 to 12 months to lose this much weight through that means. Will this athlete accomplish his goal?

## Crash Dieting

Our football player must lose 5 lb (about 2 kg) per week for the next 4 weeks, so he decides to embark on a crash diet, selecting whatever diet is in vogue, knowing that a person can lose 6 to 8 lb (about 3 kg) per week with such diets. He is not unique. Many athletes find themselves overweight and out of shape because of overeating and reduced activity during the off-season, and they typically wait until the last few weeks before their reporting dates to attack the problem. In our example, the football player might be able to shed 20 lb in 4 weeks with his crash diet. But much of this weight loss would be from body water and very little from stored fat. Several studies have reported that substantial weight losses occur with very low calorie diets (500 kcal per day or less), but of the weight lost, more than 60% comes from the body's fat-free tissue and less than 40% from fat depots.

Although much of our football player's weight is lost from water stores, a substantial amount of protein is lost as well. Also, most crash diets are based on a major reduction in carbohydrate intake. This reduced intake is insufficient to supply the body's needs for carbohydrate, and as a result the body's carbohydrate stores become depleted. Because water storage accompanies carbohydrate storage, the water stores are also reduced as the carbohydrate stores diminish. With every gram of carbohydrate used by the body, approximately 3 g of water are lost. The total body glycogen content is about 800 g, so depletion of the stored glycogen would result in a loss of approximately 2,400 g of water—slightly more than 5 lb (about 2.4 kg).

In addition, the body relies more heavily on free fatty acids for energy as its carbohydrate stores are depleted. As a result, ketone bodies, a by-product of fatty acid metabolism, accumulate in the blood causing a condition known as ketosis. This condition further increases water loss. Much of this water loss occurs during the first week of the diet.

Figure 16.9 illustrates these changes in body water, fat, protein, and carbohydrate during a period of 30 days of fasting. Carbohydrate depletion occurs within about 3 days. Protein content drops significantly in the same time period. The body's water content drops abruptly during the first 3 days. The rate of fat loss, though it drops somewhat in the second and third day, remains relatively unchanged for the remainder of the fasting period.

It is impossible for most people to lose more than 4 lb (about 2 kg) of fat per week, even under conditions of total fasting. This can be easily demonstrated. A pound of fat (adipose tissue) has the caloric equivalent of 3,500 kcal, so a deficit of 3,500 kcal is needed to lose 1 lb (0.45 kg) of fat. The resting metabolic rate

of the professional football player in our previous example would be approximately 2,500 kcal per day. So if he fasted, he would have a 2,500 kcal deficit per day. The most he could lose each day would be about 0.7 lb (0.3 kg) (2,500 kcal per day divided by 3,500 kcal per lb, or 7,716 kcal per kg, of fat). However, research indicates that the total body metabolism is reduced by 20% to 25% during fasting. A 20% reduction in this athlete's resting metabolic rate would lower his total deficit to only 2,000 kcal per day, which would result in a maximum weight loss of only about 0.6 lb (about 0.3 kg) of fat per day. In 1 week of total fasting, this would result in a loss of only 4 lb (about 2 kg)! By increasing his activity level, our football player could increase this predicted rate of fat weight loss. But he would find it impossible to train very hard with no food intake and an almost total depletion of his glycogen stores. Also, few people can tolerate the discomfort associated with prolonged periods of fasting. The rapid weight losses experienced with crash diets are quickly regained, probably because when a balanced diet is substituted for the low-calorie, low-carbohydrate diet, the water that was lost is quickly regained as the carbohydrate stores are replenished.

### Optimal Weight Loss

The sensible approach to reducing body fat stores is to combine moderate dietary restriction with increased exercise. Appetite is delicately balanced with the body's actual caloric needs. If you reduce your dietary intake by a mere 100 kcal each day (one slice of buttered bread), for example, you will lose 10 lb (about 4.5 kg) in 1 year, assuming that your activity level remains constant. But if you add to this an additional modest loss of 0.25 lb to 0.5 lb (0.1 kg to 0.2 kg) per week due to increased activity (such as a 3-day per week jogging program), your total weight loss would be 23 to 36 lb (about 10 to 16 kg) in a single year, and most of this weight loss would be from stored body fat!

When athletes exceed the upper end of the weight range for their sport, they should work toward achieving the upper end goal weight slowly, losing no more than 1 to 2 lb (less than 1 kg) per week. Losing more weight than that per week leads to losses in fat-free mass, which is usually not the desired outcome. When the upper limit of the range is reached, further weight loss should be undertaken only with close supervision of the coach, athletic trainer, or team physician. This weight loss should be achieved at an even slower rate: less than 1 lb (less than 0.5 kg) per week to assure that performance is not negatively affected. The rate of this loss should be reduced still more if performance is affected or if medical symptoms are noted.

Decreasing an athlete's caloric intake by 200 to 500 kcal per day will allow weight losses of about 1 lb (about 0.5 kg) per week, particularly if combined with a sound exercise program. This is a realistic goal, and such losses add up to a substantial weight loss over time. When trying to reduce weight, total daily calories should be consumed over at least three meals per day. Many athletes make the mistake of eating only one or two meals per day, skipping breakfast, lunch, or both, then consuming a large dinner. Research in animals has shown that, given the same number of total calories, the animals that eat their daily food ration in one or two meals gain more weight than those that nibble their ration throughout the day.

The purpose of weight-loss programs is to lose body fat, not fat-free mass. Because of this, the combination of diet and exercise is the preferred approach. Combining increased activity with caloric reduction prevents any significant loss of fat-free mass. In fact, body composition can be significantly

### KEY POINT

Athletes who are above their weight standard should lose weight gradually, not more than 1 to 2 lbs (about 1 kg) per week to preserve their fat-free mass. This should be accomplished by integrating a good diet containing 200 to 500 kcal less than their daily energy expenditure, with a reasonable increase in resistance and endurance activities.

altered with physical training. Chronic exercise can increase fat-free mass and decrease fat mass. The magnitude of these changes varies with the type of exercise used for training. Resistance training promotes gains in fat-free mass, and both resistance and endurance training promote loss of fat mass. To lose weight, athletes should combine a moderate resistance and endurance training program with modest caloric restriction.

As a final point, a balanced diet is, of course, essential to ensure that the athlete receives all necessary vitamins and minerals. Vitamin supplementation

### IN REVIEW

1. When severe (very low calorie) diets are followed, much of the weight loss that occurs is from water, not fat.
2. Most severe diets limit carbohydrate intake, causing carbohydrate stores to be depleted. Water is lost along with the carbohydrates, exacerbating the problem of dehydration. Also, the increased reliance on free fatty acids can lead to ketosis, which further enhances water loss.
3. The combination of diet and exercise is the preferred approach to optimal weight loss.
4. Athletes should lose no more than 1 to 2 lb (about 0.5 to 1.0 kg) per week until reaching the upper end of the desired weight range. After that, weight loss should be less than 1 lb (less than 0.45 kg) per week until goal weight is reached. More rapid weight losses result in loss of fat-free mass. Weight loss at this rate can be accomplished by a reduction in dietary intake of 200 to 500 kcal per day, especially when combined with a sound exercise program.
5. For fat loss, moderate resistance and endurance training is most effective. Resistance training also promotes gains in fat-free mass.

might or might not be necessary—results of research thus far are in conflict. But if the nutritional adequacy of the diet is at all questionable, a simple multivitamin that meets the RDA for that person is suggested.

## APENDIX C

### SAMPLE SUMMARIES OF SUBJECTS ON "WEIGHT AFFAIRS IN SPORTS"

#### SPORDA KİLO

Sirgök spor dalında ağırlık ayarlaması şarttır. Standart ağırlık verilecekse beden kitlesi, cinsiyet, spor türü, bireysel farklılıklar göz önünde bulundurulmalıdır.

Sporcular spor zamanı bir alt siklede yarıya kadar isterler çünkü bunun avantajı olduğunu düşünürler. Teorik olarak bu doğrudur ama ağırlık ayarlamada yanlış kullanımlar varsa çok büyük dezavantajlar ortaya çıkabilir. Kilo verme için yapılan ağır ve ani diyetler, sauna, idrar söktürücü ilaçların alınması, açlık egzersiz, yetersiz su alımı başka yöntemlerdir. Bu yöntemler vücut değerini düşürürken aynı zamanda kilo kaybı, anorexia nervosa (yiyemece hastalığı), kan basıncı ve ritiminde, kalp salınımında bozulmalar, kronik yorgunluk, menstruasyon düzensizlikleri (gecikme, ağrı taşıma gibi) ve buna bağlı olarak minerallerin kaybı ortaya çıkarabilir. Bir sporcunun kilo vermesi performansını yükselteceği zanaatına geleceği gibi, sürekli açlık sorunları da ortaya çıkabilir.

Atletlerin kilo vermesi için spor zamanı idealdir ama kilo vermenin de almanın da limitleri vardır. Sporcu kilo verecekse, bu kayıp su kaybı olmalıdır, azaltan, yağ olmalıdır. Öte taraftan, yağlılıkta toplanan yağlar da saklanabilir ve pek mümkün değildir çünkü organların etrafındaki yağ tabakası enerji verme, ısıtma ve koruma görevlerini üstlenmektedir. Sporcular kilo aldıklarındaysa ağırlıkların artmasına gelmesi için yağ olmalıdır. Yani kilo artışı yağlanmayla değil kas artışıyla olmalıdır ki bu da ancak egzersiz ve düzenli yeme alışkanlığıyla edinebilir. Şunu da eklemek gerekir ki, uzmanlara göre sporcuların kilo kazanması ya da kaybetmesi haftada 300-600 gr. arasında olursa, idealdir, bu rakamların aşılması ya da yetersiz olması edilemezdir. Müsabakadan önce kilo verilmesi de sakıncalıdır çünkü performans düşünebilir.

Sporculara tatil veya ara zaman verilmelidir. Tatil sık sık yapılmalıdır. Sabahın erken saatlerinde, vakti koparılan zamanlarda, buzlukta sonra, hafif ziyasetler, yemeklerden sonra tatil edilmelidir. Başkalarının denetiminden emin olunmalıdır ve mümkün olduğunca ağır baskı kullanılmamalıdır. Bu şekilde, sporcu kilosunu kolayca düşürebilecektir.



## Sporcularda Vücut Ağırlığının Önemi

Sporcuların vücut kütlesi ve yağ olarak ağırlıklarının bilinmesi önemlidir. Güreş, halter, yüzme gibi spor dallarında vücut bileşiminde yağın normalden biraz fazla olması kabul edilmektedir (önerilen vücut yağ ertek sporcular için %5-10, kadın sporcular için %7-10). Kilo artışı vücut kütlesinin artmasına bağlı olması istenmemektedir. Dinlenme, hafif egzersiz ve sporu bıraktıktan sonra fazla yeme sonucu oluşan kilo artışı, daha sık yağ dokusunun artmasına bağlı olduğu için istenmemektedir. Bu nedenle sporcuların sık sık ağırlık kontrollerinin yapılması, gerek antrenörlerce spor kütlesi ve diyetlerine faydalı bilgiler vermektedir. Kilo vermede uyulması gereken kurallar şunlardır:

1-) Ağırlık kaybı vücut yağ depolarından olmalıdır. Bu nedenle sporcuların vücut yağ ölçümleri saptanmalıdır. Vücut yağını azaltma, enerjisi sınırlı diyet ve yapılan antrenmana ek olarak egzersiz yapısı artırılarak yapılmalıdır (orta şiddette koşu, yürüyüş gibi).

2-) Kilo verme sürecinde haftada 1 kilo verecek şekilde diyet düzenlenmelidir.

3-) Özellikle genç sporcuların büyüme ve gelişmesini engellemek için günlük enerji alımı 1800-2000 kkalorinin altına düşürülmemelidir. Yemekler 5 öğünde, öğün atlamadan tüketilmelidir. Çünkü öğün atlamak vücutta yağ depolanmasını artırmaktadır.

4-) Kilo verme döneminde su zıve sınırlanmalıdır.

2-) Güreş, boks, taekwondo gibi spor dallarında sporcuların sikletlerine meblmek için sauna, naylon giyip koşma, diyetik kullanma, su alımını kısıtlama, gibi vücut suyunu azaltmak için ya da azaltarak kilo verme uygulamaları yaygındır. Bu yolla kilo verme uygulamalarının sporcularda patolojik sayılabilecek bazı fizyolojik değişikliklere neden olduğu ve performansı olumsuz yönde etkilediği bilinmektedir. Ayrıca yarış öncesi dönemde kısa sürede kilo vermek için sporcuların kendilerini aş bırakması, yiyecek alımını sık sınırlaması, bu glikojen depolarının boşalmasına neden olmaktadır. Bu nedenle sporcular yarış öncesi son öğünde yeterli su ve yiyecek alabilir bile su kaybı ve yarış için gerekli glikojene (enerji) sahip olamayacaklardır.

Özet olarak, yapılan çalışmalar sonucu, sporcuların ideal kütlesini her zaman korumaları, kilo kaybının haftada 1 kilo olacak şekilde vücut yağını azaltarak yapılması gerektiği, hızlı kilo kaybının performansı bozduğu ve yarışmadan 8-10 hafta önce sporculara haber verilmesinin, yarışma kilosuna düşme için yeterli bir süre olduğu aşikardır.

### WEIGHT PROBLEM IN SPORT

Many sports have now adopted weight standards designed to ensure that athletes have the optimal body size and composition for maximum performance.

It is important to establish realistic weight standards for athletes. This is generally best accomplished by using a range of relative fat values that are considered acceptable on the basis of sport, age, gender. First of all, every athlete must try to get the most suitable body weight and must try to save it. And diet is very important to get the most suitable body weight. Athletes who are above their weight standards should lose weight. A balanced diet is very important and essential to get the realistic body weight. But, unfortunately, athletes often turn to questionable, ineffective or even dangerous methods of weight loss to reach their goal weight. And as a result of this, severe weight loss in athletes can cause potential health problems, such as dehydration, chronic fatigue, disordered eating, menstrual dysfunction and bone mineral disorders.

Exercise is also another way of getting optimal body size. For example, one who walks for a half hour in a day can lose 150 g in a week. And as you see the combination of diet and exercise is preferred approach to optimal weight loss.

In addition male athletes are not immune to problems associated with excessive weight loss and disordered eating. The medical and scientific communities have been concerned over these problems. The major concern has centered around the sport of wrestling.

Also, in each sport, a range of values should be established, recognizing the importance of individual variation, methodological error and gender difference.

Furthermore, an athlete should receive all necessary vitamins and minerals while he/she is on a diet or he/she is trying to lose weight.

The purpose of weight-loss programs is to lose body fat, not fat-free mass.

Consequently, body weight has been a general concern in several sports for many years. Over the past 10 to 15 years, this concern has become more widespread, and most sports have now adopted weight standards that is necessary to have the realistic body size and composition for more performance.

## WEIGHT STANDARDS

People's total calorie loss changes according to the kind of sport which they do, to their body mass and their sexualities. The weight standards are usually used in wrestling, boxing and in horse-riding. The usage of these weight standards has become more widespread in the last 10 years because weight is important for the performance of the athletes.

For understanding this weight problem, we should first learn what the difference between the body composition and body size is. First, body size means the size of your muscles but body composition is not the appearance of the body, instead it means from how much fat, blood, organs and water, the body is formed. There is a benefit to know the three main components to understand the ideal weight of athletes. The first one is the fact that the body's weight is formed from several compositions ( $\text{Body weight} = \text{body weight without fat} + \text{body fat}$ ). The second one is that in spite of having the same weight with someone, the body composition of the athletes can be different. Finally, the total body composition do not join to the athletes' work.

The weight standards are usually used dishonestly by the coaches and athletes. It is considered that if the body weight decreases, the performance of the athlete will improve. As a result of this, the athletes begin to lose weight and after losing weight in an unhealthy way, they become ill, so that they couldn't continue to their career.

Many athletes use the dehydration technique for losing weight. Because this way is more quicker and easier but more dangerous. Because of the lack of water, the body can be seriously ill. No one can reach to their top performance with losing the water of the body. Most of the loss of weight begins just before the match and as a result of this the athlete can't take enough food and water. Therefore, they damage their health. This technique is not advised by the experts. Instead, the athletes should lose the fat mass of their bodies. This is more healthier and useful in improving the performance.

One of the most effective ways in losing weight is, decreasing the entrance of the calorie and increasing the exit of the calorie. For instance, with speedy walking every day at least half hour, man can lose 250gr. per week.

After losing or gaining the ideal weight, it is important to protect it and this is possible with a suitable meal habit and with making sport. According to the experts, losing or gaining weight for an athlete must be between 300-600gr per week. Gaining weight should be with increasing the mass of the muscles not with fat. Because of this, gaining weight will be effective and healthy only with making sport.

In short, the athletes should be careful with their weights because improving the performance and being healthy depend on this.

## TEXTS (LONGAN'S CHAPTER) ON "PATTERNS OF ORGANIZATION"

# 5

---

## Understanding Relationships II: Patterns of Organization

To help readers understand their main points, authors try to present supporting details in a clearly organized way. They might use any of several common patterns to arrange their details. Sometimes authors may build a paragraph or longer passage exclusively on one pattern; often, the patterns are mixed. By recognizing them, you will be better able to understand and remember what you read.

Here are some common basic patterns of organization:

- 1 Time order
- 2 List of Items
- 3 Comparison and/or Contrast
- 4 Cause and Effect
- 5 Definition and Example

All five of the patterns are based on relationships you learned about in the last chapter. All five, then, involve transition words that you should now recognize. The time order pattern, for example, is marked by transitions that

show time (*then, next, after*, and so on). Here are the kinds of transitions used with the other four patterns:

| <i>Pattern</i>         | <i>Transitions Used</i>                                                                     |
|------------------------|---------------------------------------------------------------------------------------------|
| List of Items          | Words that show addition ( <i>also, another, moreover . . .</i> )                           |
| Comparison/Contrast    | Words that show comparison or contrast ( <i>like, just as, however, in contrast . . .</i> ) |
| Cause and Effect       | Words that show cause and effect ( <i>because, as a result, since . . .</i> )               |
| Definition and Example | Words that show illustration ( <i>for example, to illustrate . . .</i> )                    |

Explanations and illustrations of each pattern follow. To help you recognize them, a list of transitional words is given for each.

## 1 TIME ORDER

When a series of events or steps in a process are being presented, the order in which items are organized is crucial. In such cases, material is arranged in a *time order*. It would make very little sense, for example, to discuss the incidents of World War II or the steps in a psychology experiment in just any order—the information would not be logical or clear. Dates, events, and steps must be presented in a meaningful sequence with those that come before and after them.

As a student, you will see time order used frequently. Textbooks in all fields describe various events and processes, for instance: the events leading to the Boston Tea Party, the important incidents in Abraham Lincoln's life, how a bill travels through Congress, or the working of photosynthesis.

The following transitions often signal that a time pattern of organization is being used:

|        |        |       |         |
|--------|--------|-------|---------|
| first  | next   | as    | while   |
| second | before | now   | during  |
| then   | after  | until | when    |
| since  | soon   | later | finally |

To get a better sense of the time-order pattern, do the two exercises below, and then read the answers that follow. Note that the first passage presents a series of events, and the second presents steps in a process.

Following is an example of a paragraph in which events are organized according to time order. Using the spaces provided, complete the outline of the paragraph by listing the events in the order in which they happened. One point has already been done for you.

It was the history-making afternoon of July 20, 1969, when the lunar module, the *Eagle*, landed on the moon. Inside it were astronauts Neil Armstrong and Edwin Aldrin. Six and a half hours after landing, the hatch of the *Eagle* was opened and Armstrong began to descend a ladder to the surface of the moon. On the way, he let down a television camera that would record for viewers on Earth the first human foot on the moon. Then Armstrong stood on the moon and said the line for which he is famous: "That's one small step for a man, one giant leap for mankind."

Main idea: The history-making hours on the moon, afternoon of  
July 20, 1969

1. Armstrong and Aldrin landed in the Eagle.
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Below is an example of a paragraph in which steps in a process are organized according to time order. Using the spaces provided, complete the outline of the paragraph that follows by listing the steps in the correct sequence. The first step has been done for you.

To stop a nosebleed, you must first sit down and lean forward slightly. Your head should be above the level of your heart. For five minutes, pinch the soft parts of your nose firmly together. Next, to constrict blood vessels, apply ice wrapped in a washcloth to your nose and cheeks.

Main Idea: Steps to stopping a nose bleed

1. Sit down and lean forward slightly.
2. \_\_\_\_\_
3. \_\_\_\_\_

For the first outline, you should have had this sequence: (1) Armstrong and Aldrin landed in the *Eagle*. (2) Armstrong left the *Eagle* and began

going down the ladder. (3) He lowered a TV camera to broadcast his first step. (4) Then he stood on the moon and said his famous line.

For the second outline, you should have had this sequence: (1) Sit down and lean forward slightly. (2) Pinch soft parts of nose together. (3) Apply ice to nose and cheeks.

➤ Practice 1

The following three passages describe either a sequence of events or steps in a process. Complete the outlines that follow each passage.

- A. Here is a way to relax that is easy and can even be done in just a few minutes. First, lie down with your arms at your sides and your fingers open. When you are comfortable, close your eyes and put all distracting thoughts out of your mind. Next, tighten all the muscles of your body at once. Push your toes together, tighten your buttocks and abdomen, clench your fists, and squeeze your eyes shut. Hold this position for about seven seconds. Then, let everything relax, and feel the tension flow out of your body. After that, take a deep breath through your mouth and hold it for twenty seconds; then let it out slowly, and breathe slowly and easily, as you do when you are sleeping. Finally, think of a pleasant scene. Concentrate on this scene as you feel your whole body becoming calm and relaxed.

Main idea: Steps in a relaxation technique

- 1. \_\_\_\_\_
- 2. \_\_\_\_\_
- 3. Tighten all muscles, and then relax
- 4. \_\_\_\_\_
- 5. \_\_\_\_\_

- B. After resting for fifteen hundred years, Italy's Mount Vesuvius erupted in the early afternoon on August 24, 79 A.D. The residents of Pompeii, four miles away, could see and hear the explosion, which sent a black cloud into the sky. However, it wasn't until a second and greater explosion soon followed that the city directly suffered the effects of the volcanic eruption. Within a day, Pompeii and its inhabitants were buried under thirty to fifty feet of stones and ash. Soon after, a river of mud and ash buried the nearby city of Herculaneum.

Main idea: Eruption of Mount Vesuvius in 79 A.D.

- 1. \_\_\_\_\_

2. *Second explosion*

a. *Pompeii is buried under stone and ash*

b.
- C. There are several steps to remembering your dreams. First of all, you must make up your mind to do so, for consciously deciding that you want to remember increases the likelihood that it will happen. Then put a pen and a notebook near your bed, so that you can write down what you remember as soon as you wake up. When possible, turn off your alarm before you go to sleep so that you can wake up gradually, which will increase the likelihood of remembering your dreams. Finally, when you wake up in the morning and remember a dream, write it down immediately, even before getting out of bed.

Main idea:

1. *Make up your mind to remember your dreams.*
2.
3.
4.

2 LIST OF ITEMS

A *list of items* refers to a simple series of details or reasons that support a point. The items are not presented in a time order but are listed in a way the author feels is important. The transitions used in organizing lists of items tell us that another item is being added to one or more items already mentioned. The following are some of the transitions that often signal a listing pattern of organization:

|         |             |              |             |
|---------|-------------|--------------|-------------|
| and     | in addition | first of all | furthermore |
| also    | moreover    | first        | last of all |
| another | next        | second       | finally     |

In the passage below, the main point has been italicized. See if you can count the number of items in the author’s list and also identify the type of item being listed. Note that transitions will help you find two of the items. After doing this exercise, read the explanation that follows.



*In September, 1666, a great fire blazed out of control in London, England, reducing nearly five-sixths of the city to ashes. Before it was over, more than 13,000 houses had been burned to the ground. In addition, eighty-nine churches were left in ruins, including St. Paul's Cathedral, the grandest building in England at that time. Hundreds of warehouses containing valuable merchandise were also lost, bankrupting many of the country's richest merchants.*

Number of items listed: \_\_\_\_\_

What type of item is listed? \_\_\_\_\_

This paragraph consists of a main point, stated in the topic sentence (the first one), followed by a list of three items, each in a sentence of its own and all supporting the main point. The type of item listed is the *parts of London destroyed by the fire* (houses, churches, and warehouses). Notice that the items might have been listed in any order without affecting the point of the paragraph.

➤ **Practice 2**

The following three passages use a listing pattern. Underline the main idea in each, and then count the number of items used to support each main idea. Notice that in some cases, more than one sentence is devoted to a single item. Finally, indicate what type of item is being listed in each passage.

- A. Parents should seriously consider their children's requests for a pet, for there are several advantages to owning a pet. First, if parents set down rules and stick to them, a child can learn responsibility by taking charge of feeding and, in the case of dogs, walking a pet. Also, while caring for any pets, such as tropical fish or hamsters, children learn about the animals' characteristics and habits. And finally, the unconditional love most pets express for their owners is another advantage; children benefit from the warmth and love their pets provide.

Number of items listed: \_\_\_\_\_

What type of item is listed? \_\_\_\_\_

- B. There are several ways to be an active listener. A common way to show that you are listening and interested is to ask questions about what the other person is saying. You can also rephrase what the other person has

said to be sure you have understood. For example, you might say something like, “So what you’re saying is . . . .” Yet another way to show your interest is to watch for clues to feelings in the other person’s tone of voice or posture. That allows you to comment on or ask about the emotional reactions you notice, which shows that you care about that person’s feelings.

Number of items listed: \_\_\_\_\_

What type of item is listed? \_\_\_\_\_

- C. When your children are untruthful, you can react in a number of ways. If you feel children deserve a reprimand, a reasonable explanation should be enough to help them understand what is unacceptable behavior. A second reaction in some cases can be to simply acknowledge the fact that your children are fantasizing or exaggerating, rather than accusing them of being liars. In response to a tall tale, for instance, you might say something like, “Wouldn’t it be nice if that were true?” Finally, you can respond to your children’s storytelling by looking for the underlying reason behind it. Once that reason is dealt with, your child will no longer have the same need to continue lying.

Number of items listed: \_\_\_\_\_

What type of item is listed? \_\_\_\_\_

3 COMPARISON AND/OR CONTRAST

The *comparison-contrast* pattern shows how two things are alike or how they are different, or both. When things are *compared*, their similarities are pointed out; when they are *contrasted*, their differences are discussed. In our daily lives we compare and contrast things all the time, whether we are aware of it or not.

For example, a simple decision such as whether to make a hamburger or a Swiss-cheese sandwich for lunch requires us to compare and contrast the two choices. We may consider them both because of their similarities—they both taste good and are filling. We may, however, choose one over the other because of how they differ—a hamburger requires cooking while a cheese sandwich can be slapped together in about thirty seconds. If we are in a rush, we will probably choose the sandwich. If not, we may decide to have a hot meal and cook a hamburger instead.

Here are some common transitions showing comparison and contrast:

Comparison Signals

|           |           |              |
|-----------|-----------|--------------|
| like      | likewise  | similarly    |
| just like | equally   | similarities |
| just as   | resembles | same         |
| alike     | also      | similar      |

Contrast Signals

|             |                   |              |
|-------------|-------------------|--------------|
| however     | on the other hand | different    |
| in contrast | as opposed to     | differently  |
| instead     | unlike            | differs from |

In the following sample exercise, the main idea is stated in the first and second sentences. As is often the case, the main idea indicates that a comparison-contrast pattern will be used. Read the paragraph and answer the questions below. Then look at the explanation that follows.

In middle age, men and women often view life very differently. This is especially true for couples who have led traditional lives in which the wife has stayed home to rear the children and the husband has devoted most of his energy to his career. By middle age, the husband is often comfortable in his position at work and has given up any dreams of advancing further. He may then become more family oriented. In contrast, once the children are grown, the wife may find herself free to explore interests and develop abilities she has had no time for in the previous fifteen or twenty years. Unlike her husband, she may be more interested in non-family activities than ever.

- 1. Is this paragraph comparing, contrasting, or both?  
\_\_\_\_\_
- 2. What two things are being compared and/or contrasted?  
\_\_\_\_\_  
\_\_\_\_\_
- 3. Which three comparison or contrast signal words or phrases are used in the paragraph?  
\_\_\_\_\_

This paragraph is only contrasting, not comparing—it discusses only differences, not similarities. The two things being contrasted here are the views on life held by middle-aged men and by middle-aged women who have led traditional lives. The signal words used to indicate contrast are “differently,” “in contrast,” and “unlike.”

➤ *Practice 3*

Read the following passages and indicate whether the author is comparing items or contrasting items by checking the appropriate space below each one. If a passage both compares *and* contrasts, check both spaces. In addition, write down the two things that are being compared or contrasted in each passage.

- A. Although mysteries and science fiction may seem like very different kinds of writing, the two forms share some basic similarities. First of all, both are action-oriented, emphasizing plot at the expense of character development. Possibly for this reason, both types of literature have been scorned by critics as being “mere entertainment” rather than “literature.” But this attack is unjustified, for both mysteries and science fiction share a concern with moral issues. Science fiction often raises the question of whether or not scientific advances are beneficial to humanity. And a mystery story rarely ends without the guilty person being brought to justice.

Comparison \_\_\_\_\_ Contrast \_\_\_\_\_

What two things are being compared and/or contrasted?

- B. People are different from other primates, but not as different as they would like to think. It’s true that there are significant contrasts in size and proportion between humans and other primates. And, of course, humans are by far the more intelligent. Nevertheless, the similarities among primates are notable. To use chimpanzees as an example, both they and humans have the same muscles and bones, located in almost the same places and working in nearly the same ways. The internal organs of both animals are also very much alike, as are their blood and other body fluids. Seen under a microscope, even their genes are strikingly similar.

Comparison \_\_\_\_\_ Contrast \_\_\_\_\_

What two things are being compared and/or contrasted?

- C. The conflict over secrecy between the federal government and journalists arises from the different roles they play in society. The government has the job of conducting foreign policy. To do so effectively, government officials sometimes prefer to distort or withhold information. Journalists, however, see their role as digging up and giving information to the public. If they always sought government permission before publishing information, they would be able to print or broadcast only what the government wanted to appear in the media.

Comparison \_\_\_\_\_ Contrast \_\_\_\_\_

What two things are being compared and/or contrasted?

4 CAUSE AND EFFECT

Information that falls into a *cause-effect* pattern addresses itself to the questions “Why did, or why would, an event happen?” and “What are, or what would be, the results of an event?” In other words, “What are the *causes* of an event?” and “What are the *effects* of an event?”

Authors usually explore events using a cause-and-effect approach. In other words, they don’t just tell what happened; they try to tell about events in a way that explains both *what* happened and *why*. A textbook section on the sinking of the ship the *Titanic*, for example, would be incomplete if it did not include the cause of the disaster—going at a high speed, the ship collided with an iceberg. Or if the banks of the Mississippi River are flooded, a newspaper will not simply report about the flooding. An article on this event would also tell why the flooding happened—heavy rains caused the river to overflow. An important part of any effort to understand events and processes includes learning about cause-effect relationships.

Explanations of causes and effects very often use transitions such as the following:

|            |             |              |
|------------|-------------|--------------|
| thus       | as a result | therefore    |
| because    | result in   | since        |
| because of | result      | leads to     |
| causes     | effects     | brings about |

Read the paragraph below and see if you can answer the questions about cause and effect. Then read the explanation to see how you did.

Drinking alcohol can lead to different states of consciousness. Although the changes vary from person to person, some broad generalizations are possible. One or two drinks usually result in feelings of warmth, relaxation, and decreased inhibitions. Slightly heavier drinking often causes people to believe they can do things better than they really can. For example, after a few drinks a person may believe he is speaking eloquently when, in fact, his speech is slurred or even unintelligible. Or someone may believe she can drive perfectly well when her reactions and judgment have actually been weakened by alcohol.

- 1. What are the two *causes* described in this paragraph?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
- 2. What are the two kinds of *effects*?
  - a. \_\_\_\_\_
  - b. \_\_\_\_\_
- 3. What three cause-effect signal words or phrases are used?  
\_\_\_\_\_

While this paragraph discusses drinking alcohol as a cause in general, it divides drinking into two categories—"one or two drinks" and "slightly heavier drinking." The first cause, then, is "one or two drinks"; its effect can be "feelings of warmth, relaxation, and decreased inhibitions." The second cause is "slightly heavier drinking"; its effect can be to make drinkers "believe they can do things better than they really can." The cause-effect signals here are *lead to*, *result in*, and *causes*.

➤ **Practice 4**

The three activities that follow (A, B, and C) will give you a sharper sense of cause-and-effect relationships.

- A. The following sentences all describe a cause-and-effect relationship. For each of them, identify both the cause and the effect.
  - 1. Since unemployment has fallen 5 percent in the last year, many more people can now afford to buy expensive consumer goods, such as cars and television sets.  
Cause: \_\_\_\_\_  
Effect: \_\_\_\_\_

- 2. Last winter I twisted my ankle by slipping and falling on a patch of ice.  
Cause: \_\_\_\_\_  
Effect: \_\_\_\_\_
  - 3. Mr. Coleman's bankruptcy was the result of his compulsive gambling.  
Cause: \_\_\_\_\_  
Effect: \_\_\_\_\_
  - 4. When Melba saw that her new boss did not appreciate her excellent work habits, she began to do her work carelessly.  
Cause: \_\_\_\_\_  
Effect: \_\_\_\_\_
  - 5. The orange crop in Florida is poor this year because of a late spring freeze.  
Cause: \_\_\_\_\_  
Effect: \_\_\_\_\_
- B. The following sentences all list either two causes leading to the same effect or two effects resulting from a single cause. Identify causes and effects in each sentence. Here is an example of how to do this activity.

**Example**

High winds and hailstones as big as golf balls resulted in \$10,000 worth of property damage.

High winds: *cause*

Hailstones: *cause*

Property damage: *effect*

- 6. Uncontrolled high blood pressure can lead to a stroke or a heart attack.  
Uncontrolled high blood pressure: \_\_\_\_\_  
Stroke: \_\_\_\_\_  
Heart attack: \_\_\_\_\_
- 7. Because the defense lawyer's objection was valid, the judge threw out the evidence and dismissed the case.  
Valid objection: \_\_\_\_\_  
Thrown-out evidence: \_\_\_\_\_  
Dismissed case: \_\_\_\_\_

8. After ammunition and food supplies had run low, the general surrendered.
- Ammunition was low: \_\_\_\_\_
- Food supplies were low: \_\_\_\_\_
- The general surrendered: \_\_\_\_\_
9. When the company needed more office space, the boss rented an additional floor in the building and moved the shipping room to the basement.
- The company needed more space: \_\_\_\_\_
- The boss rented an additional floor: \_\_\_\_\_
- The boss moved the shipping room to the basement: \_\_\_\_\_
10. Since baseball season started today, many people called in sick to work and played hooky from school.
- The start of the baseball season: \_\_\_\_\_
- People called in sick to work: \_\_\_\_\_
- People played hooky: \_\_\_\_\_
- C. The following passages all list either several causes leading to the same effect or several effects resulting from a single cause. In the spaces provided, identify the causes and effects in each sentence.
1. Even the best listeners cannot possibly listen carefully to everything that they hear. Among the reasons for this is the overload of messages most of us encounter each day. Besides the numerous hours we spend hearing other people speak, we may spend several more hours listening to the radio or television. It isn't possible to avoid having our attention wander at least part of all this time. Preoccupation with our personal concerns is another reason we don't always listen carefully. A romance gone sour or a good grade on a test may take prominence in our mind even as someone is speaking to us. In addition, the simple fact that we are at times surrounded by noise interferes with listening. For example, many voices at a noisy party or the sound of traffic may simply make it difficult for us to hear everything that is being said.
- Inability to listen carefully all the time: \_\_\_\_\_
- Message overload: \_\_\_\_\_
- Preoccupation with personal concerns: \_\_\_\_\_
- Surrounding noise: \_\_\_\_\_



## TEN STEPS TO IMPROVING READING SKILLS

2. Research over the last decade or so has shown meditation can have positive effects on drug users and people with certain health problems. Studies have demonstrated that when people who take drugs become meditators, they either cut back on drug use or stop using drugs altogether. In one study of a group that practiced transcendental meditation, for example, the number of marijuana users fell from 78 percent to 12 percent after twenty-one months of meditation. Meditation has also been shown to lower blood pressure and regulate the heart beat, both of which may be of considerable help to those with cardiovascular problems. And because meditation is a highly effective relaxation technique, it can also prove useful to those with stress-related diseases.

Meditation: \_\_\_\_\_

Decrease or elimination of drug use: \_\_\_\_\_

Cardiovascular improvements: \_\_\_\_\_

Stress relief: \_\_\_\_\_

3. Children's names can have far-reaching effects on them, according to scientists. Some researchers have found that there is a tendency for children with popular names, such as Jennifer or Robert, to do better in school and be better liked than children with names that are considered undesirable. Also, children's self-images may be influenced by the stereotypes that are associated with their names. Thus a child named Gertrude may feel ugly, and a Percy may think of himself as weak. And children with strange names, like Throckmorton, tend to have more frequent behavior problems.

Children's names: \_\_\_\_\_

Popularity: \_\_\_\_\_

Self-image: \_\_\_\_\_

Behavior: \_\_\_\_\_

### DEFINITIONS AND EXAMPLES

To communicate successfully, an author must help readers understand the words and ideas that are being expressed. If a word is likely to be new to readers, the author may take time to include a *definition* before going on. Then, to clarify the definition, which might be too general to be easily understood, the author may present explanatory details, including one or more *examples*. Examples help readers better understand what is meant and strengthen support for the ideas they illustrate.

Textbooks often contain definitions and examples. They introduce students to new words and provide examples of how those words are used to make them clearer and more familiar. Of course, definitions may be given without examples, and examples are frequently used to illustrate general statements other than definitions.

Examples are often introduced by transitions like the following:

|                    |                       |                                                                                   |
|--------------------|-----------------------|-----------------------------------------------------------------------------------|
| for example        | to illustrate         |  |
| for instance       | such as               | specifically                                                                      |
| as an illustration | <u>to be specific</u> | including                                                                         |

The following paragraph defines a word, explains it a bit, and then gives an example of it. After reading the paragraph, see if you can answer the questions that follow.

<sup>1</sup>Acrophobia is an intense, unreasonable fear of high places. <sup>2</sup>People with acrophobia exhibit physical symptoms in response to being at great heights. <sup>3</sup>One sufferer from extreme acrophobia, Sally Maxell, is unable to go above the third floor of any building without feeling enormous anxiety. <sup>4</sup>Her acrophobia began one evening when she was working alone in her office on the eighth floor of a large building. <sup>5</sup>Suddenly she was struck with terror by the idea that she might jump or fall out the open window. <sup>6</sup>She crouched behind a steel filing cabinet, trembling, unable to move. <sup>7</sup>When she finally gathered her belongings and left the building, she was sweating, her breathing was rapid, and her heart was pounding. <sup>8</sup>Yet she had no rational explanation for her fears.

What word is being defined? \_\_\_\_\_

What is the definition? \_\_\_\_\_

Which sentence explains more about the word? \_\_\_\_\_

In which sentence does the example begin? \_\_\_\_\_

The word “acrophobia” is defined in the first sentence—“an intense, unreasonable fear of high places.” The second sentence explains a bit more about acrophobia. The story about Sally Maxell, which begins in the third sentence, provides an example of how acrophobia affects one sufferer; by including it, the author makes the new term more clear by helping readers better visualize what it means.

➤ *Practice 5*

The following three passages include a definition and one or more examples. The passages may also include sentences that explain more about the term being defined. In the spaces provided, write the number of the definition sentence and the number of the sentence where each example begins.

- A. <sup>1</sup>A boycott is an organized refusal by a group of people to deal with another person or group to achieve a specific goal. <sup>2</sup>An illustration is the famous boycott that began in 1955 when Mrs. Rosa Parks of Montgomery, Alabama, refused to obey a local ordinance requiring black people to sit at the back of city busses. <sup>3</sup>Mrs. Parks was arrested, and that sparked off a boycott of the Montgomery bus system by blacks. <sup>4</sup>The boycott was organized and led by Dr. Martin Luther King, Jr. <sup>5</sup>Rather than continue to lose revenue needed to run the bus system, the city repealed the ordinance.

Definition \_\_\_\_\_ Example \_\_\_\_\_

- B. <sup>1</sup>Eidetic imagery is the technical term for what most people know as photographic memory. <sup>2</sup>A person with eidetic imagery can recall every detail of a memory as clearly as if he or she were looking at a photograph. <sup>3</sup>People often wish they had this ability, but it can lead to trouble. <sup>4</sup>For example, a law student with eidetic imagery was accused of cheating on an examination because his test paper contained exactly the words in his textbook. <sup>5</sup>To prove his innocence, he studied an unfamiliar passage for five minutes and then wrote down more than four hundred words from it without making a mistake.

Definition \_\_\_\_\_ Example \_\_\_\_\_

- C. <sup>1</sup>A common type of psychological defense mechanism is rationalization. <sup>2</sup>Rationalization is a seemingly reasonable explanation that distorts the truth in order to maintain self-esteem. <sup>3</sup>It explains a situation that threatens the ego in a less truthful but more acceptable way. <sup>4</sup>A person who excuses himself for doing poorly on a test because he wasn't feeling well or the test was unfair is probably rationalizing in order to make his grade more acceptable. <sup>5</sup>One Aesop fable provides a classical example of rationalization. <sup>6</sup>In this fable, a fox wants some tempting grapes that grow in a hard-to-reach spot. <sup>7</sup>When he can't reach them, he tells himself that the grapes must have been sour anyway.

Definition \_\_\_\_\_ Example 1 \_\_\_\_\_

Example 2 \_\_\_\_\_

► *Review Test 1*

Identify the patterns used in each of the groups of sentences below by writing in the spaces provided one of the letters of the following:

- a. Time order
- b. Items in a list
- c. Comparison and/or contrast
- d. Cause and effect
- e. Definition and example

- \_\_\_\_\_ 1. The construction of federally subsidized highways and the shortage of housing in central cities led to the movement to the suburbs.
- \_\_\_\_\_ 2. While some birds meet only to mate, others stay together and share in the child-rearing.
- \_\_\_\_\_ 3. Propaganda is information of any type, whether true or false, that is designed deliberately to persuade an audience to adopt a particular point of view. Advertising is an obvious form of propaganda.
- \_\_\_\_\_ 4. A good study space is well lighted and well supplied with paper, pens, and study aids. In addition, it is quiet and free from distractions such as television or stereo.
- \_\_\_\_\_ 5. To begin word processing, first turn on the computer. Next, insert the master editing diskette into Drive A. Then put a blank, formatted diskette into Drive B and get ready to write.
- \_\_\_\_\_ 6. Today's telephones offer various convenient features. Computerized dialing is one popular feature; another is automatic redialing of a telephone which is busy or unanswered.
- \_\_\_\_\_ 7. Television news stories resemble newspaper articles in being timely and appealing to a wide audience. However, television news coverage tends to be more superficial, emphasizing the visual aspects of a story rather than important background issues.
- \_\_\_\_\_ 8. Many drivers take to the roads in July and August, when families traditionally go on vacation. As a result, oil companies raise the price of gasoline during the summer months.
- \_\_\_\_\_ 9. Even before he meets the three witches, Macbeth has dreamed of becoming king of Scotland. Then the witches predict he will be king; finally, his wife convinces him to murder King Duncan and take over the country.
- \_\_\_\_\_ 10. In a mystery story, the term "red herring" refers to a false or misleading clue inserted into the story to deceive the reader. One famous red

herring is Sherlock Holmes' farewell note to Dr. Watson in "The Final Problem," which leads the reader to believe Holmes has fallen to his death.

### ► *Review Test 2*

Circle the letter that correctly identifies the pattern of organization in each of the following passages.

1. Successful garage sales are planned well in advance. About a month before the sale, find out whether your municipality requires you to get a permit to hold your sale. Then ask your friends whether they want to participate. Gather the items you want to sell, and spruce them up whenever possible by washing or repairing them. Decide how much to charge for each item. Then print and post notices of your sale. Finally, arrange your merchandise on card or picnic tables and get ready to collect your well-earned profits.  
a. time order    b. comparison/contrast    c. cause and effect
2. Middle-aged adults are returning to school in increasing numbers. Some of them want to keep up with new developments in their fields or improve their skills in order to do their jobs better. Others return to school because they hope to equip themselves to win promotions or raises. Also, dissatisfaction with their current jobs or interest in new fields, such as telecommunication and computer programming, motivates some adults to return to the classroom. Finally, others want to study subjects they did not have time for earlier, such as foreign languages, history, or literature. These classes help them spend their time in more productive and interesting ways and deepen their understanding of themselves and their world.  
a. time order    b. definition and example    c. cause and effect
3. Is your child gifted? If your child does things better, quicker, and earlier than other children, you may have a gifted child. The term "gifted" was once applied only to children with IQ scores of about 130 (100 is an average score). Today, the term has been expanded to include a variety of special talents, such as unusual ability in art, music, or dance. Gifted children tend to have a variety of interests, and because their attention spans are long, they enjoy pursuing their interests independently. Their memories are unusually good, and they are surprisingly imaginative. Contrary to popular belief, gifted children usually have many friends and are often natural leaders. One young man who spends hours each week practicing the piano is also an avid baseball player and class officer at his school.  
a. list of items    b. cause and effect    c. definition and example

4. Throughout history, people middle-aged and older have gotten married, just as they do today. In the past, however, the most common reason for losing a spouse and thus being available to remarry was death. Today, life spans are longer, and both members of a newly formed couple may well have been divorced. Because families were larger in the past, the remarried couple was likely to have more children than they do today. As a result, couples living together without children were rare. Today, most couples can look forward to twenty years together after the last child has grown up and left home.
  - a. comparison/contrast
  - b. list of items
  - c. definition and example
5. The psychological process by which children learn their sex roles contains three main elements. One is conditioning through rewards and punishments. For example, boys who play with model airplanes and girls who play with dolls will usually be encouraged by their parents. On the other hand, boys who prefer dolls and girls who prefer airplanes will often be criticized or even punished. Another element is imitation. Young children will usually imitate adults who they think are like themselves. This means that boys will usually imitate their fathers and girls their mothers. The third and perhaps the most important element is self-definition. Children quickly learn that all people are either male or female and define themselves as belonging to one sex rather than the other. They then use this self-definition to choose their future interests and to develop their personalities and social roles.
  - a. time order
  - b. list of items
  - c. definition and example

## SAMPLE PASSAGES SUPPLIED BY THE SUBJECTS "ON PATTERNS"

## C. HOMEWORK (PATTERNS OF ORGANIZATION)

1. The Road Runner XL and the Speed Demon 2800 differ in cost, self maintenance. The Road Runner is rather expensive to maintain. This car gets a rather poor mileage, with 23 miles per gallon on the highway and 18 miles per gallon in the city. Moreover, it requires the more expensive premium gasoline. In addition, the Road Runner has to have a tune-up every four months and an oil change every ninety days. The average driver who owns a Road Runner must pay approximately \$1,400 a year to keep this car running. The Speed Demon on the other hand, is quite economical. It gets an impressive 40 miles per gallon on the highway and 35 in the city, and unlike the Road Runner, the Speed Demon takes the less costly regular gasoline. In addition, whereas the Road Runner requires tune-ups and oil changes, the Speed Demon requires little maintenance. It needs to be tuned up only every twelve months, the oil needs to be changed only four months. In summary, instead of paying \$1,400 per year to keep the car running, the owner of a Speed Demon only has to pay \$620, which is significantly less.
2. The first difference between Arabic and English is in Grammar. For instance, there are about twelve tenses and eight pronouns in English, but there are only three tenses and sixteen pronouns in Arabic. In Arabic, sentences are singular, plural and double, but in English there are only singular and plural sentences. For example, in Arabic, you never say about a people: "They are nice." Instead, you must say: "Both are nice." The second difference is that, Arabic writing system is totally different from English writing. In Arabic, sentences are from right to left, but in English, the words from left to right. There are some of the big differences between Arabic and English, which show up in grammar and writing to make life hard for non-Arabic students.
3. What is laughter? It has been described as "internal jogging," an image that seems to be supported by physiological studies. However, laughter can derive from both positive and negative situations. For example, laughter can sometimes help to bring people together, while at other times, it can tear them apart. From good to bad to both, laughter is a complex phenomenon which deserves our attention.
4. The logical structure of a passage is often signaled by textual connectors, which are expressions connecting ideas. The most common organizational patterns in textbooks, for example, are cause-effect, definition, sequence of events, spatial/geographic, thesis-example, description, generalization and hypothesis-evidence, each of which has its characteristic textual connectors. These textual connectors are the best indicators of ideas, hence most important for reading comprehension. The best way to teach this is to have students read different passages with different organizational patterns and identify their textual connectors.
5. There are few points that may be helpful to keep in mind when constructing cloze exercises. First, leaving at least the first and last sentences intact helps provide context. Second, including some blanks that require students to use parts of the passage after the blank to guess the right answer encourages students to keep reading when they come to a word they are not sure about. Third, you can have blanks very close together or very far apart. This allows you to choose the words that fit your teaching purposes best and to determine how many blanks there will be in the exercise.

Fifty years ago next year, Saudi Arabian Airlines, began flying passengers and cargo across the Kingdom in a single, twin-engined DC-3. Today, we have a fleet of more than 100 aircraft and we fly more people in and out of the Middle East than any other airline, offering our passengers

Now, we're poised to take off into the 21st century. We've placed a massive order for new aircraft, fitted out to our own, luxurious specifications, which will make our fleet probably the most modern and sophisticated in the world.

Ahlan Wasahlan. Welcome aboard.



The DC-3 in service with Saudia 1945-75

a blend of smooth, modern service and traditional Arabian hospitality.

3 There are two trends in education upon which you can capitalize in selling your ideas. The first of these is the impetus toward making the school media center a learning resources or instructional materials center. The second is the great interest in accountability which is forcing educators to state measurable instructional objectives capable of yielding concrete evaluative data about the teaching-learning process.

- 4 -

**T**HERE CAN BE NO MISTAKING where we are—in the wacky, erotic and ultimately tragic universe of Pina Bausch, the uncrowned empress of modern dance theater. In just 20 years, Bausch has emerged as the world's most influential, and most controversial, choreographer. She has mounted a victorious challenge to the abstract minimalism that prevailed in modern dance in the 1960s and 1970s. She has helped displace the center of her art from New York to Europe. When her Wuppertal Tanztheater goes on tour, it sells out in Brooklyn and Milan, in Osaka and Paris. Her fans have included Mikhail Baryshnikov and the late Rudolf Nureyev. Federico Fellini was so impressed by Bausch that the first time he saw her dance, he offered her a movie role.

- 2 -

#### GAME ★

To play this card game, I use as many sets of handmade playing cards as necessary for my students with either a question or an answer written on each card. For instance, of the 52 cards in a pack, 26 will have questions written on them and the corresponding answers will be written on the other 26 cards. Questions requiring "Yes" or "No" answers as well as *Wh-* questions are included (i.e., *Do you read regularly? Can you speak eight languages? When do you get up in the morning? Why were you absent yesterday?*). Answers to the questions are usually in the short form (i.e., *Yes, I do. No, I can't. At 6 AM. Because I was ill.*). The questions are also graded to the level of the students playing the game. I never use questions requiring special content, lest it look like a knowledge competition.

- 5 -

#### What were the reasons for the setbacks in 1973?

One of the causes was the intelligence mistake about the probability of war, for which I take full responsibility. But the cause for most of the setbacks

war. The second huge mistake was the assumption that the air force would be able to overcome the air-defense system of the Egyptians and Syrians. The third mistake was the system of defense for the Suez Canal. The canal itself was about 100 miles long, defended at 14 points by just 504 soldiers who were supported by 24 tanks. This was part of the arrogance.



① There are three important advantages, as I see it, in this approach to describing and evaluating teacher talk. Firstly, the categories of verbal behaviour are rooted firmly in the reality of the classroom and on what typically goes on there. Secondly, the criteria for assessing communicative use of classroom language in each of these categories are likewise based on what it takes to be communicative in the context of the classroom itself, rather than in some outside context. The model of communicative teacher talk emerging from such an approach should thus reflect the primary function of teacher talk, which is to support and enhance learning. Providing a model of the way language is used for communication in the real world may be an important part of that function, but it is not the only way in which teacher talk supports language learning: it is a means to an end rather than an end in itself. Thirdly, a model of communicative language teaching which recognizes the importance of the pedagogical function of teacher talk within the classroom context, and what it means to be communicative within that context, is likely to be a more realistic and attainable model for teachers to aspire to than one which insists on the replication of features of genuine communication as the only measure of genuine communicative teaching.

② There are a number of general observations which can be made about the nature of interpersonal interaction in Example 1 which marks it off as naturally-occurring discourse. For example, speakers interrupt each other and speak at the same time. There are longish pauses, back-channelling, and the use of contentless utterances such as 'yeah', and 'Mm' which indicate that contact is being maintained, and serve to oil the wheels of the conversation; utterances are incomplete or are completed by the other speaker; and the conversation drifts along without any marked direction. By contrast, the language of some coursebooks represents a 'can do' society, in which interaction is generally smooth and problem-free, the speakers co-operate with each other politely, the conversation is neat, tidy, and predictable, utterances are almost as complete as sentences, no-one interrupts anyone else or speaks at the same time as anyone else, and the questions and answers are sequenced rather in the manner of a quiz show or court-room interrogation.

③ When I was at primary school, I was given a shilling every day for my lunch. Sometimes I cheated and instead of buying lunch at school, I bought sweets in a nearby shop. One day my mother came to the school to see my teacher. The teacher asked my mother why I did not buy lunch every day. When my mother heard this, she realised immediately what I had been doing. She asked me what I had done with the money. When I told her that I had been buying sweets, she became very angry and warned me not to do it again.

## APPENDIX F

### MASTERY TEST ON “ PATTERNS OF ORGANIZATION”

#### **PATTERNS OF ORGANIZATION: Test 1**

---

Identify the pattern used in each item below by writing in the letter of one of the following:

- a. Time order
- b. Items in a list
- c. Comparison and/or contrast
- d. Cause and effect
- e. Definition and example

Each pattern is used twice.

- \_\_\_\_\_ 1. Alcoholism can result from emotional, spiritual, or physical problems.
- \_\_\_\_\_ 2. To open, tear off the plastic tip. Then, before trying to spray, rotate the nozzle until the two dots are in line with each other.
- \_\_\_\_\_ 3. There are many types of jobs for which there is expected to be a big demand over the next five to ten years. Among them are teacher's aides, accountants, restaurant cooks, and nurses.
- \_\_\_\_\_ 4. Transitions are words and phrases that show relationships between ideas. For instance, time transitions, such as *before*, *soon*, and *now*, show time relationships.
- \_\_\_\_\_ 5. Friendships with my old high-school buddies are often different from those with my newer friends. I can share many memories with my old friends, but my newer pals are more likely to share my current interests.
- \_\_\_\_\_ 6. Consumers can choose among several sources to borrow money. Banks, credit unions, finance companies, and insurance companies all lend money.
- \_\_\_\_\_ 7. Pam decided to save money by washing her dark clothes with her white ones. As a result, her underwear and gym socks are now an ugly grayish pink.
- \_\_\_\_\_ 8. A group of English musicians began playing together in their teens, during the 1950's. They eventually made up a group called Johnny and the Moondogs. By the 60's, the group was known as the Beatles.
- \_\_\_\_\_ 9. One method used by psychologists is observation. Observation involves watching others and recording what happens. For instance, child psychologists often observe children through one-way mirrors.
- \_\_\_\_\_ 10. Like butter, all margarines (except for the low-calorie versions) are 99 percent fat and contain about 100 calories per tablespoon. Margarine, however, contains less saturated fat than does butter.

**PATTERNS OF ORGANIZATION: Test 2**

Arrange the groups of scrambled sentences into logical paragraphs by numbering the sentences in an order that makes sense. Then circle the letter of the main pattern of organization used.

**Group 1**

- \_\_\_\_\_ When the interview is over, thank the interviewer for his or her time.
  - \_\_\_\_\_ When going for a job interview, it's important to be on time and dressed as you might if you worked where you're being interviewed.
  - \_\_\_\_\_ When speaking to the interviewer, keep eye contact and speak clearly, without slouching or fidgeting.
- a. time order      c. cause and effect  
b. comparison      d. definition and example

**Group 2**

- \_\_\_\_\_ Boys who mature early have an advantage over those who mature late.
  - \_\_\_\_\_ In contrast, late maturers are underdeveloped physically and thus feel inadequate.
  - \_\_\_\_\_ Early maturers become heroes in sports and leaders in various other activities.
- a. time order      c. contrast  
b. items in a list      d. definition and example

**Group 3**

- \_\_\_\_\_ For instance, if you believe that a particular group is pushy, you will automatically judge someone who belongs to that group to be pushy—without waiting to see what that person is really like.
  - \_\_\_\_\_ Stereotyping is holding a set of beliefs about the personal nature of a group of people.
  - \_\_\_\_\_ It can thus greatly interfere with our making accurate judgments about others.
- a. time order      c. cause and effect  
b. comparison      d. definition and example

**Group 4**

- \_\_\_\_\_ By the ninth grade, one child in six will have tried marijuana and one in three will have experimented with alcohol.
  - \_\_\_\_\_ A much worse effect of the stresses faced by youth is the fact that the suicide rate for youths under fifteen has tripled since 1960.
  - \_\_\_\_\_ Stresses of the children of the 80's cause various difficult problems for the children.
- a. time order      c. cause and effect  
b. contrast      d. definition and example

**Group 5**

- \_\_\_\_\_ Finally, many feel that being strongly motivated and quitting cold turkey is the best way to conquer the habit.
  - \_\_\_\_\_ Another method is acupuncture, in which a tiny needle is placed in a smoker's earlobe to remove the craving for a cigarette.
  - \_\_\_\_\_ Many ways have been suggested for quitting smoking, including hypnosis and chewing a gum flavored with nicotine.
- a. time order      c. comparison  
b. items in a list      d. cause and effect

### **PATTERNS OF ORGANIZATION: Test 3**

For each passage, write the sentence number of the main idea in the space provided. Then circle the letter of the chief pattern of organization of the passage.

1. <sup>1</sup>If you'd like a raise or promotion, there are a few ~~steps you can take~~. <sup>2</sup>Begin by outlining your on-the-job accomplishments. <sup>3</sup>That is, write an "achievement memo" listing the duties of your job and how you have performed them. <sup>4</sup>Include any special ways that your work has contributed to the company. <sup>5</sup>This list will help both you and your boss evaluate your work. <sup>6</sup>Next, type up the memo neatly and give it to your boss. <sup>7</sup>Then ask to hold a private meeting with him or her. <sup>8</sup>Explain at the meeting your desire to advance and why your record shows you deserve it.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. comparison and/or contrast
- c. definition and example

2. <sup>1</sup>Americans spend some \$2.5 million each year to repair termite damage to their homes. <sup>2</sup>However, much of that money could be saved if a few anti-termite precautions were observed. <sup>3</sup>Firewood, a favorite snack of termites, should be stored on a metal platform well away from the house. <sup>4</sup>Fences, playhouses and other wooden structures that touch the soil should be pre-treated with a protective coating. <sup>5</sup>And tree stumps near the home should be removed.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. list of items
- c. comparison and/or contrast

3. <sup>1</sup>When I turned thirty last week, I couldn't help thinking about how I had changed over the last ten years. <sup>2</sup>When I was twenty, I acted as if I was confident, but I was really filled with huge doubts. <sup>3</sup>Now I really am somewhat confident, so I don't feel the need to impress others so much. <sup>4</sup>At twenty I had girls on my mind day and night. <sup>5</sup>Now that I'm married, I don't have to put all that energy into hustling up dates. <sup>6</sup>I'm also emotionally calmer now. <sup>7</sup>Ten years ago I wasted a lot of energy being angry at people. <sup>8</sup>I realize now that I'm more likely to accept people the way they are. <sup>9</sup>At least I don't blame them any more for my own problems.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. comparison and/or contrast
- b. cause and effect
- c. definition and example

4. <sup>1</sup>Altruism is an unselfish interest in the welfare of others. <sup>2</sup>An altruistic person will help others even when he or she expects no benefits in return. <sup>3</sup>An example is one of the passengers on a plane that crashed into the Potomac River one cold January day in 1982. <sup>4</sup>Most of the passengers died under the ice, but six passengers escaped into the icy waters. <sup>5</sup>Every time a life preserver was lowered by a helicopter, one man passed it on to one of the other five. <sup>6</sup>When the helicopter had lifted out all five, it returned to pick up that last survivor. <sup>7</sup>But he had disappeared under the ice.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. list of items
- b. cause and effect
- c. definition and example

## **PATTERNS OF ORGANIZATION: Test 4**

For each passage, write the sentence number of the main idea in the space provided. Then circle the letter of the chief pattern of organization of the passage.

1. <sup>1</sup>People often feel that domestic cats and their larger relatives, ~~the jungle~~ cats, are very different. <sup>2</sup>In reality, however, they have many traits in common. <sup>3</sup>Both have eyes suited for night vision, and both prefer to sleep by day and move about at night. <sup>4</sup>Also, just as pet cats use their tails to keep their balance and to signal emotions, so do lions and other large cats. <sup>5</sup>In addition, both kinds of cats can leap great distances. <sup>6</sup>Pet cats are often found on top of bookcases or refrigerators. <sup>7</sup>Similarly, the puma, the champion jumper of the cat family, has been known to jump twenty feet up and forty feet ahead. <sup>8</sup>Finally, little cats are not the only ones that purr; the cheetah, puma, and snow leopard all purr when content.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. list of items.
- b. comparison and/or contrast
- c. cause and effect

2. <sup>1</sup>The gap in attitudes between the older and younger generations is well known. <sup>2</sup>But why does the gap exist? <sup>3</sup>Is it, as some believe, because people become more conservative as they age? <sup>4</sup>Or is it simply that today's younger generation has adopted attitudes that differ from those of their elders? <sup>5</sup>One researcher found that people's ideas do change somewhat as they grow older, but they don't change much. <sup>6</sup>Attitudes formed in the late teens and early twenties are pretty stable. <sup>7</sup>Thus the generation gap seems to result from each generation's entering adulthood with different attitudes.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. list of items
- c. cause and effect

3. <sup>1</sup>A primary group is one that is made up of a small number of people who relate intimately with each other over a long period. <sup>2</sup>The members of such a group know each other personally and behave informally together. <sup>3</sup>Examples of the primary group are families and small circles of friends. <sup>4</sup>Such groups are important units within the larger social structure. <sup>5</sup>In fact, in some traditional small-scale societies, the social structure is based almost totally on primary groups.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. cause and effect
- c. definition and example

4. <sup>1</sup>Gary began stealing liquor from his parents when he was fourteen, and by age seventeen he came to school drunk regularly. <sup>2</sup>In his early twenties, he realized he was completely dependent on alcohol. <sup>3</sup>Gary's moment of truth came at age twenty-five, when he narrowly escaped death in a drunk-driving accident. <sup>4</sup>He soon committed himself to the local alcohol-recovery center. <sup>5</sup>After an intensive four-week treatment and a ninety-day follow-up program, Gary was free of alcohol for the first time in over ten years. <sup>6</sup>He then returned to college and received a degree. <sup>7</sup>Now he works as a counselor in the same treatment center that gave him his second chance. <sup>8</sup>Gary's story should inspire many of his own patients.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. list of items
- c. comparison and/or contrast

# **PATTERNS OF ORGANIZATION: Test 1**

Circle the letter that correctly identifies the primary pattern of organization in each of the following passages.

1. Why do people daydream? One cause of daydreaming is routine or boring jobs that are tolerable only when workers imagine themselves doing something else. Deprivation also leads to daydreaming. During World War II, conscientious objectors who volunteered to go on semistarvation diets for six months focused their daydreams on food. Some even hung enticing pictures of foods on their walls to give themselves something to daydream about. Another reason people daydream is to discharge hostile feelings. For example, if an angry student imagines dropping his instructor out of a classroom window, it might help him to laugh at and dismiss his annoyance with her. Some people also daydream as a way to plan for the future, so that by the time they face the situations they imagine, they will know what to say and how to act.  
a. time order    b. contrast    c. cause and effect
2. We have progressed steadily toward outer space ever since the first supersonic jet flights of the late 1950s. The pilots who broke the sound barrier in the X-1 and X-15 planes often flew into the highest reaches of our atmosphere and almost achieved weightlessness. Following these flights, satellites began to be put into orbit, first by the Soviet Union and then by the United States. The next step was a series of manned flights in tiny space capsules launched into orbit by massive booster rockets. From the first Mercury flights to the Apollo flights that eventually landed on the moon, this stage marked humankind's efforts to reach our nearest neighbor—our moon. During the 1970s, the Pioneer and Viking programs sent unmanned probes to the planets in our solar system and even beyond. One interstellar probe has been flung out of our solar system into the space between the stars and should, theoretically, go on exploring forever.  
a. time order    b. comparison    c. cause and effect
3. Habituation is the psychological term for a common human behavior pattern: the more we are exposed to a stimulus, the less aware we become of it and, therefore, the less we respond to it. In other words, once we get used to something, we no longer notice it or try to do anything about it. During the war in Vietnam, reports and pictures from the combat zone appeared every night on television. Viewers soon became so accustomed to these stories on the network news programs that scenes of violence and escalating body counts no longer horrified them. Once the Vietnam War had entered our living rooms, it became just another television program—and just as easy to turn off.  
a. list of items    b. contrast    c. definition and example
4. A divorcing couple experiences several kinds of separations. One is a combination of legal and economic separation. At this stage the couple must decide how to divide their money and other assets. Changes in the way family members, friends and acquaintances respond to the couple as their divorce becomes known make up another, public aspect of the divorce. In the meanwhile, the divorcing couple is also separating emotionally. Sometimes this emotional distancing begins long before the legal divorce, but often even after a man and woman realize their marriage is over, they still long for each other.  
a. list of items    b. comparison    c. definition and example
5. Alcohol and marijuana have a great deal in common. People use them to relax, to become less inhibited, and to achieve a pleasant, euphoric feeling. Also, they inspire similar abuse patterns: heavy drinkers comprise about 9 percent of our population; heavy marijuana users, 10 percent. However, alcohol and marijuana have been viewed very differently in the United States. Perhaps because it has been around for thousands of years, alcohol is much more widely accepted. The attempt to outlaw its use through Prohibition lasted only fourteen years before being repealed in 1933. On the other hand, few people protested in 1937 when the Marijuana Tax Act made marijuana use illegal, and even today, only a minority of citizens favor its decriminalization.  
a. time order    b. comparison/contrast    c. cause and effect

**PATTERNS OF ORGANIZATION: Test 2**

Arrange the groups of scrambled sentences below into logical paragraphs by numbering them in an order that makes sense. Then circle the letter of the primary pattern of organization used.

**Group 1**

- \_\_\_\_\_ Also, high tuitions affect the amount of time many students can put into their studies.
  - \_\_\_\_\_ For one thing, it undoubtedly prevents some students from attending college in the first place.
  - \_\_\_\_\_ Finally, those who do manage to get loans know that they must begin their careers with large debts.
  - \_\_\_\_\_ The high cost of college today causes problems in more ways than one.
  - \_\_\_\_\_ Because loans and scholarships are difficult to get, many students simply have to put in numerous hours at work in order to afford school.
- a. Contrast                      c. Cause and effect  
b. Comparison                d. Definition and example

**Group 2**

- \_\_\_\_\_ In either case, they are part of the society's culture.
  - \_\_\_\_\_ Artifacts are those objects made and used by a society.
  - \_\_\_\_\_ Americans, for example, use an enormous variety of artifacts, from paper clips to spaceships.
  - \_\_\_\_\_ They may have originated with the society or have been borrowed from others.
  - \_\_\_\_\_ On the other hand, in technologically advanced societies, there are numerous artifacts.
  - \_\_\_\_\_ In those societies whose technologies are relatively undeveloped, there are few artifacts—a few tools, cooking utensils, and so on.
- a. Time order                      c. Cause and effect  
b. List of items                d. Definition and example

**Group 3**

- \_\_\_\_\_ Check the classified ads and two or three real estate offices for apartments within your price range and desired locale.
  - \_\_\_\_\_ When you're looking for an apartment, begin by making a list of promising openings.
  - \_\_\_\_\_ When you have chosen your apartment, have a lawyer or other person knowledgeable about leases examine your lease before you sign it.
  - \_\_\_\_\_ As you inspect each apartment, make sure that faucets, toilets, stoves, and electrical wiring and outlets are functioning efficiently and safely.
  - \_\_\_\_\_ After you have made a solid list, visit at least five of the most promising openings.
- a. Time order                      c. Cause and effect  
b. Contrast                      d. Definition and example

**Group 4**

- \_\_\_\_\_ Last, even the soaps in his bathroom are pink, white, or blue.
  - \_\_\_\_\_ In addition, a huge American flag hangs like a picture over the sofa in his living room.
  - \_\_\_\_\_ First, along the sidewalk is a picket fence that's painted red, white and blue; the blue slats of the fence are sprinkled with white stars.
  - \_\_\_\_\_ One of my neighbors has expressed his patriotism by decorating his home in an unusual way.
  - \_\_\_\_\_ Moreover, the sofa itself is bright red, with little blue pillows at either end.
- a. Time order                      c. Comparison  
b. List of items                d. Definition and example

**PATTERNS OF ORGANIZATION: Test 3**

For each passage, put the sentence number of the main idea in the space provided. Then circle the letter of the answer that accurately identifies the primary pattern of organization of the passage.

1. <sup>1</sup>When you shop for sunglasses, you should do more than look for flattering frames at a bargain price. <sup>2</sup>First, choose sunglasses that are dark enough. <sup>3</sup>Dark colors such as green and gray provide better protection for your eyes than light colors such as pale pink and light blue. <sup>4</sup>To determine whether the glasses you like are dark enough, try them on and look in a mirror. <sup>5</sup>If you can see your eyes through the lenses, they are too light. <sup>6</sup>You should also check for irregularities in the lenses. <sup>7</sup>Hold up the sunglasses and look through them at something with straight horizontal and vertical lines on it, such as a window pane. <sup>8</sup>As you move the glasses up and down, the lines should not waver. <sup>9</sup>If they do, choose a different pair of sunglasses.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. list of items
- b. comparison
- c. cause and effect

2. <sup>1</sup>People who are continually exposed to too much noise can feel tired all the time yet be unable to sleep soundly. <sup>2</sup>Their bodies may be plagued by digestive spasms, increased heart rates, and constricted blood vessels. <sup>3</sup>Studies conducted on animals show that noise pollution can eventually result in damage to the ears, heart, and brain. <sup>4</sup>Thus for humans, noise pollution may be one of the reasons not only for hearing loss but also for high blood pressure, ulcers, and emotional disorders.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. contrast
- c. cause and effect

3. <sup>1</sup>Jackalopes are animals said to be crosses between jack rabbits and antelopes. <sup>2</sup>Actually, they are the fictitious creations of storytellers as well as taxidermists, who add deer antlers to stuffed rabbits. <sup>3</sup>Tales of such animals are plentiful. <sup>4</sup>For instance, African folk tales feature hares that wear false horns in order to join gatherings of horned animals, and horned hares were pictured in a book published in Europe in 1662. <sup>5</sup>In American humorous tales, jackalopes are sometimes described as fierce giants. <sup>6</sup>For example, the Nebraskan jackalope is known as the warrior rabbit, and Wyoming jackalopes are rumored to be as large as trees.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. list of items
- b. cause and effect
- c. definition and example

4. <sup>1</sup>Cities in developing countries are noticeably different from those in wealthier nations. <sup>2</sup>Visitors often comment on the number of younger people in the less developed countries. <sup>3</sup>Almost half of all city residents in these countries are children and young people as compared to less than one quarter of the population of cities in developed countries. <sup>4</sup>Also, many unskilled workers found jobs in European and North American cities when the economies there became industrialized. <sup>5</sup>In contrast, one quarter of the work force is unemployed in a typical city in a developing country. <sup>6</sup>Although homeless people are found in Europe and North America, many more people live on the street and in improvised shacks in the less-developed nations. <sup>7</sup>In Mexico City, for instance, more than four million squatters live in improvised shelters.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. contrast
- c. cause and effect



For each passage, put the sentence number of the main idea in the space provided. Then circle the letter of the answer that accurately identifies the primary pattern of organization of the passage.

1. <sup>1</sup>Mass hysteria is a type of group behavior that involves a widely held and contagious anxiety, usually as a result of a false belief. <sup>2</sup>The medieval witch hunts were a case of mass hysteria; they were based on the belief that witches were the cause of the many problems in late medieval society, including natural disasters and illness. <sup>3</sup>Those accused of being witches (mainly old women) were tortured until they confessed or they died. <sup>4</sup>If they confessed, they were burned to death. <sup>5</sup>They were also forced under torture to name accomplices, so the list of witches grew, feeding the hysteria. <sup>6</sup>As many as 500,000 people were burned to death by the clergy between the fifteenth and seventeenth centuries.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. comparison
- c. definition and example

2. <sup>1</sup>While management styles vary, there are certain factors that separate the good administrator from the poor one. <sup>2</sup>A good manager anticipates problems and prepares for them, but a poor manager is often taken by surprise. <sup>3</sup>The effective administrator recognizes repeated problems and makes changes to eliminate them; the less effective boss deals with one crisis at a time, never seeing the connections between them. <sup>4</sup>In addition, a good boss delegates work to others, while the poor one prefers to take on one extra task after another rather than train employees to do the work right. <sup>5</sup>The effective administrator is also flexible enough to adapt to changing situations. <sup>6</sup>In contrast, the poor one often clings to the old rules whether or not they apply.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. contrast
- b. cause and effect
- c. definition and example

3. <sup>1</sup>Advertising's main goal is, of course, to sell products, but advertising also has other effects. <sup>2</sup>By increasing the demand for products, advertising encourages economic growth. <sup>3</sup>It helps to maintain competition among businesses, and there is some evidence that this competition leads to lower prices for consumer goods. <sup>4</sup>A case can even be made for advertising as a source of information. <sup>5</sup>New products are often introduced in ads, which frequently demonstrate how the products are used and provide information on special features and prices. <sup>6</sup>This information is intended to sell products, but it can also result in better-informed consumers.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. comparison
- b. cause and effect
- c. definition and example

4. <sup>1</sup>In January of 1954, Ernest and Mary Hemingway left Nairobi on a vacation trip on which they flew over grazing elephants, hippos bathing in the lakes, and huge flocks of feeding flamingos. <sup>2</sup>As they were circling a spectacular waterfall, a flock of ibis flew in front of the plane. <sup>3</sup>When the pilot dived to avoid the birds, he struck an abandoned telegraph wire that crossed the gorge. <sup>4</sup>In the crash that followed, Ernest sprained his shoulder; Mary was only slightly injured. <sup>5</sup>Luckily, a boat came down the river the next morning, and its crew rescued them. <sup>6</sup>By that evening, they were on board a small plane bound for Entebbe. <sup>7</sup>The plane lifted from the plowed field that served as a runway, then crashed and burst into flames. <sup>8</sup>Ernest escaped by breaking through a window with his head and injured shoulder, and Mary got out through another window. <sup>9</sup>Twice in two days they had crashed and come out alive, but Ernest had injured his head, his backbone, and a kidney, and his lower intestine had collapsed. <sup>10</sup>After this, even writing a letter was difficult for him.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. list of items
- c. contrast

**PATTERNS OF ORGANIZATION: Test 5**

For each passage, put the sentence number of the main idea in the space provided. Then circle the letter of the answer that accurately identifies the primary pattern of organization of the passage.

1. <sup>1</sup>Advertisers have learned that images that proved successful in the United States have not always been as successful when used in other countries. <sup>2</sup>"Body by Fisher," for example, was a perfectly good slogan in America, but in Flemish it was translated into "Corpse by Fisher." <sup>3</sup>White, which suggests cleanliness and purity in the U.S., has an entirely different meaning in Japan, where it is the color of mourning. <sup>4</sup>"Yellow floors," to Americans, are dingy floors, but in China yellow is a color used in religious settings. <sup>5</sup>"Put a Tiger in Your Tank" was an effective slogan for an oil company advertising in the U.S.; however, in Thailand it was not successful because Thais do not think of the tiger as a symbol of power.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. contrast
- b. cause and effect
- c. definition and example

2. <sup>1</sup>Children master language in predictable stages. <sup>2</sup>At about six months, babies start to babble, which means they repeat simple sounds, such as "ma-ma-me-me." <sup>3</sup>About three or four months later, they can repeat sounds that others make. <sup>4</sup>During this stage, parents and babies often babble alternately almost as if they are carrying on little conversations. <sup>5</sup>These interchanges are rich in emotional meaning, although the sounds themselves are meaningless. <sup>6</sup>At the next stage, toddlers learn the meanings of many words, but they are not yet able to talk themselves. <sup>7</sup>A toddler might understand a sentence such as "Bring me your sock" but be unable to say any of the words. <sup>8</sup>Eventually, the child begins to talk in single words and then in two-word sentences.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. comparison
- c. cause and effect

3. <sup>1</sup>The dance of death, which was performed in the fourteenth century in response to the Black Death, had several interesting characteristics. <sup>2</sup>First, it often took place in a graveyard, an appropriate place for a plague which killed one-fifth to one-half of the population of Europe, Africa, and Asia. <sup>3</sup>In addition, to show that the plague struck rich and poor alike, the dancers dressed to represent people from all walks of life. <sup>4</sup>Perhaps the most significant aspect of this dance, however, was the part when one dancer fell down during the performance as if he or she were dead. <sup>5</sup>Members of the opposite sex then kissed the "victim," who rose up as if returned to life. <sup>6</sup>Unfortunately, this kissing often brought not life, but death, because it helped to spread the plague.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. cause and effect
- b. list of items
- c. contrast

4. <sup>1</sup>Plants can be surprisingly destructive. <sup>2</sup>Root systems can push bricks apart, lift concrete, and eventually topple buildings. <sup>3</sup>Plants that find niches on the surfaces of buildings are also destructive. <sup>4</sup>Because they must extract needed nutrients, they gradually dissolve the surfaces on which they grow. <sup>5</sup>Roofing tiles, plaster, and even glass cannot resist the plants. <sup>6</sup>Invading plants can relatively quickly turn an abandoned factory site into a field and then into woodland. <sup>7</sup>Especially in tropical areas, dense vegetation completely overwhelms abandoned cities; consequently, they are lost for centuries.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. comparison
- c. cause and effect

### **PATTERNS OF ORGANIZATION: Test 1**

Circle the letter that correctly identifies the primary pattern of organization in each of the following passages.

1. Exercise builds more than a healthy body. Recent studies indicate that physical exercise causes the production of certain hormones that encourage self-esteem, feelings of achievement, and reduced levels of stress. The greater the level of activity, the higher the level of psychological well-being that results. In short, the study confirms what fitness buffs have been saying all along: exercise makes them feel better.  
a. list of items      b. comparison      c. cause and effect
2. Physically and psychically women are by far the superior of men. The old chestnut about women being more emotional than men has been forever destroyed by the facts of two great wars. Women under blockade, heavy bombardment, concentration camp confinement, and similar rigors withstand them vastly more successfully than men. The psychiatric casualties of civilian populations under such conditions are mostly masculine, and there are far more men in our mental hospitals than there are women. The steady hand at the helm is the hand that has had the practice at rocking the cradle.  
a. time order      b. contrast      c. definition and example
3. A Pyrrhic victory is a victory won at such a great cost that it amounts virtually to a defeat. The name comes from Pyrrhus, a Greek mercenary general who invaded Italy and attacked the Romans in 281 B.C. Pyrrhus defeated the Roman army sent against him, but his own army suffered terrible losses. "One more such victory and I am ruined," he exclaimed. The Battle of Borodino in 1812 was another classic instance of a Pyrrhic victory. Napoleon's invading French army defeated a defending Russian army near Moscow and occupied the city. But the French suffered so greatly from the battle and the winter that followed that the invasion turned into a disaster that cost Napoleon his throne.  
a. definition and example      b. cause and effect      c. comparison
4. One summer evening, Papa scuffled up the front steps carrying several crumpled paper bags in his long arms. These contained treasure from the farmer's market. The smallest package, dripping with brine, held our favorite: boiled peanuts. Smiling, Papa surrendered the delicacy to us children on the front porch. Eagerly, I knelt before the soggy package and quickly tore it open. First, we squeezed open the softened shells with a satisfying wet pop, then emptied the damp contents into our waiting mouths, as if the peanuts were raw oysters.  
a. list of items      b. time order      c. contrast
5. The Mary Rose, an English warship built by King Henry VIII, sank in battle in 1545. Its wreck was discovered in the 1970's and salvaged, revealing a treasury of artifacts from Tudor England. The finds ranged from the ship's cannons to tools used by her barber-surgeon. Those tools included a helmet and mallet—used to knock patients out during surgery or dental work. A number of English longbows were also found, in addition to quivers of arrows. Other, more personal items found included pewter bowls that belonged to officers and a delicately carved ivory comb.  
a. list of items      b. definition and example      c. cause and effect

## PATTERNS OF ORGANIZATION: Test 2

Arrange the groups of scrambled sentences below into logical paragraphs by numbering the sentences in an order that makes sense. Then circle the letter of the primary pattern of organization used.

### Group 1

- \_\_\_\_\_ First of all, don't pick the most popular spot in town; it may be full of couples, and service to a single diner may be rushed.
  - \_\_\_\_\_ And finally, bring a book to read or a small amount of paperwork if you still feel self-conscious about dining alone.
  - \_\_\_\_\_ There are several tricks to helping yourself feel more comfortable when you are dining alone at a restaurant.
  - \_\_\_\_\_ Instead, try small ethnic restaurants, where eating alone is a more common sight.
  - \_\_\_\_\_ If in doubt, call ahead to ask if a restaurant encourages solo dining.
- a. definition and example      c. list of items  
b. cause and effect              d. comparison

### Group 2

- \_\_\_\_\_ During prolonged or severe labor, some newborns suffer from a specific type of asphyxia, known as birth asphyxia.
  - \_\_\_\_\_ The word comes from a Greek word meaning *stopping of the pulse*.
  - \_\_\_\_\_ Another tragic instance of asphyxia is the lack of oxygen suffered when a curious child becomes trapped accidentally inside a discarded trunk or refrigerator.
  - \_\_\_\_\_ Asphyxia is the medical term for the lack of oxygen in the body, leading to brain damage, or in prolonged cases, death.
  - \_\_\_\_\_ Yet another example is the mild asphyxia sometimes suffered by smokers as fumes containing tar and other gases replace the oxygen in their lungs.
- a. list of items                      c. contrast  
b. cause and effect              d. definition and example

### Group 3

- \_\_\_\_\_ The other group of pupils, in contrast, responded best to *seeing* the lessons, either written on the blackboard or printed on hand-out sheets.
  - \_\_\_\_\_ By the middle of the school year, one fourth-grade teacher was able to identify two different types of learners in her class.
  - \_\_\_\_\_ The teacher noted that the visual learners, unlike the listeners, often had difficulty following her spoken directions, even if she repeated them.
  - \_\_\_\_\_ These listeners had no trouble memorizing facts spoken by the teacher, and were often heard repeating the lessons out loud to themselves so that they might learn them better.
  - \_\_\_\_\_ One group seemed to learn best by *listening*.
- a. comparison                      c. definition and example  
b. contrast                          d. list of items

### Group 4

- \_\_\_\_\_ A part-time job provides a way to interact with others and escape the feeling of being trapped at home.
  - \_\_\_\_\_ But researchers at the University of Wisconsin are discovering that a part-time job away from home is good for new mothers for various reasons.
  - \_\_\_\_\_ Last, a regular paycheck, in addition to being an economic necessity for many, can reaffirm one's worth.
  - \_\_\_\_\_ New mothers today often agonize about whether or not to work outside the home after the baby is born.
  - \_\_\_\_\_ Working also occupies a lot of time that might be spent worrying about the baby or about one's parental abilities.
- a. cause and effect                      c. contrast  
b. definition and example              d. time order

**PATTERNS OF ORGANIZATION: Test 3**

For each passage, write the sentence number of the main idea in the space provided. Then circle the letter of the chief pattern of organization of the passage.

1. <sup>1</sup>Some of the differences between baseball and football are most apparent at the professional level. <sup>2</sup>In football, the size of the field and the length of the game never change. <sup>3</sup>The dimensions of major-league ballparks, however, vary from stadium to stadium. <sup>4</sup>And baseball games can last from ninety minutes to five hours. <sup>5</sup>Also, while football players tend to be huge—often 250 to 300 pounds or more—baseball players are about the same size as the typical adult male. <sup>6</sup>Finally, pro football is a violent game with many serious injuries. <sup>7</sup>Major-league baseball, however is a non-contact sport, and serious injuries are rare.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. contrast
- c. cause and effect

2. <sup>1</sup>There are a number of reasons a local station might choose not to broadcast a network program. <sup>2</sup>First, regional differences could make a network offering less desirable to a particular station. <sup>3</sup>For example, some kinds of programming might be more acceptable in the liberal Northeast than in the more conservative South. <sup>4</sup>Second, the show might be judged to be too controversial. <sup>5</sup>For instance, in April 1983, a number of affiliates refused to air *The Thorn Birds* because of the controversies that could be started by the portrayal of a priest's violation of his vow of celibacy. <sup>6</sup>Third, a station might choose to broadcast a sports program featuring a local professional or collegiate team in place of a network offering.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. cause and effect
- b. comparison
- c. definition and example

3. <sup>1</sup>Often, a troublesome habit is a "chained" behavior—that is, a behavior that is actually a sequence of mini-behaviors, each of which forms the trigger for the next. <sup>2</sup>For example, smoking may look like a rather elementary response, but it actually involves a long chain of responses. <sup>3</sup>The smoker must first buy a pack of cigarettes and store them somewhere (purse, pocket, desk drawer). <sup>4</sup>Then she must withdraw the pack from where it is kept and, if it is unopened, remove the wrapper. <sup>5</sup>Then she may tap the cigarette. <sup>6</sup>Or, if the cigarette is filter-tipped, she has to look at it to see which end to put in her mouth. <sup>7</sup>The behavior chain continues until the cigarette is almost consumed, at which point the smoker extinguishes it.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. time order
- b. contrast
- c. definition and example

4. <sup>1</sup>If planets are such common objects, why are we certain of only the nine in our own solar system? <sup>2</sup>Three interrelated factors stand in the way of identifying planets that belong to other stars. <sup>3</sup>The first is distance: the closest star to us is thousands of times farther away than Pluto, and Pluto is hard enough to detect. <sup>4</sup>The second is that planets shine by reflected light and not by themselves. <sup>5</sup>This makes them very dim compared with their parent stars, far too dim to be seen directly. <sup>6</sup>The third difficulty is size. <sup>7</sup>Planets are necessarily small relative to stars, because if they were of similar size, they would have evolved into stars. <sup>8</sup>The small size of planets helps make them impossible to see at stellar distances.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. list of items
- b. time order
- c. comparison

# **PATTERNS OF ORGANIZATION: Test 4**

For each passage, write the sentence number of the main idea in the space provided. Then circle the letter of the chief pattern of organization of the passage.

1. <sup>1</sup>In the Bavarian, French, and Italian Alps, once magnificent forests are slowly being destroyed by the effects of air pollution. <sup>2</sup>Trees dying from pollution lose their leaves or needles, allowing sunlight to reach the forest floor. <sup>3</sup>During this process, grass prospers in the increased light and pushes out the native plants and moss which help to hold rainwater. <sup>4</sup>The soil thus loses absorbency and becomes hard, causing rain and snow to slide over the ground instead of sinking into it. <sup>5</sup>This in turn results in erosion of the soil. <sup>6</sup>After a heavy rain, the eroded land finally falls away in giant rockslides and avalanches, destroying entire villages and causing life-threatening floods.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. cause and effect
- b. definition and example
- c. comparison

2. <sup>1</sup>Most consumer products go through distinct stages in their histories, each stage requiring a different style of management. <sup>2</sup>A new product must be developed and perfected, and ad campaigns must be devised to encourage customers to buy it. <sup>3</sup>Then, as a product "catches on," the emphasis shifts to building new plants to mass-produce the product fast enough to keep up with demand. <sup>4</sup>As supply catches up to demand, the need for new investment in the product is reduced, and the product becomes very profitable. <sup>5</sup>Finally, the product becomes outdated and must be pulled from the shelves to make room for new products.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. list of items
- b. time order
- c. comparison

3. <sup>1</sup>Crows, magpies, blue jays, and ravens—classified as corvids, or members of the crow family—display the highest level of intelligence in the bird world. <sup>2</sup>Captive crows and magpies, for example, have been taught to count, read clocks, open and close match boxes, and tie knots. <sup>3</sup>Jackdaws have been known to retrieve small bright household trinkets they have stolen, and blue jays can relocate thousands of acorns they have hidden away in remote spots. <sup>4</sup>Possibly the most amazing example of these birds' intelligence is the well-documented ability of hooded crows to pull up fishing lines from untended iceholes and steal a fisherman's entire catch.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. list of items
- b. time order
- c. cause and effect

4. <sup>1</sup>When the British colonized the New World in the seventeenth century, they brought their wives and families with them to establish communities. <sup>2</sup>Unlike them, Portuguese explorers who colonized Brazil in the 1500's arrived alone and lived in groups that were exclusively male. <sup>3</sup>Without any kind of family or community structure, these men lived in a frontier atmosphere that encouraged sexual exploitation of native Indian women and, later, African women who were brought in as slaves. <sup>4</sup>In contrast to those in the British colonies, white men and women of other races cohabited freely in Brazil, as did the generations that followed. <sup>5</sup>Because of this difference in the ways Brazil and the United States were colonized, racism became a dividing factor in this country, whereas most of Brazilian society today is mixed and racial conflict is almost unknown there.

Sentence with the main idea: \_\_\_\_\_

Passage's pattern of organization:

- a. comparison
- b. contrast
- c. definition and example

**TESTING PACKAGE**

**(The two texts, questionnaire, Recall Protocol Papers, Open-Ended questions, True-False test)**

**TEXT A****(COLLECTION OF DESCRIPTIONS)**

**You are going to read the text below and carry out some tasks on the basis of it.**

**Imagine that you have come across this text in a newspaper or a magazine you like reading, and you are interested in the topic of it.**

**Read the text at your own rate.**

**Do not try to memorize it, but try to understand.**

**Now read the text below.**

Several aspects of the loss of body water will be discussed. First, the loss of body water is frequently required by athletic coaches of wrestlers, boxers, judo contestants, karate contestants, and football team members so that they will attain specified body weights. These specified weights are considerably below the athletes' usual weights. Second, the loss of body water sustained by a 150-pound individual each day is three pints of water. Third, loss of body water impairs cardio-vascular functioning, which limits work capacity. More specifically, a loss of three percent of body water impairs physical performance and a loss of five percent results in heat exhaustion. Moreover, a loss of seven percent of body water causes hallucinations. Losses of ten percent or more of body water result in heat stroke, deep comma, and convulsions; if not treated, death will result.

**TEXT B**  
**(COMPARISON)**

**You are going to read the text below and carry out some tasks on the basis of it.**

**Imagine that you have come across this text in a newspaper or a magazine you like reading, and you are interested in the topic of it.**

**Read the text at your own rate.**

**Do not try to memorize it, but try to understand.**

**Now read the text below.**

The loss of body water is frequently required by athletic coaches of wrestlers, boxers, judo contestants, karate contestants, and football team members so that they will attain specified body weights. These specified weights are considerably below the athletes' usual weights. In contrast to action taken by coaches, The American Medical Association strongly condemns the loss of body water for athletes. They condemn loss of body water due to the fact that the loss of body water impairs cardio-vascular functioning, which limits work capacity. More specifically, a loss of three percent of body water impairs physical performance and a loss of five percent results in heat exhaustion. Moreover, a loss of seven percent of body water causes hallucinations. Losses of ten percent or more of body water results in heat stroke, deep coma, and convulsions; if not treated, death will results.



**Name:**

### **QUESTIONNAIRE**

**By circling the appropriate option, indicate how difficult you have found the text's**

**a) GRAMMAR**

1. very easy
- 2.
- 3.
- 4.
5. very difficult

**b) VOCABULARY**

1. very easy
- 2.
- 3.
- 4.
5. very difficult

**c) CONTENT**

1. very easy
- 2.
- 3.
- 4.
5. very difficult

**d) PATTERN OF ORGANIZATION**

1. very easy
- 2.
- 3.
- 4.
5. very difficult

**Name:**

## **RECALL PROTOCOL**

**On this page write down everything you can remember from the text.**

**While writing, use your own words or words from the text.**

**Write in complete sentences, do not just list isolated words or ideas.**

**Try to show in your writing how ideas from the text are related to each other.**

**Name:**

**OPEN-ENDED TEST**

**Write down on the space below**

**a) the specific topic or the main idea of the passage**

**b) the major supporting details of it**

**1.**

**2.**

**3.**

Name:

### TRUE-FALSE TEST

Decide whether the following statements are true or false according to the text. In front of each statement write true if you think it is true or false if you think it is false.

- \_\_\_ 1. Athletic coaches frequently require certain athletes to lose body weight.
- \_\_\_ 2. The athletes lose weight to attain a specific body weight.
- \_\_\_ 3. Body weight is a general concern in all kinds of sports.
- \_\_\_ 4. The specific body weight the athletes try to attain is considerably below their usual weight.
- \_\_\_ 5. The athletes above their weight standard should lose weight gradually.
- \_\_\_ 6. Coaches should consider athletes' age and gender when they require them to lose weight.
- \_\_\_ 7. Loss of body water can limit the athletes' work capacity
- \_\_\_ 8. It is important that athletes have the optimal body size for maximum performance.
- \_\_\_ 9. The athletes who lose body water risk certain health problems.
- \_\_\_ 10. Athletes often use questionable and dangerous methods of weight loss.
- \_\_\_ 11. For success in sports doing more exercise is more effective than losing weight.
- \_\_\_ 12. Loss of body water may result in hallucinations.
- \_\_\_ 13. Medical treatment may be necessary when the loss of body water is above a certain limit.
- \_\_\_ 14. Loss of body water may cause the athlete's failure in sports.
- \_\_\_ 15. There are certain weight standards in some sports.

## BIBLIOGRAPHY

- Adams, M. J. & Collins, A. A **Schemata-Theoretic View of Reading**. Cambridge, Massachusetts: Bolt Beranek and Newman Inc., 1977.
- Allen, E. D. , Bernhard, E. B. , Berry, T. & Demel, M. "Comprehension and Text Genre: An Analysis of Secondary School Foreign Language Readers". **The Modern Language Journal**. 72, 2, 163-172. 1988.
- Alderson, J. C. & Urguhart, A. H. "This test is unfair: I'm not an economist". In Carrell P. L., Eskey, D. E. & Devine, J. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988.
- Anderson, R. C. & Pearson, P. D. "A schema-theoretic view of basic processes in reading comprehension". In Carrell, P. L. Eskey, D. E. & Devine, J. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988.
- Aron, H. "The Influence of Background Knowledge on Memory for Reading Passages by Native and Nonnative Readers". **TESOL Quarterly**. ...., 136-145. 1986.
- Badrawi, N. "The Reading Dilemma: Meeting Individual Needs". **English Teaching Forum**....., 16-19. 1992.
- Barnett, M. A. "Syntactic and Lexical/Semantic Skill in Foreign Language Reading: Importance and Interaction". **The Modern Language Journal**. 70, 4, 343-349. 1986.

- Beck, Isabel L. "On Reading : A Survey of Recent Research and Proposals for the Future". In Sweet, A. P. & Anderson J. I. (eds.) **Reading Research into the Year 2000**. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers, 1993.
- Bernhard, E. & Kamil, M. L. "Interpreting Relationship between L1 and L2 Reading: Consolidating Linguistic Threshold and the Linguistic Interdependence Hypotheses". **Applied Linguistics**. 16, 2, 15-34. 1995.
- Blan, E. K. "The effects of Syntax on Readability for ESL Students in Puerto Rico". **TESOL Quarterly**. 16, 4, 517-527. 1982.
- Block, E. L. "See How They Read: Comprehension Monitoring of L1 and L2 Readers". **TESOL Quarterly**. 26, 2, 319-343. 1992.
- Block, E. L. "The Comprehension Strategies of Second Language Readers". **TESOL Quarterly**. 20, 3, 463-494. 1986
- Bugel, K. & Buunk B. P. "Sex Differences in Foreign Language Text Comprehension: The Role of Interest and Prior Knowledge" **The Modern Language Journal**. 80, 1, 16-31. 1996.
- Calfee, R. & Drum, P. "Research on Teaching Reading". In Wittrock, M. C. (eds.) **Handbook of Research on Teaching: A Project of an American Research Association**. London: Collier Macmillan Publisher. 1986.
- Carrell, P. L. "Some Causes of Text-Boundedness and Schemata Interference in ESL Reading". In Carrell, P. L. , Eskey, D. E. & Devine, J. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988a.

- Carrell, P. L. & Wise, T. E. "The Relationship between Prior Knowledge and Topic Interest in Second Language Reading". .....285-305. 1998.
- Carrell, P. L. "Three Components of Background Knowledge in Reading Comprehension". **Language Learning**. 33, 2, 183-207. 1983.
- Carrell, P. L. & Eisterhold J. C. "Schemata Theory and ESL Reading Pedagogy". **TESOL Quarterly**. 17, 4, 553-573. 1983.
- Carrell, P. L. "Facilitating ESL Reading by Teaching Text Structure". **TESOL Quarterly**. 19, 4, 727-752. 1985.
- Carrell, P. L. "Second Language Reading: Reading Ability or Language Proficiency". **Applied Linguistics**. 12, 2, 159-179. 1991.
- Carrell, P. L. "Schemata Theory and ESL Reading: Classroom Implication and Applications". **The Modern Language Journal**. 68, 4, 332-343. 1984a.
- Carrell, P. L. "The Effects of Rhetorical Organization on ESL Readers". **TESOL Quarterly**. 18, 3, 441-469. 1984b.
- Carrell, P. L. "Content and Formal Schemata in ESL Reading". **TESOL Quarterly**. 21, 3, 461-480. 1987.
- Carrell, P. L. "Interactive text processing: implications for ESL/second language reading classrooms". In Carrell, P. L. , Eskey, D. E. & Devine, J. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988b.
- Carver, R. R. "Reading Rate: Theory, Research, and Practical Implications". **Journal of Reading**. 36, 2, 84-95. 1992.

- Chastain, K. **Developing Second-Language Skills: Theory and Practice**. San Diego: HBC Publishers, 1988.
- Chiang, C. S. & Dunkel, P. "The Effects of Speech Modification, Prior Knowledge and Listening Proficiency on EFL Lecture Learning ". **TESOL Quarterly**. 26, 2, 345-374. 1992.
- Clarke, M. A. "The Short Circuit Hypothesis of ESL Reading - or when Language Competence Interferes with Reading Performance". In Carrell, P. L.; Devine J. & Eskey, D. E. (eds.) **Interactive Approaches to Second Language Reading** . Cambridge: Cambridge University Press, 1988.
- Connor, U. "Recall of Text: Differences between First and Second Language Readers". **TESOL Quarterly**. 18, 2, 239-256. 1984.
- Davis, J. N. & Bistodeam, L. "How do L1 and L2 Reading Differ? Evidence from Think Aloud Protocols". **The Modern Language Journal**. 77, 4, 459-471. 1993.
- Day, R. R. "Selecting a Passage for the EFL Reading Class". **English Teaching Forum**. ..... 20-23. 1994.
- Donin, J. & Silva, M. "The Relationship Between First- and Second Language Reading Comprehension of Occupation-Specific Texts". **Language Learning**. 43, 3, 373-401. 1993.
- Dowling, C. & Mitchhell, A. "Reading in a Specific Purpose Foreign Language Course: A Case Study of Technical Japanese". **The Modern Language Journal**. 77, 4, 433-445. 1993.
- Dubin, F. & Olshtain, E. **Reading By All Means**. Massachusetts: Addison-Wesley Publishing Company, 1981.



- Eskey, D. E. "Holding in the bottom: an interactive approach to the language problems of second language readers". In Carrell, P. L., Eskey, D. E. & Devine, J. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988.
- Fayol, M. "Text Typologies: A Cognitive Approach" In Denhiere, G. & Rossi, J. P. (eds.) **Text and Text Processing**. North-Holland: Elsevier Science Publishers B. V., 1991.
- Fischer, M. P. & Mandl, H. "Learner, Text Variables, and the Control of Text Comprehension and Recall". In Mandl, H. , Stein, N. L. & Trabasso, T. (eds.) **Learning and Comprehending of Text**. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers, 1984.
- Flick, W. C. & Anderson, J. I. "Rhetorical Difficulty in Scientific English: A study in Reading Comprehension". **TESOL Quarterly**. 14, 3, 345-351. 1980.
- Gernsbacher, M. A. **Language Comprehension as Structure Building**. Hillsdale, New Jersey: Lawrence Erlbaum Associates Publishers, 1990.
- Grabe, W. "Reassessing the term 'interactive' ". In Carrell, P. L., Eskey, D. E. & Devine, J. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988.
- Grabe, W. "Discourse Analysis and Reading Instruction". In Miller, T. (eds.) **Functional Approaches to Written Text: Classroom Applications**. Washington: United States Information Agency, 1997.
- Grabe, W. "Current Developments in Second Language Reading Research". **TESOL Quarterly**. 25, 3, 375-406. 1991.

- Goodman, K. "The Reading Process". In Carrell, P. I. Devine, J. & Eskey, D. E. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988.
- Gordon, C. M. & Hanauer, D. "The Interaction between Task and Meaning Construction in EFL Reading Comprehension Test". **TESOL Quarterly**. 29,2, 299-324. 1995.
- Hammadou, J. "Interrelationships Among Prior Knowledge, Inference, and Language Proficiency in Foreign Language Reading " **The Modern Language Journal**. 75, 1, 27-38. 1991.
- Hatch, E. & Farhedy, H. **Research Design and Statistics for Applied Linguistics**. Rowley, Massachusetts: Newbury House Publishers, INC., 1982.
- Hinds, John L. "Contrastive rhetoric: Japanese and English." **Text**. 3, 2, 183-185. 1983.
- Hudson, T. "The effects of induced schemata on the 'short circuit' in L2 reading: non-decoding factors in L2 reading performance". In Carrell, P. L., Eskey, D. E. & Devine, J. (eds.) **Interactive Approaches to Second Language Reading**. Cambridge: Cambridge University Press, 1988.
- Hunston, S., Francis G., & Manning, E. "Grammar and Vocabulary Showing the Connections". **ELT Journal**. 51, 3, 209-216. 1997.
- Ibrahim, S. "Advanced Reading: Teaching Patterns of Writing in Social Sciences". In Mackay, Barkman & Jordon (eds.) **Reading in A Second Language: Hypotheses, Organization, and Practice**. Rowley, Massachusetts: Newbury House Publishers INC., 1979.

- Johns, A. & Paz, D. "Text Analysis and Pedagogical Summaries: Revisiting Johns & Dawies". In Miller, T. (eds.) **Functional Approaches to Written Text: Classroom Applications**. Washington: United States Information Agency, 1997.
- Johnson, P. "Effects on Reading Comprehension of Building Background Knowledge". **TESOL Quarterly**. 16, 4, 503-515. 1982.
- Johnson, P. "Effects on Reading Comprehension of Language Complexity and Cultural Background of a Text". **TESOL Quarterly**. 15, 2, 169-181. 1981.
- Karin, B. **Sexseverschillen in Textbegrip bij Moderne Vreemde Talen**. Ph. D. Dissertation, de Rijksuniversiteit. Groningen. 1993.
- Kaplan, R. B. "Contrastive Rhetoric". In Miller, T. (eds.) **Functional Approaches to Written Text: Classroom Applications**. Washington: United States Information Agency, 1997.
- Krashen, S. D. "The Case of Narrow Reading". **TESOL Newsletter**. 15, 6, 23. 1981.
- Kurtz, B. E. "Cognitive and Metacognitive Aspects of Text Processing". In Denhiere, G. & Rossi, J. P. (eds.) **Text and Text Processing**. North-Holland: Elsevier Science Publishers B. V., 1991.
- Langan, J. & Jenkins, L. **Ten Steps to Advancing College Reading Skills**. Marlton, New Jersey: Townsend Press Inc., 1989.
- Langan, J. **Ten Steps to Improving Reading Skills**. Marlton, New Jersey: Townsend Press Inc., 1989.
- Langan, J. & Kay, G. **Ten Steps to Building College Reading Skills**. Marlton, New Jersey: Townsend Press Inc., 1989.

- Lee, J. F. "Background Knowledge and L2 Reading". **The Modern Language Journal**. 70, 4, 350-354. 1986.
- Meyer, Bonnie J. F. "What is Remembered from prose: A Function of Passage Structure". In Freedle, R. O. (eds.) **Discourse Production and Comprehension**. Norwood, New Jersey: Ablex Publishing Co., 1977.
- Meyer, Bonnie J. F. & Freedle, R. O. "Effects of Discourse Type on Recall". **American Educational Research Journal**. 10, 1, 121-143. 1984.
- Murphy, B. "Second Language Reading and Testing in Bilingual Education". **TESOL Quarterly**. 14,2, 189-207. 1980.
- Perkins, K. "Semantic Constructivity in ESL Reading Comprehension". **TESOL Quarterly**. 17, 1, 19-27. 1983.
- Perkins, K. & Jones, B. "Measuring Passage Contribution in ESL Reading Comprehension". **TESOL Quarterly**. 19,1, 137-153. 1985.
- Raymond, P. M. "The Effects of Structure Strategy Training on the Recall of Expository Prose for University Students Reading French as a Second Language". **The Modern Language Journal**. 77, 4, 445-457. 1993.
- Rigg, P. "Beginning to read in English the LEA way. In Twyford, C.W., Diehl, W. And Feathers, K. (eds.) **Monographs in Language and Reading Studies**. Bloomington, Indiana: Indiana University, 1981.
- Robinson, C. **Themes for Proficiency**. Oxford: Oxford University Press, 1983.

- Royer, J. M., Bates, J. A. & Konold B. C. "Learning from Text: Methods of Affecting Reader Intent". IN Alderson, J. & Urguhart A. H. (eds.) **Reading in a Foreign Language**. London: Longman, 1986.
- Rumelhart, D. E. "Schemata: the building Blocks of Cognition". In Spiro, R. J., Bertram, C.B., and Brewer W. E. (eds.) **Theoretical Issues in Reading Comprehension**. Hillsdale, New Jersey: Lawrence Erlbaum Associates, 1980.
- Samuels, S. J. & Kamil, M. L. "Models of the reading process". In Carrell, P. L., Devine, J. & Eskey, D. E. (eds.) **Interactive Approaches to Second Language Reading**, Cambridge: Cambridge University Press, 1988.
- Schnotz, W. "Comparative Instructional Text Organization". In Mandle, H. Stein, N. L. & Trabasso, T. (eds.) **Learning and Comprehending of Text**. Hillsdale, New Jersey: Lawrence Erlbaum Associates publishers, 1984.
- Seedhouse, P. "Combining Form and Meaning" **ELT Journal**. 51, 4, 337-343. 1997.
- Simon, G. & Swan, M. **Effective Reading**. Cambridge: Cambridge University Press, 1992.
- Tschirner, . "Scope and Sequence: Rethinking Beginning Foreign Language Instruction". **The Modern Language Journal**. 80, 1, 2-13. 1996.
- Urguhart, A. H. "The Effects of Rhetorical Ordering on Readability". In Alderson, J. & Urguhart, A. H. (eds.) **Reading in a Foreign Language**. London: Longman, 1986.
- Wolf, D. F. "A Comparison of Assessment Tasks Used to Measure FL Reading Comparison". **The Modern Language Journal**. 77, 4, 473-499. 1993.

**Walter. C. Authentic Reading: A Course in Reading Skills for Upper-Intermediate Students.** Cambridge: Cambridge University Press, 1991.

