

CHAPTER I
INTRODUCTION

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1.1 Background of the Study

English Language Teaching (ELT) has been developing through some steps from structural approach to communicative approach. ELT now does not concern only with grammar and structure, but more in the application: observing texts, which is a part of discourse analysis. Cook (1990:ix) states that this kind of application can draw attention to the skills needed to put the knowledge of grammar, vocabulary, and structure into action and to achieve successful communication.

In the later development of texts observation in ELT, the need of English learner is not limited only in general English, but also spread to other branches of science. As the major language of many science books across the world, English is the basic tools to improve the knowledge in science. Those learners need to observe and understand texts written in English which are related to their own field (Engineering, Marine Biology, Economy, Sociology, etc). The reason is that the language they speak and write varies considerably, and in a number of different ways, from one context to another (Hutchinson and Waters, 1986:7). The need of learning English specifically based on certain field of science has created a new approach in ELT, English for Specific Purposes (ESP).

Physical science is one of the sciences that makes use of English widely in order to deliver the knowledge to its readers across countries. Lee (1978:3) writes that according to a survey conducted in 1967 at the Faculties of Science and Engineering in the University of Chile, English is the language used by visiting Russian, Japanese, Pole, Czech, and Israeli lecturers and that the proportion of English language textbooks in the total reading assignments of students rose from an average of 44% in the first year to 61% in the fifth year to undergraduate study and reached 65% in the post graduate courses. This fact indicates that the use of English is significant in Physical Science texts across the world.

English for Physical Science, having the nature of ESP, is closely involved with the emerging field of discourse or rhetorical analysis (Hutchinson and Waters, 1986:10). Some of the important aspects of discourse analysis are cohesion and coherence. These two aspects deal with how sentences are combined in discourse to produce meaning. Consequently, cohesion and coherence are essential matters in ESP because as claimed by Hutchinson and Waters (1986:13), that the focus of ESP is on the underlying interpretive strategies, which enable the learner to cope with the surface forms of the language, for example: guessing the meaning of words from context.

Based on the writer's experience and observation, most Physical Science Text used by Science students use many complex sentences containing cohesive signals or cohesive markers that relate sentences. As a result, students have to deal

with these signals or markers to extract meaning from the text, which means, to comprehend the text. This problem has been made into a hypothesis by Allen and Widdowson (1974) as quoted by Hutchinson and Waters (1986:10):

We take the view that the difficulties which the students encounter arise not so much from a defective knowledge of the system of English, but from unfamiliarity with English use, and that consequently their needs cannot be met by a course of sentences, but only by one which develops a knowledge of how sentences are used in the performance of different communicative acts.

In the Physical Science texts, there are surface elements, which are the words that can be seen and read. de Beaugrande and Dressler (1990:3) Claim that those surface components depend upon each other according to grammatical forms and conventions, such that cohesion rests upon grammatical dependencies. The grammatical dependencies in the surface text are major signals for sorting out meanings. If the effect of cohesion in sorting out meaning is marked as 'major', it means that the relationship between cohesion with meaning extraction or comprehension is important in the Physical Science texts.

1.2 Statement of the Problem

The study is conducted to find out whether the absence of cohesive markers in English Physical Science texts will influence the students' comprehension towards the texts.

Therefore, the study is devoted to address the following questions:

Is the students' comprehension on the text with complete cohesive markers different from their comprehension on the text without complete cohesive markers?

1.3 The Objectives

Derived from the above questions, in general, the study is planned to find out whether there is an influence of cohesive signals or cohesive markers found in English Physical Science texts to the students' comprehension of the texts.

Specifically, the study is planned to find out:

Whether there is any difference between the students' comprehension on the text with complete cohesive markers and their comprehension on the text without complete cohesive markers.

1.4 The Assumptions

The study is based on the following assumptions:

1. The texts are groups of hierarchically organized clauses which bear various informational and intentional relations to one another.
2. The texts contain complex sentences carrying cohesive signals.
3. The unified stretches of sentences form a meaningful text.

1.5 Scope and Limitation of the Study

This study uses written texts compiled in a particular language: English, and in a particular subject of science : Physical Science. The study therefore uses only the texts taken from a textbook containing Chemistry and Physics subjects which are the two basic components of Physical Science. Mathematics is not included because it is a more general science which does not represent a particular field of study; it is used in almost all science.

The study deals with whether the absence of cohesive markers in a text makes any difference in the students' comprehension or not. The primary source of data for the study is taken from the scores of reading test and the set of opinion-questions given to the subject. The comprehension investigated in the study is the overall comprehension, not a comprehension related to each function of cohesive markers.

To minimize the other factors affecting comprehension, the text used are completed with a list of definitions of the difficult words found in the text and the texts are adjusted to the students' level. The difficulty level of the text selected is the same with the one in the textbooks used by the students. The factors affecting students' comprehension have been restricted to cohesive markers only; the other factors such as vocabulary knowledge and grammar have only little influence.

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1.6 The Significance of the Study

The study is expected to have practical and theoretical contribution. Practically, the study may provide teaching experts with beneficial information about how cohesive signals used in physical science texts to increase students' comprehension on the texts. It can give input in making the syllabuses of EST or ESP. Since English is the language of many across discipline textbooks, including physical science subjects, the information will be useful for teachers who teach English for Physical Science College students.

Theoretically, the study may contribute a better clarification on the relationships between cohesion and coherence in physical science textbooks.

1.7 Definition of Key Terms

1. Coherence

The term coherence refers to the ways in which the components of the textual world, the configuration of concepts and relations which underlie the surface text, are mutually accessible and relevant (de Beaugrande, Dressler, 1990:4)

2. Cohesion

The term cohesion is used to explain the ways in which the components of the surface text (the actual words we hear or see), are mutually connected within a sequence. (de Beaugrande, Dressler, 1990:5)

3. Cohesive Signals

Cohesive signals are the words that creating cohesion. (de Beaugrande, Dressler, 1990:5)

4. English Physical Science texts

The term is used to refer to the text which contains scientific information about physical science knowledge and they are written in English. The knowledge will cover the knowledge of chemistry and physics. (Hutchinson and Waters, 1986:20)

5. Comprehension

The term is used to refer to an understanding of meaning from a text.

6. Achievement Test

Achievement test used in the study is a set of test containing two reading texts equipped with a set of questions for each text.

7. Factual Question

A factual question is a question asking about facts in a text.

8. A long Answer-Factual Question

This term is used for a factual question that requires long answer.

9. Inferential Questions

An inferential question is a question asking about relationships between sentences found in the text.

10. The Set of Opinion-Questions

The term refers to a set of questions asking about subjects' opinion toward a particular matter.

1.8 Organization of the Thesis

This study consists of five chapters. Chapter I contains introduction, which consists of the background of the study, statement of the problem, objective of the study, significance of the study, scope and limitation of the study, definition of the key terms, and organization of the thesis. Chapter II is entitled reviewing related literature which consists of previous work and theoretical framework underlying this study. Chapter III, research methods, explains the methods that is used in this study. Chapter IV, data analysis and interpretation of findings concerns with the data analysis and the interpretation of the results. Finally, the last chapter, chapter V, is the summary of the thesis and some suggestions for further research on the related field.