

THE ROLE OF NOTE-TAKING SKILL
IN IMPROVING ACADEMIC READING
COMPREHENSION

A THESIS
PRESENTED TO
THE SCHOOL OF GRADUATE STUDIES
ADDIS ABABA UNIVERSITY



IN PARTIAL FULFILMENT
OF THE REQUIREMENTS FOR THE DEGREE OF
MASTER OF ARTS IN TEFL

BY
SEMERE GHEBREAB

June, 1992

ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES

THE ROLE OF NOTE-TAKING SKILL
IN IMPROVING ACADEMIC READING
COMPREHENSION

BY

SEMERE GHEBREAB

APPROVED BY: _____

Taddete Adamu
Advisor

Hadu

D.C. Hunt
Examiner

D.C. Hunt

John Norris
Examiner

John Norris

ACKNOWLEDGEMENTS

I am very grateful and much indebted to my advisor, Dr. Taddele Adamu, for the invaluable advice and unreserved support he rendered in guiding me through this study. He sacrificed much of his time in reading, commenting and editing this research. His generosity and patience, moreover, served as a source of constant enlightenment and encouragement.

I send my appreciation to Ato Habte T/Brhan and Ato Assefa Abegaz for their valuable help with the statistical computations.

I should also like to thank friends who directly or indirectly rendered their help in the completion of this work.

Finally, thanks are due to w/t Debitu Megersa for her patience and careful typing of the manuscript.

TABLE OF CONTENTS

	<u>Page</u>
ACKNOWLEDGEMENTS	i
TABLE OF CONTENTS	ii
LIST OF TABLES	iv
ABSTRACT	v
1: INTRODUCTION	1
1.1. Statement of the problem	1
1.2. Purpose of the study	2
1.3. Significance of the study	2
1.4. Scope of the study	3
1.5. Hypothesis	3
1.6. Abbreviations used	4
1.7 Symbols used	4
2: REVIEW OF RELATED LITERATURE	5
2.1. Works on note-taking in general	5
2.1.1. Definition	5
2.1.2. The function of note-taking	6
2.1.3. Types of note-taking	8
2.1.3.1. Lecture note-taking	9
2.1.3.2. Text note-taking	11
2.2. Types and Roles of Frameworks in note-taking	13
2.2.1. Types of frameworks	13
2.2.1 The role of frameworks	14
2.2.2.1. Note-taking in outline form	14
2.2.2.2. Note-taking through charts	17
2.2.2.3. Note-taking through Diagrams	18

	<u>Page</u>
3: PROCEDURE AND METHODOLOGY.....	19
3.1. Procedure	19
3.1.1. Subjects	19
3.1.2. Data collection	19
3.2. Methodology	20
3.2.1. Teaching materials	20
3.2.2. Treatment	21
3.2.2.1 Presentation of teaching reading through note-taking skill	22
3.2.2.2 Class room Teaching Methodology: The control group	23
4: ANALYSIS OF THE FINDINGS AND DISCUSSION	24
4.1. Analysis of the Findings	24
4.1.1. Pre-test and post test results	24
4.1.2. Analysis	26
4.2. Discussion	27
5: CONCLUSION AND RECOMMENDATIONS	29
5.1. Conclusion	29
5.2. Recommendation	29
BIBLIOGRAPHY	32
APPENDICES	34
Appendix A. Pre-test	34
Appendix B. Teaching Material for the Experi- mental group.....	41
Appendix C. Teaching Material for the Control group.....	70
Appendix D. Post-Test	90
Appendix E. The pre and post test raw scores gained by the control and experimental groups	107

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1: Statistical Results between the control and Experimental groups for the pre-test.....	24
2: Statistical Results between the control and Experimental groups for the post-test	25

ABSTRACT

The main objective of this study was to find out the role of note-taking in improving reading comprehension of grade eleven students in Addis Ababa.

In order to test this, an experiment was conducted in which one hundred ten subjects were randomly selected from one school. The subjects were divided into two groups: the control group, who was taught reading through the traditional method, and the experimental group, which was taught reading through the frameworks of note-taking.

A Pre-test was given to both the control and experimental groups to determine if there was any significant difference between them. Statistical computations, however, showed that there was no significant difference.

After six weeks, a post test was administered to both the control and experimental groups. To determine the significant difference between the means of the two groups a T-test at 0.05 level of confidence was applied. The analysis showed that the experimental group performed better than the control group. Thus, it was concluded that the development of note-taking skill in the form of outlines, diagrams, and charts was successful.

CHAPTER ONE

INTRODUCTION



1.1. STATEMENT OF THE PROBLEM

The English language, in Ethiopia, is taught as a subject beginning from the third grade of the elementary schools. Moreover, it is used as a medium of instruction in junior, senior secondary schools and higher institutions.

It seems there is a general agreement among scholars and educators in this country that the English language proficiency of Ethiopian students at all levels is deteriorating; and this is believed to be the primary cause for their poor performance in other subjects.

In learning the English language, or any language for that matter, one of the aims related to the kinds of activities which students have to perform is reading comprehension. The major source of our students' problem in second language learning, however, seems to be the difficulty they face in reading comprehension. To improve learners' general proficiency in the English language and, in particular, their reading comprehension abilities, studies have indicated that note-taking through outlines, charts, and diagrams plays a major role by providing the learners with planned instruction in proper note-taking. To put it another way, it is a useful instrument for training students to cultivate the habit of extracting the required information, which a writer wants to share, through the stated forms. Prominent among researchers who argue for the effective mastery in learning reading through note-taking are: Oletta Wald (1975), Ruth B. Love (1982), and U.N.O. Nwokoreze (1990).

1.2. PURPOSE OF THE STUDY

In teaching English in our secondary schools, students are required to read passages. The texts employed, however, entirely emphasize the need to master the structure of the language. In like manner, the comprehension questions which follow the reading passages are mainly dominated by vocabulary which covers definitions and examples, expressions and word practice. These activities do not seem to have relevance for reading comprehension. Therefore, the main object of the study is to test the hypothesis that note-taking skill can serve to enhance learners' abilities in comprehending reading passages and to investigate if note-taking can be made an important instrument for practical and effective reading at grade XI.

1.3. SIGNIFICANCE OF THE STUDY

This researcher believes that the present study, apart from investigating the role of note-taking in improving learners' reading comprehension, is important in that it can:

- i) reveal useful applications for the introduction to the syllabus of well-planned instructions in reading through note-taking.
- ii) provide a basis for the development of teaching methodology in the area.
- iii) contribute towards the production of effective teaching materials.
- iv) serve as a sources of information for further study in the area of note-taking skill.

1.4. SCOPE OF THE STUDY

In this study attention is given mainly to learning reading through note-taking which covers the major frameworks— outlines, charts, diagrams and/or tables. This is confined to investigate the role these frameworks play and to assess the students ability in comprehending reading texts. Again, the study is limited in the fact that it deals only with students in grade XI in Addis Ababa.

1.5. HYPOTHESIS

In this study an attempt is made to find out whether there is a statistically significant difference in achievement among grade XI students who are taught the same reading passages but following different methods. These are: the one currently followed by the 'ENE' text with which the controlled group is taught, and the techniques of note-taking with which the experimental group is taught.

To carry out the study, the following Null and Alternative hypotheses are established.

H_0 : There will not be a significant difference in comprehending reading among students taught through the traditional method on the one hand, and note-taking on the other as measured by a post-test administered after the termination of the experiment.

H_1 : There will be a significant difference in reading comprehension among students taught through the traditional method on the one hand and note-taking on the other as measured by a post-test administered after the experimental period.

1.6 ABBREVIATIONS USED

C.G. = Control group
E.G. = Experimental group
F-cal. = F - calculated
F-tab. = F - tabulated
t-cal. = t - calculated
t-tab. = t - tabulated

1.7 SYMBOLS USED

$\bar{X}$ = Mean
 S_E^2 = Variance of the Experimental group
 S_C^2 = Variance of the control group
 H_0 = Null hypotheses
 H_1 = Alternative hypotheses
 N = Population size
 n = Sample size
 d_F = Degree of freedom
 T^1 = T - test
 V = Approximate degree of freedom
 μ_E = Mean of the Experimental group
 μ_C = Mean of the control group

CHAPTER TWO

2. REVIEW OF RELATED LITERATURE

2.1. WORKS ON NOTE-TAKING IN GENERAL

2.1.1. DEFINITION

Note-taking is a skill in which students can examine the meaning of a text or a lecture for sufficient evidence.

Regarding this skill Dalen (1962) writes "Note-taking is not an end-itself; it is a means of furthering the whole investigative process". In connection with this he adds, "note-taking is a servant, not a master; a stimulant to taught, not mere a copy work" (p.98). This idea reflects that note-taking is a means of exploiting, modifying and acquiring information of a given study.

In like manner, Donh Byrne (1988) explains that note-taking is a common feature of many writing activities which relate to what one has read or heard. Byrne, elaborating his ideas, notes that note-taking is a task which requires the ability of:

- i) identifying key items i.e searching test of comprehension;
- ii) reducing and compressing scrutinized items in a sufficient way;
- iii) representing the key ideas keeping their Original message (p.74).

What one can understand from Byrne's suggestion is that note-taking is not copying and putting word for word what books,

magazines or lecturers say but it is putting key words, ideas, figures and other essentials grasped from reading, listening, observing and other learning activities in the words of the note-taker. Note-taking, therefore, is selecting and summarizing, organizing and putting main points together in a form representing the ideas of an author.

The definite techniques involved in note-taking are what and how students record. These techniques enable learners to know how to listen with concentration, how to read effectively when studying and how to grasp and record points or facts which the learner thinks are important. Supporting this concept, Dalen (1962) states that effective note-taking preserves the most significant ideas in a form that facilitates sorting, comparing and ordering items (p.98). Learners who command such helpful techniques, therefore, can succeed in meeting the immediate demands of note-taking skill.

2.1.2. THE FUNCTION OF NOTE-TAKING

Although note-takers have no uniform purpose in making notes, there are common reasons why learners take notes. Based on this idea, Wallace (1980) points out that learners take notes:

- i) to have a record of the speaker's or writer's main ideas;
- ii) to help one's memory when revising;
- iii) to make what a lecturer or a writer says part of one's knowledge (p.52).

When we turn our attention to the function of taking notes, we find two main studies describing the function of the skill in question.

According to Miller, Galanter, and Pribram (1960), quoted in Annis and Davis (1975), Note-taking is described as serving as an external memory device for storing data for later understanding and study (p.321). This hypothesis suggests that the benefit of notes is not in taking them but in having them; i.e. in preserving information for later review and processing.

Likewise, Miller quoting Carter and Mater (1975) gives a strong support to the notion that note-taking facilitates academic performance by providing a means for preserving the later review (p.903). From this point, one can learn that note-taking functions in reinforcing learners to retain classroom material.

In the work of Divesta and Gray (1972), however, Note-taking is described as a kind of encoding process in which the learner reorganizes the input data and by putting it in his own words, in sense, transforms the data and makes it his own (p.321); This is to say that it is characterized as a technique of transforming a material into a personally meaningful form. These authors, moreover, argue that too much reliance on notes as an external memory device can result in inefficient learning if the crucial encoding stage is by-passed. Their suggestion is that if the only function of notes were an external record of information provided during class, it would be easy to handout copied outlines of the lecture before class so that students would be free to react to other things.

Nevertheless, whether note-taking functions as an external memory device or encoding process, the significant point is that the skill of note-taking is one of the most effective student strategies which aids in the initial learning process. As Leslie (1968) reveals, the significance of note-taking is:

- i) to make students learn faster and actively participate;
- ii) to enable students to fix important ideas and facts in their minds so as to remember more and longer;
- iii) to provide learners a workable procedure for studying (p.10).

This is to stimulate and guide learners' mental participation in learning activity and to assist students work more effectively. The better the notes, the more useful they are in studying. Supporting these ideas, Johnson (1973) writes that note-taking enables learners to paraphrase information in their notes so as to process material at a deeper and more semantic level (p.359). From the ideas of Leslie and Johnson, one can comprehend that note-taking is a skill which aids learners to interpret, restate and indeed recreate materials for themselves. Furthermore, one can also grasp that note-taking activities facilitate learners' writing ability to produce clear and logically organized ideas.

2.1.3. TYPES OF NOTE-TAKING

There are two major types of note-taking. They are:

Lecture note-taking

Text note-taking

2.1.3.1. LECTURE NOTE-TAKING : Lecture notes are notes that can be taken from lectures, seminars, class recitations, and give-take discussions (Yorkey 1982:194). As has been mentioned at the beginning, in note-taking the learners' main focus is on taking down main ideas. In lecture note-taking, there are, however, some difficulties which learners face. For instance, one cannot stop the lecture in order to look up a new word or to examine and check an unfamiliar sentence that one meets in a given lecture. Hence, to set students free from such severe strain, scholars have suggested helpful points. In this regard, Yorkey provides preliminary steps which a learner has to follow; i.e. of asking oneself whether one knows about the topic, what one expects to learn and how it relates to one's interest (p.194). Elaborating his point, Yorkey comments that lecture note-taking demands quick and accurate comprehension of the spoken language; and it also requires a note-taker to be alert in listening to the facts of a lecture (p.195). What one can learn from the above statements is that lecture note-taking enables learners to develop their listening comprehension so as to understand and recapture essential points which a lecturer delivers. While taking lecture notes, concentration on important points helps learners not only to extract specific information but it can also enable them to exercise related writing.

Likewise, for effective lecture note-taking learners have to focus on the points by which the speaker cues his ideas to provide clear presentation (Wallace 1980:62). For

Wallace, main ideas are usually cued by " semantic markers...words or phrases which serve as signals for the meaning and structure of the lecture or text. They tell as how the ideas are organized" (p.57).

In addition, it would be necessary to acquaint learners with the use of abbreviations and symbols so as to catch main ideas without wasting much time and effort. The three main kinds of abbreviations are:

- a: Field abbreviations
- b: Commonly understood abbreviations
- c: Personal abbreviations (p.64).

Field abbreviations are standard abbreviations recognized by dictionaries. They are studied by learners as part of their study when they are specialising in certain fields. Chemistry students, for instance, use:

C for Carbon
Na for Sodium
Fe for Iron

Commonly understood abbreviations, as Wallace remarks, "are abbreviations in common use, or else easily understood" (Ibid.). Abbreviations of certain titles such as Col., Dr., Mr., Rev. and abbreviations taken from Latin such as:

i.e. meaning that is
N.B. (nota bene) meaning observe carefully.
etc. meaning and so on
are good examples.

Personal abbreviations are abbreviations that are not standard; they are used appropriate to the learner's context. As they are made up by the student himself, they remain personal.

For instance one can use:

Kidun or kidane instead of kidanemariam.

W.W. instead of William Wordsworth, etc.

2.1.3.2. TEXT NOTE-TAKING

Taking notes from a text is making a brief and accurate record or note of what is of value to a learner in the text he/she reads (Montgomery 1982:50). This is to pick out and reorganize ideas without altering the content of the original text provided.

In text note-taking, what students learn, as McCrimmon (1963) writes, is how to boil down an original passage to the bare facts or ideas (p.195). To put it another way, it is an activity by which practitioners learn to express the basic meanings of a longer piece of information without losing any essential points. Such an activity, moreover, encourages learners to get inside the material and realize fully what is being said, and to understand and restate the material in a meaningful form. Reading through note-taking, therefore, can help learners to build their comprehension power.

As key Hyland (1990) states, by enabling students to correctly identify and organize information into a conventional frame, an effective strategy that increases skimming, scanning, and phrase reading ability can be obtained (p.17). What one

can learn from this is that such an ability could help learners to act upon intensive and extensive reading so as to develop self responsibility for their own understanding, to discern what is worthy and what is not, and to discover what an author means by what he says. To motivate and make learners focus their attention on specific aspects of a passage, Byrne (1988) recommends that the skill in question can be applied in language teaching by asking students to identify the main ideas in a text and put them in order (p.74).

Furthermore, both Perrin (1980:412) and McArthur (1982:21) have identified some important points that help learners to understand reading passages. Learners should be able to:

- i) distinguish between facts and opinions through critical reading, i.e to read the material several times and identify the basic ideas.
- ii) move from general to specific to determine the overall purpose of the study.
- iii) record the major points without distorting the author's ideas; this is to write out what is essential accurately without wasting words.
- iv) simplify the grammatical structure of sentences and paragraphs. In other words, they should be able to reduce complex sentences into simple sentences, simple sentences into phrases and phrases into simple words.
- v) maintain the quality of sentences; i.e. to identify expressions, phrases, and words which contribute

nothing to the meaning of a text. Otherwise unnecessary words and needless constructions could weigh down and make one's notes tasteless.

In teaching reading through note-taking, therefore, what seems helpful is to introduce students with some effective frameworks. These frameworks are factors within which practitioners could do a thorough study on a whole passage or one segment of a passage to perform a realistic task.

Sorting effective frameworks in comprehending reading has a great role to play in note-taking skill. It enables learners not only to focus their attention on the main aspects of a text but it also provides a wide room in which students can analyze the structure, observe details of given passage, identify essential words, phrases or statements which need to be noted and transform information in a thoroughly realistic way. This reveals that depending on a clear objective or purpose, one can guide learners to survey and assimilate the necessary ideas and to keep the track of all the relevant information about a topic or subject to be read.

2.2. TYPES AND ROLES OF FRAMEWORKS

As the main step of note-taking is to understand what the message of a given passage is, students can sort out the required points through various frameworks.

2.2.1. TYPES OF FRAMEWORKS : The three major frameworks which stimulate learners' thinking and guide them to work on suggested practice exercises are:

- i) Outlines
- ii) Charts and
- iii) Diagrams

2.2.2. THE ROLE OF FRAMEWORKS

2.2.2.1. NOTE-TAKING IN OUTLINE FORM

As Ruth B. Love et al (1982) remark, an outline is "A blue print or skeleton of the key ideas and supporting information relating to a topic" (p.113). In other words it is a handy device in which students can reduce the writing to skeletal ideas. In taking notes, the purpose of an outline is to serve as a summary of the ideas and details that are contained in a passage; and this is mainly to:

- i) train students on how to take notes from different types of a passage as a means of understanding what is read.
- ii) enable learners to recognize the major, minor and detail ideas of paragraphs (Ibid.).

The two kinds of outlines are topic outline - an outline written using only a few words or phrases, and sentence outline which is an outline written using complete sentences.
(see the next page).

If we take the passage about Ants and their classifications, for instance, it can be outlined in both the Topic and Sentence outlines as follows:

Topic outline

I. Classes of ants

A. Queens

1. Are largest of ants
2. Lay eggs
3. Live 10 to 15

B. Males

1. Mate with queen
2. Live few weeks
3. Die after mating

C. Workers

1. Are females
2. Nurse younger ants
3. Find food
4. Defend colony
5. Live five to six years

Sentence outline

I. There are three classes of ants.

A. Special female ants are called queens.

1. They are the largest ants.
2. They lay eggs that develop into new ants.
3. They live for 10 to 15 year

B. There are male ants

1. They mate with the queen.
2. They live only a few weeks.
3. They die soon after mating.

C. Most of the ants are workers

1. They are female ants.
2. Some nurse younger ants.
3. Some find food.
4. Some defend the colony.
5. They live for five to six years.

From Mastery Learning Reading (p.121).

Such an activity of completing an outline with the required notes could help learners to assimilate what they read, to identify general ideas from specific details and to provide a brief summary of what is read.

As Nwokoreze (1990) writes, note-taking in outline form encourages learners to create their own statements (p.39). This is to say that the practitioners could develop an exercise on how to sort out notes in order to put sequence of events temporally and to condense the message into brief and meaningful statements that express the expected ideas.

Outlining, as some say, might not be simple for two reasons. For one, students could differ in identifying and defining what a major and a minor idea is in a passage. Secondly, passages may be made up of structures that couldn't be easily outlined. Therefore, to minimize students' difficulties, what one has to do is to select a well organized passage. Moreover, if a passage still seems difficult to be analyzed and outlined, it would be advisable for students to look for helpful strategies. As Ruth B.Love and her associates (1982) have remarked, there are two thinking strategies in outlining:

- i) Paragraph analysis strategy and
- ii) Passage analysis strategy

Paragraph analysis strategy is a strategy by which students look for the organization of the structure. This refers to the process of identifying the major, minor and detailed ideas. The passage analysis strategy, on the other

hand, is a strategy by which students learn to see how the ideas of various paragraphs in a passage relate to each other (p.123). (see Appedix B p.48 and p.66)

2.2.2.2. NOTE-TAKING THROUGH CHARTS

One of the most helpful methods through which learners succeed in taking down key ideas of long reading texts easily is the use of charts. Charts could enable learners to grasp the whole picture of a passage, to study the relationship of ideas within paragraphs and between paragraphs to record the summary of the entire message of a text with little difficulty and without consuming much time.

The purpose of charts in taking notes is to block out the contents of a paragraph or a whole passage so that readers can easily see and understand both content and relationships. According to Wald (1975) a chart has its value as a study device and as a teaching tool. Charting a passage, therefore:

- i) forces a learner to think graphically about the material in a passage i.e. to record the observation the learner makes as he/she studies in graphic form.
- ii) helps a learner to gain insight into the key phrases and to identify repeated or emphasized ideas in a variety of ways.
- iii) helps a learner to see everything in context. # (p.65)

From Wald's idea one can learn that charts invite students to work comprehension question, particularly Open-ended questions, with less difficulty. Moreover, charts can encourage learners to read and understand a given text systematically.

2.2.2.3. NOTE TAKING THROUGH DIAGRAMS

A framework in which students arrange the units of thought of a passage in graphic or visual way is a diagram. As Oletta Wald (1975) reveals, note-taking through diagrams helps students to observe and analyze the structure and the content of a paragraph (p.60). In other words, a diagram guides students to see the words and phrases in relation to the whole sentence, paragraph or passage. In addition, a diagram helps students to identify the key phrases and to list only the principal ideas which one seeks to analyze. Supporting this idea Mamo Kefele (1990) points out that diagrams and tables help learners to understand how the language structure functions, to identify terms and define their meanings and/or to write their illustrations clearly (p.XI). This is to say that diagrams lead students to examine the way sentences are constructed, to learn the connectors used and identify the main ideas in order to complete exercises provided in diagram forms.

The general significance which note-taking plays is, therefore, revealed in second language learning and particularly in listening and reading skills. Similarly, in this study, what the writer intends to do is to examine whether or not the skill in question is effective in improving our students' reading comprehension ability.

CHAPTER THREE

3. PROCEDURE AND METHODOLOGY

3.1 PROCEDURE

3.1.1 SUBJECTS

One-hundred-ten grade eleven students studying English as a foreign language at Menelik II comprehensive secondary school, Addis Ababa, were randomly selected. Fifty-five of the students were assigned to the experimental group and the other fifty-five, were assigned to the controlled group. Grade eleven students were chosen as a target of the study because the researcher has been teaching English in this grade for the past six years, and he is adequately familiar with the kinds of problem eleventh grade students face.

3.1.2 DATA COLLECTION

First a pre-test was administered to both the experimental and the control groups in order to record their background knowledge in reading comprehension. The questions were designed by the researcher and were prepared and administered after the consideration of some comments made by an expert/advisor (see Appendix A).

The results of the pre-test revealed that there were no significant differences between the experimental and controlled groups in their reading comprehension ability (see the discussion on p. 27). Since the purpose of the study was to make a comparison between the two methods, an experimental justification was required in order to find out the progress the learners were making.

The experimental group was taught by what the researcher called modern frameworks. These are factors within which the practitioners can exploit a paragraph or a whole passage and the controlled group was taught by the methods that are currently followed in ENE- English for New Ethiopia - for grade eleven. The actual classroom teaching was conducted for six weeks.

After the experimental lessons were conducted, a post-test was given to both the groups to determine whether there was any significant difference in comprehending reading between the two groups. The test covered three progressive texts of the same content. (see Appendix D).

3.2 METHODOLOGY

3.2.1 TEACHING MATERIALS

The material for teaching reading comprehension was prepared for both the control and experimental groups. Both groups were provided with the same reading passages but difference was made in methods of presenting them. In selecting the reading passages, Widdowson's principle has been taken into consideration. For Widdowson (1978):

To provide learners with genuine and authentic passages what is profitable is to select texts that bear communicative reality i.e. to consider passages which could engage learners' interest, extend the experiences and develop the reality the subjects cover (p.81).

Similarly, Forsyth and Kathleen (1978) argue that selecting various reading texts provides students with a range of different perspectives and styles, and leads them through reading and

other language-linked activities and towards a clearer understanding of language communication (p.25). What one can learn from this is that selected passages help learners to shape their own understanding, to have available a wide range of reading experiences, and to build a clear view about the style varieties.

To keep the level of the students' knowledge, moreover, some modifications were made to the passages extracted from various English text books.

3.2.2 TREATMENT

The teaching material was composed of six units to be taught in six consecutive weeks. The experimental group and the control groups were taught by two different teachers. Both teachers were given the necessary directives by the researcher on how to conduct their presentations and at times they were supervised as well. In the experimental group priority was given to the kinds of framework that would be of great help to the learners. Thus, the focus was mainly in implementing the skill in question i.e note-taking in the form of a) outlines b) charts c) diagrams. The exercises were constructed on the basis of the model of the exercises in Ruth B. Love Mastery learning reading 1982; Keith Johnson Communicate in writing 1981; Oletta Wald The Joy of discovery in Bible study 1975; Mamo Kefele Developing study skills (un published) 1990. This group also did some additional exercises that went in accordance with the techniques that they (the students) were exposed to.

3.2.2.1 PRESENTATION OF TEACHING READING THROUGH NOTE-TAKING SKILL

A. NOTE-TAKING IN OUTLINE FORM

In most cases, students were guided and encouraged to boil down the passage they read to bare facts; i.e to recognize the major, minor, and detailed ideas contained in it. To identify and sort out these ideas, students were taught in both the topic and sentence outline forms. Each student was encouraged to assimilate the message the passage has and reduce it to skeletal ideas i.e. to complete the outline with the required notes in order. If this is done with concentration practitioners can gain the correct process of comprehending reading and condensing the message into brief and meaningful statements.

B. NOTE-TAKING THROUGH CHARTS

In our secondary schools, most students are unfamiliar with note-taking; and the only experience they have is 'parrot-learning'. To impose students with some essential experiences of grasping a whole or part of a passage, therefore, the device of how to record key ideas and emphasised phrases was shown to them. If the learners knew how to put an alternative word or phrase for a given description or definition; and if they developed the ability of writing illustrations with accurate examples for given terms, they would be able to see and understand both the content and relationship of ideas within a paragraph or a passage. Furthermore, this device (the chart) would make them think graphically about a given text without consuming much time.



C. NOTE-TAKING THROUGH DIAGRAMS

In addition to outlines and charts, diagrams were also introduced to the students so as to train them on how to arrange the units of thought of the passage they read in a visual way. Moreover, ways by which students see the words and phrases in relation to the whole sentence or paragraph, and ways of listing only the principal ideas which need to be analyzed were revealed.

3.2.2.2 CLASS ROOM TEACHING METHODOLOGY

THE CONTROL GROUP

In presenting the reading passages, the teacher tried to provide the learners with a summary of each text after he had allowed them to read silently. As this group was mainly taught with regard to the methods employed in the ENE for grade XI, the basic exercises were multiple choice, true-false, and a sort of open-ended questions. These exercises are of little substance and have little meaning to reading comprehension. As to the multiple choice type questions, for instance, Susan Halden (1983) wrote " Multiple choice questions are clearly a testing device and should not be used as teaching materials" (p.32).

With regard to multiple choice, students' activity was mainly on choosing what they feel is 'correct' without giving reasons for the alternative answers. With the true or false questions, moreover, students were required to write one or the other, without providing any evidence which justifies the answer.

CHAPTER FOUR

4. ANALYSIS OF THE FINDINGS AND DISCUSSION

4.1 ANALYSIS OF THE FINDINGS

4.1.1 PRE-TEST AND POST-TEST RESULTS

From the beginning the researcher expected homogeneity of the students' back ground; and to control the level of their knowledge, a pre-test was developed and administered for both the experimental and control groups before the treatment of the experiment. When the pre-test results were computed, the two groups showed practically no significant difference. The results were a mean of 51.90 with the standard deviation of 10.23 for the experimental group; and the mean of 50.99 with the standard deviation of 10.10 for the control group. The number of the students in each group was 55 (Table 1).

Table-I : Pre-test Results

Group	N	$\bar{X}$	S_1^2	t-cal	t-tab	Significance
E.G.	55	51.90	104.76	0.47	1.98	no significant difference
C.G.	55	50.99	102.13	inside the range		

$$df = 108 \quad \text{Alpha} = 0.05$$

Furthermore as the researcher wanted to find out whether the methods of note-taking— Outlines, charts, and diagrams are more effective than the currently used methods in learning reading, an experiment was conducted. After the experiment was completed three progressive post-tests were administered on different days to see whether better performance would be manifested in one of the groups.

Table II shows the post-test mean gained score of both groups. The results were a mean gained score of 11.96 with standard deviation of 9.37 for the experimental group; and a mean gained score of -0.28 with a standard deviation of 6.20. Each group had 55 students.

Table-II : Post-test Results

Group	N	$\bar{X}$	S_2^2	F-cal	F-tab	Significance
E.G.	55	11.96	87.84	2.28	1.53	Statistically significant difference
C.G.	55	-0.28	38.50	out side the range		

The expected results were:

(i) If the Experimental and control groups perform the same in the post-test, i.e. if the difference between their means is not statistically significant, the Null hypothesis (H_0) which states there will not be a significant difference in comprehending reading among students taught through the traditional method on the one hand, and note-taking on the other as measured by a post-test would be accepted.

(ii) If the experimental or control group performs better, that is, if the difference between their means is statistically significant; then the alternative hypothesis (H_1) which states that there will be a significant difference in reading comprehension among students taught through the traditional method on the one hand and note-taking on the other as measured by a post-test administered after the experimental period would be accepted.

4.1.2 ANALYSIS

To test the hypothesis, the results of each group were computed by the T-test analysis. T-test was chosen because the scores of students, usually, follow the normal distribution approximately.

In testing:

$$H_{O_1}: \sigma^2_E = \sigma^2_C \quad \text{against} \quad H_{A_1}: \sigma^2_E \neq \sigma^2_C$$

the appropriate test statistics is $F = \frac{S_E^2}{S_C^2}$

which follows the F - distribution with $(n_E - 1)$ and $(n_C - 1)$ degrees of freedom. In this test, it was found $F = 2.28$ which is significant at the 5 percent significant level.

The next test we made was on the equality of the mean gain score:

$$\begin{array}{l} H_{O_2}: \mu_E = \mu_C \\ \text{against} \\ H_{A_2}: \mu_E > \mu_C \end{array}$$

From the result of the above F-test, the appropriate test statistics is:

$$T^{1*} = \frac{\bar{X}_E - \bar{X}_C}{\sqrt{\frac{S_E^2}{n_E} + \frac{S_C^2}{n_C}}}$$

which follows approximately the students' t-distribution for large sample sizes with approximate degrees of freedom.

$$J = \frac{\left(\frac{S_E^2}{n_E} + \frac{S_C^2}{n_C} \right)^2}{\left(\frac{S_E^2}{n_E-1} + \frac{S_C^2}{n_C-1} \right)^2}$$

It was found that $T^1 = 8.076$ and $J = 94$, which shows that the null hypothesis H_{02} is to be rejected at 5 percent level. From these results, one conclusion will be that the mean gain score of the experimental group is significantly greater than the same score for the control group.

4.2 DISCUSSION

The study revealed that both the control and the experimental groups had no significant difference. This is to say that the students' comprehending ability in both the groups, was almost the same before the beginning of the experiment.

Meanwhile, after the experiment was conducted, a post-test was administered. The test showed that the experimental group which was taught reading through the forms of note-taking-Outlines, charts, and diagrams performed much better than the control group which was taught by the methods employed in the ENE for grade XI. Why did the experimental group perform better than the control group? The genuine answer is that the forms of note-taking, helped to make comprehending reading meaningful to put it another way, the learners were enabled to react to a given passage thoroughly so as to extract the needed information.

Using an outline form students were able to analyze and put the message of a given text into its reduced skeletal form. This is to say students were trained to distinguish the major, minor and detailed ideas easily. Furthermore, with the provided charts and diagrams students developed effective strategies for exploring the texts. This is to say that the students learned to separate terms from their descriptions, to pick out and write their definitions, to select and list reasons of certain stated effects, and to provide evidences in answering questions.

As to the case of the control group, however, students were made to focus on vocabulary i.e. to study meanings of words taken from the passage. In addition, exercises such as multiple choice, open-ended type of questions were provided as methods for comprehending reading texts. These exercises, however, did not invite the learners to examine and explore a reading passage sentence by sentence or paragraph by paragraph. The students were also seen to be less interested and motiveless in learning reading.

In short, students in the experimental group showed much better in their ability of comprehending reading. This was clearly seen in their good performance on the post-test and it is due to the methodological factors with which they were provided.

CHAPTER FIVE

5. CONCLUSION AND RECOMMENDATIONS

5.1. CONCLUSION

Although the study is restricted to the teaching of reading comprehension to grade eleven students at Menelik II secondary school, it has tried to investigate the role of note-taking in improving reading.

As one can see from the thesis, the researcher has limited himself to only three frameworks of note-taking in the administration of his experiment. This was done because the researcher assumed these frameworks to be some of the most effective learning strategies which would help students to tackle their difficulties in comprehending reading.

Therefore, the main conclusions which the researcher has been able to draw are reading through note-taking enables learners to:

- i) develop reading comprehension abilities of extracting information from given passages.
- ii) know how to identify and evaluate major, minor, and/or detailed ideas of a text.
- iii) develop sentence analysis techniques such as stage-by-stage reduction of sentences.
- iv) equip themselves with effective self strategies for improving reading comprehension
- v) exercise and develop writing skill to some extent.

5.2. RECOMMENDATION

Teaching reading through note-taking may seem an uncommon

practice in our context but as many educators have indicated and as this thesis reveals, note-taking through outlines, charts, and diagrams plays an effective role in the mastery of reading. Thus, secondary school students could develop them as techniques for comprehending reading materials. Based on the study, therefore, the following recommendations could be made:

- i) Teaching reading, as observed by the researcher, is becoming meaningless in our secondary schools. That is, the teacher remains dominant in doing all the reading comprehension activities. Thus, it is recommended instead that the students should be given the opportunity to confront the passage and comprehend it. This can be done through the frameworks of note-taking—outlines, charts, and diagrams which invite and motivate learners to see words and phrases in relation to a sentence or a paragraph; and to grasp and assimilate the message of a passage.
- ii) In language learning, learning strategies are very essential. Our secondary school students, however, are not familiar with learning strategies. Therefore, students need to equip themselves with these frameworks in order to be able to pick up principal ideas during their personal readings.
- iii) The frameworks of note-taking have proved to be very useful as the experimental group students have shown remarkable improvement in comprehending reading in their post-test results. Moreover, as is often

reflected in the actual classroom teachings, students' interest is greatly motivated. So, it is recommended that the ENE, which is dominated by vocabulary exercises, multiple choice type of questions, employ outlines, charts, and diagrams so as to make learners think graphically about the passage they read and build up their reading comprehension interest.

- iv) As is vividly seen in the study, the teaching materials the experimental group were provided with mainly covered exercises to be completed with sentences, phrases, and/or words taken from given passages. These opened a wide avenue where learners could exercise writing. Therefore, note-taking through outlines, charts, and diagrams must be seriously considered and invigorated because it could help students to develop their writing skills.

BIBLIOGRAPHY

- Afifi, A.A. and Azen, S.P. (1979). Statistical Analysis: A Computer Oriented approach (second edition). New York: Academic Press Inc.
- Annis, L. and Davis, K.J. (1975). The Effect on Encoding and and external device on not-taking, "Journal of Educational Research. 44,2:44-46.
- Bretzing, H.B., Kulhavy, W.R. and Caterina, C.L. (1984). "Note-taking by Junior High Students, "Journal of Educational Research. 80, 6:359-362.
- Byrne, Donn[†] (1988). Teaching Writing Skills[†] (Newed.). U.K: Longman Group Limited.
- Campbell, W.G. Ballow, S.V. and Sland, C. (1986) Form and Style Theses, Reports, Termpapers (Seventh edition). U.S.A.: Houghton Mifflin Company.
- Carter, F. and Mtre, V. (1975). "Note-taking Versus Note-having," Journal of Educational Psychology. 67, 6:900-904.
- Dacanay, Fer (1963). Techniques and Procedures in Second Language Teaching Quezon City: Alamer Phoenix Publishing house, Inc.
- Dalen, V. and Deobold, B. (1962). Understanding Educational Research U.S.A: Mcgraw Hill book company, Inc.
- Dyer, J.W. and Rilley, J. (1979). "An Analysis of three study skills note-taking, Summarizing and Reading, "Journal of Educational Research. 73.1:3-7.
- Fisher, L.J. and Harris, B.M.[†] (1973). "Effect of note-taking and Review recall, "Journal of Educational Research. 55,3:321-325.
- Forsyth, Ian and Wood, Kathleen (1978). Language and Communication Teacher's Book. London: Longman Group Limited.
- Haycraft, John (1978). An introduction to English language teaching. Singapore : Longman Group Ltd.
- Holden, Susan (1983). Second Selections from Modern English teacher. Longman Group Limited: Modern English Publications Ltd.
- Hyland, Key (1990). "Purpose and Strategy: Teaching Extensive Reading Skills, "English teaching forum. 28, 2:14-17.
- James, K. Jordan, R.R. and Mathews, A.J. (1979). Listening Comprehension and note-taking course. London: Collins.
- Johnson, Keith (1981). Communicate in writing. London: Longman Group Limited.

- Kierzek, M. and Gibson, W. (1965). The Macmillan Handbook of English (fifth Edition). U.S.A.: The Macmillan company.
- Langan, John (1984). Reading and Study skills. U.S.A.: McGraw Hillbook Company.
- Leslie, L.A. (1968). Gregg Notehand (2nd Edition). U.S.A.: McGraw Hill, Inc.
- Love, R.B. et al, (1982). Mastery learning Reading. Chicago: The board of Education.
- Mamo Kefele (1990). Developing study skills (Unpublished). Ethiopia: Addis Ababa University.
- McArthur, Tom (1984). A written word Book 2. Oxford: Oxford University press.
- McCrimmen, M.J. (1963). Writing with a purpose (Third Edition). NewYork: Houghton Mifflin company.
- Montgomery, Michael (1982). Study Skills. Hongkong: Longman Group Limited.
- Nation, paul (1909/90) "A writing and Note-taking Strategy," Modern English teaching V.17/1 and 2 pp. 30-33.
- Nwokoreze, U.N.O (1990). "Note-taking," English teaching forum. 28, 2:39-41.
- Panchal, M.R. (1984). Teaching of English (Third Revised Edition). India: Vani Educational Books.
- Perrin, G.P. (1972). Writers Guide and Index to English. London: Scott, Foresman and Company Glevew, Illions.
- Sheal, Peter (1981). Advanced level writing skills. U.K.: group Limited Longman house.
- Swan, Michael (1975). Inside Meaning: Proficiency reading Comprehension. Cambridge: Cambridge University Press.
- Wald, Oletta (1975). The Joy of Discovery in Bible study. U.S.A.: Augsburg Publishing house.
- Wallace, J.Michael (1980) Study Skills in English. Cambridge: Cambridge University Press.
- Walter, Catherine (1982). Authentic Reading. Cambridge: Cambridge University Press.
- Widdowson, H.G. (1978). Teaching language as communication. Oxford: Oxford University Press.
- Yorkey, C.R. (1982). Study Skills for students of English U.S.A.: McGraw Hill, Inc.

APPENDICES

Appendix A.

Name: _____

Roll no: _____

Section: _____

Pre - test

The tourist industry has become one of the most important economic influences of modern times. It is one of the fastest growing industries of recent years. Tourism necessarily involves travel: a tourist is usually defined as a person who is
5 visiting some place other than his usual residence for more than 24 hours. A tourist is distinguished by the length of his trip from an excursionist who is away from his usual residence for less than 24 hours, or at most weekend.

Many people travel entirely for the purpose of recreation
10 or pleasure; they are people on holiday. Other people travel for reasons of health. Some people travel to visit friends or relatives, a reason that has become more important because of increased mobility throughout the world. Still others travel in order to educate themselves. However, not all people who
15 travel are "tourists" in the strictest sense of the term.

Tourism is a relatively new phenomenon in the world. Since being away from home is a necessary component of tourism, its development as a mass industry has depended on modern means of rapid and inexpensive transportation. Industrialization has
20 produced the other conditions that are necessary for tourism. Among them is the creation of a large number of working people with an amount of disposable income above and beyond what is

needed for basic expenses such as food, shelter and clothing. Another important condition is urbanization, the growth of
25 large cities. The accommodation and catering service industries employ large numbers of people. This intensive use of labour is one of the reasons why tourism is so attractive to developing countries.

Perhaps the most distinctive and difficult job in the
30 entire tourist industry belongs to the tour guides, those in charge of local sightseeing, and those accompanying a group throughout its travels and making all the arrangements for the group.

The term guide is often used for the first of these jobs
35 and conductor for the second. The sightseeing guide must of course be familiar with the points of interest that he is showing to the visitors and he must be prepared to answer a lot of questions. He has to deal with all problems that may include bad weather, sudden illness, and accident, etc. A sightseeing
40 guide needs two qualities above all: an outgoing personality and language skill.

The conductor who stays with a group through out its trip needs these same qualities. Moreover, he has to display the qualities of a diplomat, not only in dealing with the tourists
45 themselves, but also with all the officials, baggage handlers, hotel clerks, travel agents and the many other people who are constant figures on the travel scene.

Adapted from ENE for grade XI

pp. 230 - 232.

Exercise - 1: Vocabulary

Select the appropriate meaning for each of the following words as it is used in the passage above.

1. Mobility (N) line 13
 - a) fluidity
 - b) restlessness
 - c) fast and easy movement
 - d) stability
2. Accommodation (N) line 25
 - a) lodgings
 - b) adjustments
 - c) adaptation
 - d) modification
3. Outgoing (Adj) line 40
 - a) leaving
 - b) sociable
 - c) resigning
 - d) resisting
4. Display (V) line 43
 - a) disclose
 - b) exhibit
 - c) allow to be seen
 - d) evidence
5. Figures (N) line 47
 - a) human form
 - b) arithmetic
 - c) feature
 - d) outline
6. Intensive (Adj) line 26
 - a) tending to give emphasis
 - b) proportional
 - c) increasing in degree and amount
 - d) extensive
7. Distinctive (Adj) line 29
 - a) special
 - b) well-defined
 - c) contrary
 - d) comparative



Exercise - 2: Multiple choice

Choose the best answer for each of the following questions from the passage and put the letter of your choice on the space provided.

- ____ 1. For a large number of people, the main purpose to travel is ____.
- a) for reasons of health.
 - b) to educate themselves.
 - c) for recreation and pleasure.
 - d) to visit friends and relatives.
- ____ 2. One of the duties of a conductor is ____.
- a) to acquire language skill.
 - b) to develop an outgoing personality.
 - c) to display the qualities of a diplomat.
 - d) all are what a conductor needs.
- ____ 3. ____ is a person who is visiting some place other than his usual residence for less than 24 hours.
- a) tourist b) foreigner c) excursionist
 - d) a and b are correct.
- ____ 4. The reason for visiting friends or relatives has become more important because ____.
- a) the tourist industry gives priority to such purpose.
 - b) friends and relatives are the most important in the world.
 - c) it is a gracious and blessed type of travel.
 - d) movement is fast and easy throughout the world.

____ 5. One of the following statements is true according to the passage.

- a) Intensive use of labour makes tourism less attractive.
- b) All travellers are tourists.
- c) Being away from home is a necessary component of tourism.
- d) An excursionist is a tourist.

Exercise - 3: Matching

Match column 'A' with column 'B' and write out the complete sentences.

- | A. | B. |
|---------------------------|--|
| ____ 1. urbanization | A. people who travel for recreation or pleasure. |
| ____ 2. disposable income | B. a person who is visiting some places outside his home for more than a day and night |
| ____ 3. people on holiday | C. the growth of large cities |
| ____ 4. tourist | D. above and beyond what is needed for basic expenses |
| ____ 5. guide | E. a man in charge of local sightseeing. |
| ____ 6. excursionist | F. person who makes all the arrangements. |
| | G. one who travels for less than 24 hours out of his residence. |

Exercise - 4: True/false

Which of these statements are true and which of them are

false ? Say which part of the passage provides the evidence.

1. All tourists travel entirely for the purpose of recreation or pleasure.
_____.
2. The high growth rate of the tourist industry is a feature of its world-wide economic influence.
_____.
3. An immigrant is a tourist.
_____.
4. A tourist is a traveller.
_____.
5. The development of tourism as a mass industry depends largely on the development of transportation.
_____.
6. Both the conductor and guide have exactly the same job.
_____.
7. A conductor is a diplomat.
_____.
8. Baggage handlers are constant figures on the travel scene.
_____.
9. Industrialization has nothing to do with tourism.
_____.
10. Tourism is an old phenomenon in the world.
_____.

Exercise - 5:

Write a correct answer for each of the following questions on the space provided.

1. What are the two qualities which a sightseeing guide needs ?

- a) _____
- b) _____

2. Write down the four reasons why people travel:

- a) _____
- b) _____
- c) _____
- d) _____

3. Why are developing countries being attracted to the tourist industry ?

4. What are some of the essential conditions which industrialization has produced for tourism ?

5. State two of the essential elements (factors) with which a tour guide should be familiar.

Appendix B: Teaching Material for the Experimental group

UNIT ONE

FERTILIZER MATERIALS

There must be a supply of plant nutrients in soil if plants are to grow healthily. Nitrogen, phosphorus, potassium and calcium are the plant nutrients that are required to enhance plant development. These plant nutrients can be divided into 5 organic and inorganic. The organic materials contain carbon (other than carbonate) as an essential ingredient. They are of natural origin. They are called manures. All other materials not containing carbon as an essential ingredient are classed as inorganic. They are chemical compounds obtained from natural 10 resources, from direct manufacturing process. They are called commercial fertilizers.

Farmyard manure, or dung consists of a mixture of litter, solid excreta and urine of different kinds of stock. It consists of three important plant nutrients nitrogen, phosphate and potash. 15 Manure is not so effective as the inorganic fertilizers, but it can be used in conjunction with them. It improves the texture and structure of the soil and it makes up for the plant nutrients which have been removed by crops or lost by leaching or soil erosion.

20 Commercial fertilizers are usually classified according to the particular food element which forms their main constituent. So, they may be grouped as nitrogen fertilizers, phosphate fertilizers, potash fertilizers and so on.

The most commonly used commercial fertilizers which contain 25 nitrogen are ammonium sulphate and urea. They contain 21% and

46% nitrogen respectively. These fertilizers enhance a fuller development of stem and leaf and produce a rich green colouration of the foliage. An over-supply makes the tissues very soft and liable to attacks of pests and diseases. It reduces their resistance to frost and makes cereal straw so weak that the crop is easily lodged.

The most widely used phosphate fertilizer, superphosphate, stimulates root development in young plants and promotes early maturity and fruit and seed production. A shortage of phosphate hinders the development of the root system and in extreme cases of deficiency crops may not grow at all. Tropical soils are often poor in this element.

Finally, wherever high crop yields are expected, potash is used in conjunction with nitrogen. Potash makes the plant tissues stronger. This helps the plant to withstand mechanical damage such as broken branches and torn leaves. In this way the entry of disease-causing agents, such as bacteria and fungi, is prevented. Potash is important for all plants but particularly so far those that produce oil and starch or sugar. Plants suffering from potash starvation often develop scorched looking leaves that die prematurely at the tips and edges.

Adapted from ENE

pp. 13 - 14.

Exercise-1:

Complete the following outline form with the correct information from the passage.

I. The main Fertilizer materials are:

plant nutrients. These can be divided into

A. _____

1) _____

2) _____

3) _____

Example, dung which consists

i- _____

ii- _____

B. _____

1) _____

2) _____

3) They are called commercial fertilizers

that can be classified into:

i- _____

E.g. _____

ii- _____

E.g. _____

iii- _____

Exercise : 2

Fill the chart below with the appropriate answer from the passage.

Plant nutrients	Uses
1 Manure	1. Improves the texture and structure of the soil 2.
2 Superphosphate	1. 2. 3.
3	1. enhance development of stem and leaf so as to produce and rich green foliage.
4	1. 2. Makes plant tissues stronger. 3. increases crop yields. 4.

Exercis-3:

Write out what the following words/phrases in the passage refer back to:

- 1) They (line 6) _____
- 2) It (line 13) _____
- 3) Them (line 16) _____
- 4) These (line 16) _____
- 5) It (line 29) _____
- 6) This (line 37) _____
- 7) Disease - causing (line 43) _____
- 8) Those (line 44) _____

Exercise-4:

Write true or false for each of the following sentences.

Remember to Justify your answer from the text if you say false.

- 1) The inorganic materials consist of carbon as the main ingredient. _____
- 2) Ammonium sulphate contains 46% nitrogen.

- 3) Manure is as effective as the inorganic fertilizers.

- 4) A shortage of phosphate hinders the development of roots.

- 5) Tropical soils are usually rich in phosphate.

- 6) Potash is important only for oil and starch producing plants.

- 7) Lack of potash rarely develops scorched looking leaves.

UNIT TWO

THE SCALE OF THINGS

The sun is a star. It is not a particularly large or particularly bright star, and exists in a universe that contains literally millions of stars. Astronomers classify our small and undistinguished life giver as a 'Yellow dwarf'. They also
5 reveal that there are cosmic facts, to be accepted without argument, whatever our senses tell us about our large sun and tiny stars. Like the distances in light-years that separate stars, however, are hard to digest.

As Robin Kerrod observed, it is difficult for anyone to
10 view the universe in appearance. Moreover, he said that it is made up of space with stars, planets, dust and gas floating in it here and there. Our solar system is in fact a comparatively crowded corner of the universe. By our own methods of measuring and appreciating distances, Venus, the nearest
15 planet to earth, is more than 25 million miles (40 million kms) away, while our modest yellow dwarf is 93 million miles or 150 million kilometers away. It is hard enough to imagine these distance.

Today, most people with western-style education accept
20 that the universe in which our earth and Sun move is beyond conception. Any conception we have of cosmic scale of things is Judged by the intellect, not the senses ; we cannot see the universe with all its turning galaxies ; the sun does not look in anyway like a star of a distant light; we don't feel

25 the earth moving round the sun. On the contrary, it seems
to us that every thing moves round the earth.

Our home planet, the earth, is wrapped in a blanket of
gases that encircle it in several layers. To our practical
sensēs, this blanket of gases - the atmosphere - flows in
30 winds, while the seas that cover so much of the planet's
surface move in currents. The ground beneath us, however, is
solid and unchanging; the mountains and plains have been there
for ages. They will look the same on the day we die as on the
day we were born.

35 But is this really so ? Our scientific knowledge,
provided by geologists, tells us that continents move, that
earthquakes and floods are not the work of angry gods, but
rather the results of predicatable changes in the forces of
nature, obeying physical laws.

Adapted from The Written Word

by Tom McArthur

pp. 85-86.

Exercise-1:

Fill the following outline form with the information given in the first paragraph.

I. The Sun

- A. _____
1. _____
2. _____
3. _____

Exercise-2

Complete the table with the correct term or description given in the text.

TERMS	DESCRIPTIONS
1. _____	1) Crowded corner of the universe
2. atmosphere	2) _____
3. earth	3) _____
4. _____	4) yellow dwarf
5. venus	5) _____

Exercise : 3

Complete the following chart with the information from the passage

Kerrod's view
of the universe

1. _____

2. _____

1. _____

2. _____

Scientific knowledge
provided by geologists

Reasons why we cannot
understand about the
universe easily

1. _____
2. _____
3. we do not feel the earth
moving
4. _____

Exercise-4:

Write out what the following words in the passage refer back to:

- 1) It (line 1) _____
- 2) They (line 4) _____
- 3) That (line 4) _____
- 4) It (line 10) _____
- 5) That (line 28) _____

Exercise-5:

Below are some statements relating to the passage. Some are true (T), while others are false (F). Mark them appropriately, and if a statement is false, say why.

1. Earthquakes and floods are the work of man made forces.

2. Mountains and plains look different on the day one dies from the day one was born.

3. As atmosphere flows in current; the seas move in winds.

4. Cosmic facts are clear and simple to understand.

5. The universe contains millions of stars.



UNIT THREE

ANIMALS AND ENVIRONMENT

Man is able to control his environment by dress, housing, heating, and air conditioning. However, as animals are not able to control their environment, they must adapt in other ways. One way animals adapt to their environment is through
5 a period of inactivity. This covers different types of periods. One period of inactivity is called hibernation. It is a period when animals go into sleep like state during the winter. In this time the body temperature of animals is lowered to that of the surrounding air. Animals such as squirrels and hamsters
10 are good examples that hibernate.

A period of inactivity in which the animals sleep through the winter is Carnivorean lethargy. During this period, the animals body temperature is about normal. For instance, Bears go through this period. The third period of inactivity
15 is called estivation. This is a period when the animal becomes inactive during the hot season. Snails, froges, snakes and lizards estivate during the hot weather. The fourth period of inactivity is called diurnal hibernation. During this time some animals sleep all day and become active
20 at night, example bats; where as some others such as huming birds sleep at night and become active in day time.

Another form in which animals adapt to their environment is through migration. Animals usually migrate from place

to place when the cold sets in. In other words, they
25 migrate to warmer climates where they can find food. There
are two kinds of migrations : periodic and sporadic. Periodic
migration occurs when an animal moves from one location to
another during certain times of the year. Deer and Elk, for
instance, leave home just before winter and return home
30 during the Summer. The second form of migration is sporadic
migration in which animals move every 5 to 20 years. The
Lemming, an animal belonging to the mammal family, migrates
sporadically.

Adapted from
Mastery learning reading
pp. 63 - 65.

Exercise : 1

Complete the following chart with notes from the passage.

PERIODS OF INACTIVITY	ILLUSTRATION
1. _____	1. Some animals sleep on day and become active at night, while some do the opposite.
2. <u>Hibernation</u>	2. _____ For instance animals that hibernate are: (i) _____ (ii) _____
3. _____	3. _____ Bears are good examples that go through this period.
4. <u>Estivation</u>	4. _____ Some of the animals that estivate are: (i) _____ (ii) _____ (ii) _____

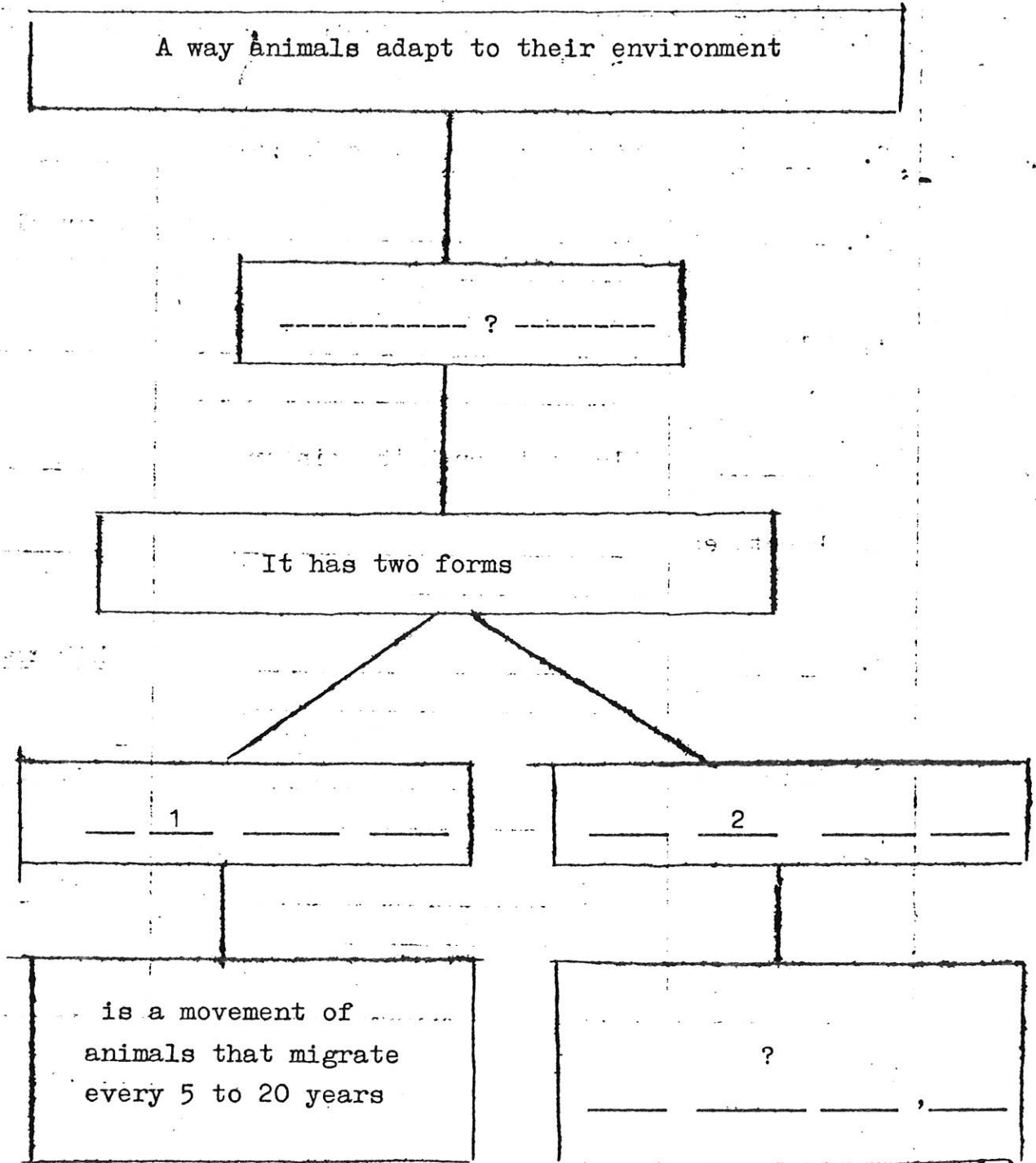
Exercise-2:

Complete the following table by listing the name of animals, their characteristics and ways of adaptation:

ANIMAL'S NAME	CHARACTERSTICS	WAY/Form OF ADAPTATION
1. Snakes	become inactive during the hot weather	Estivation
2. _____	Migrates every 5 to 20 years	_____
3. _____	_____	diurnal hibernation
4. Elk	_____	_____
5. _____	Sleeps through the winter	_____
6. hamsteres	_____	_____
7. _____	_____	<u>hibernation</u>
8. bats	(a) _____	(a) _____
	(b) _____	(b) _____

Exercise : 3

Complet the following diagram with the correct information



Exercise-4:

Decide what the following words in the passage refer back to

1. They (line 3)

- a) Man's way of adapting to the environment
- b) Animals
- c) Dress, heating and air conditioning
- d) This environment

2. This (line 5)

- a) Types of periods
- b) hibernation
- c) a period of inactivity
- d) a and c.

3. It (line 6)

- a) hibernation
- b) sleeplike state
- c) winter
- d) squirrel

4. This (line 15)

- a) Third way of adaptation
- b) Period when an animal becomes inactive during the hot season
- c) estivation
- d) b and c are correct

5. They (line 24)

- a) warmer climates
- b) forms of migration
- c) the cold sets
- d) animals

Exercise-1:

1. In the first paragraph the two catastrophic accidents caused by bird strikes are stated clearly; so note them down in two simple and reduced sentences.

- i) _____
ii) _____

2. According to the 2nd paragraph, what should the responsible men do in order to take the necessary preventive measures against bird danger ?

3. Write in the space provided the reasons, according to the passage, for each cause stated below.

a) Attract birds

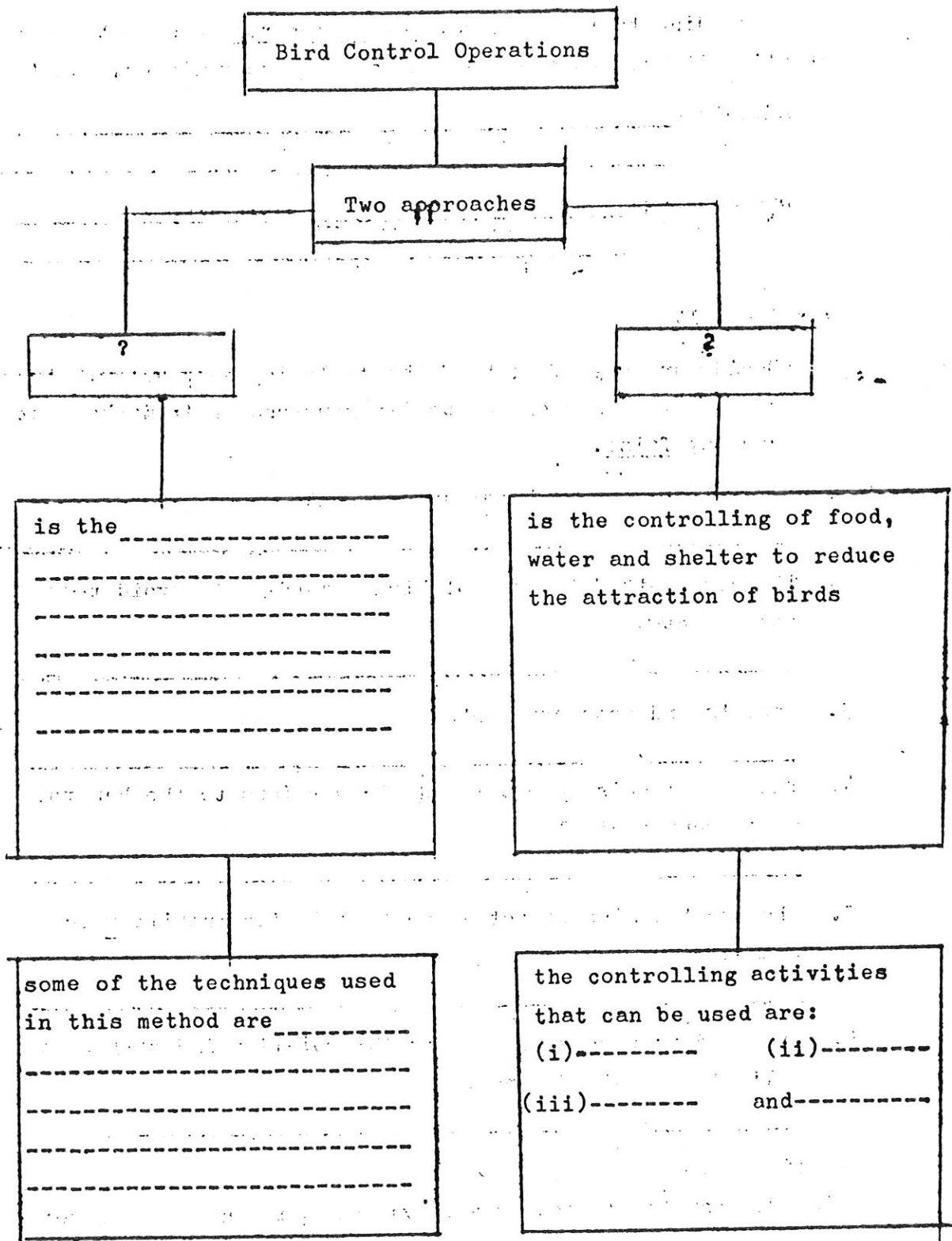
b) Brings bird gathering

c) Catch the interest of birds

d) Invites predatory birds

The existence of reptiles such
as lizards; and animals like rats
and rabbits.

Complete the following diagram using the necessary ideas from the passage.



Exercise-III

According to the passage, active control is said to be practical but still it has its own advantages and disadvantages. What are they ?

Advantage _____

Disadvantage _____

Exercise-IV:

Decide and say if each of the following sentences is true or false. Remember to justify your answer from the text if you say false.

1. Bird strike causes harmless accidents.

_____. _____

2. The best method to control bird hazard is to avoid the attractants. _____

3. Rabbits and rats are reptiles.

_____. _____

4. The use of noise producing devices refers to the habitat management control. _____

5. The short coming of active control is its inability to eliminate attractants. _____

6. In our days bird strike costs the aviation industry only a little amount of money.

_____. _____

Exercise-V:

Decide what the following words/phrases in the passage refer back to

1. It (line 2) refers to _____

2. Reptiles (line 14) _____

3. The best method (line 16) _____

4. This (line 20) _____

5. This (line 26) _____

UNIT FIVE

Elephant

Millions of years ago the elephant order was very large but today it is reduced to only two species, the African and Indian Elephants.

African elephants have bigger ears and tusks than the
5 smaller Indian elephants; they also have flatter foreheads and concave backs. Their tusks, developed from incisor teeth in the upper Jaw, grow up to 3.5 meters long in males but are much smaller in females. So many African elephants have been hunted for their valuable ivory tusks such that the species is now quite
10 rare and most of the survivors are in game reserves. The Indian elephant has been domesticated for centuries to carry large loads and perform other heavy work. Only the male Indian elephants bear tusks and these are used for defence, to uproot trees and to dig for roots and water.

15 Elephants are the largest of all land animals. The African bush elephant is the greatest in size, with males growing up to 3.5 meters tall and weighing upto six tons. Elephants have just one enormous ridged molar (cheek teeth) in each jaw, which is used for crushing food. When a molar wears out it is replaced
20 by another one from behind it. An elephant is mature at 15 years and usually dies at the age of 60. Cow elephants produce one offspring every two years. The young calf takes 21 months to develop inside the mother and then takes five years to be fully weaned. The gestation period is the longest of all mammals
25 in comparison with nine months in man and three weeks or less in mice.

The elephant's trunk is an elongated nose (proboscis) used for gathering food, often upto 100 kg. per day of leaves, tree bark, grass and roots. Its delicate tip, which has one 30 finger-like projection in the Indian, and two in the African elephant, can pick up small objects. The elephant drinks by sucking up water with its trunk which is then forced into its mouth. Although elephants have poor sight they have a keen sense of smell. When they move their trunks from side to side 35 or raise them in the air they are smelling out their surroundings.

Adapted from Authentic
Reading pp. 82-83.

Exercise-1:

Complete the following outline using the appropriate information from the passage.

I. Elephants

1. _____

A. _____

B. _____

C. have valuable ivory tusks

2. _____

A. Carry large loads

B. _____

C. male elephants bear tusks used for:

i) _____

ii) _____

iii) _____

Exercise-2:

In the second paragraph there are about four points which indicate feature (s) of elephants, so note them down below:

1. _____

2. _____

3. _____

4. _____

Exercise-3:

Say true if the sentence is correct and false if it is incorrect; Remember to justify your answer from the text if you say false.

1. African elephants are quite many and live everywhere.

_____. _____

2. Female Indian elephants bear tusks.

_____. _____

3. African bush male elephants grow up to 3.5 meters tall.

_____. _____

4. Cow elephants produce one offspring every year.

_____. _____

5. The gestation period in elephants is the longest of all mammals.

_____. _____

6. A trunk is a cheek teeth used for crushing food.

_____. _____

7. The gestation period in mice is nine monthes.

_____. _____

Exercise-4:

Write/pick out what the following words/ phrases in the passage refer back to:

1. It (line 2) refers to

2. They (line 5) refers to

3. These (line 13) refers to

4. Cheek teeth (line 18) refers to

5. Proboscis (line 27) refers to

6. Them (line 25) refers to

Exercise-5:

Complete the following table by listing terms, their definitions and uses.

TERMS	DEFINITION	USE
1. _____	an elongated nose	i) _____ ii) _____ iii) _____
2. _____	_____	for crushing food
3. _____	finger-like projection	_____
4. tusks	_____	i) _____ ii) _____ iii) _____

UNIT SIX

CONDITIONING

When animals (including man) eat it is normal for the mouth to water. This is called salivation. It is a natural reflex, and was studied by the Russian physiologist Pavlov whose famous experiments on the salivation of dogs are important
5 in the history of modern psychology.

Though salivation is natural, Pavlov noticed that a dog would salivate not just when it was eating, but also when it saw the man who usually fed it. In Pavlov's early experiments he simply showed the dog some bread, which he then allowed it
10 to eat. After a while the sight of the experimenter was enough to make the dog salivate. We cannot call this natural reflex because a dog does not normally salivate at the sight of man. It is what psychologists call a 'conditioned response'. The dog has been taught, or 'conditioned' to salivate when he sees the man.

Having decided to study this, Pavlov developed scientific methods for doing so. In order to make sure the experimenter did not disturb the dog, dog and experimenter were put in the separate rooms. Pavlov even put the dog in a kind of frame to
20 make it stand still. He invented a system of tubes for giving the dog food, and watched what happened from outside the room. He found that he could condition the dog to salivate at almost any event-when a bell rang or a light flashed, for example, as long as this event was followed by food.

25 The American psychologist Skinner developed this idea of
conditioning. He found he could condition animals to do quite
complicated things by using a technique he called shaping. He
could teach pigeons, for example, to play table tennis. At
first he gave them a reward for knocking the ball a short dis-
30 tance in the right direction. Slowly he increased the distance
they must knock the ball before getting the reward, and eventually
they received it only when they knocked the ball past their
opponent.

Taken from Communicate in
writing p. 60.

Exercise-1:

Complete the following outline using the necessary information from the passage.

I. Experimenters

A. Pavlov, _____, noticed
that a dog salivates when:

i) _____

ii) _____

B. _____, American psychologist, found

i) ~~He~~ created a technique named

ii) _____ were the animals used
in his experiment.



Exercise-2:

Copy and complete the table which follows to show the experimenters' aims and how they reached them.

AIMS	HOW
1. make sure experimenter did not distrurb dog	1. put dog and experimenter in separate rooms
2. make dog stand still	2. -----
3. -----	3. invented a system of tubes
4. make dog salivate at almost any event	4. -----
5. -----	5. Shaping
6. teach pigeons to knock ball in right direction	6. -----

Exercise-3:

Write out what the following words/phrases in the passage refer back to;

1. It (line 2) _____
2. Whose (line 4) _____
3. Who (line 8) _____
4. The experimenter (line 10) _____
5. We (line 11) _____
6. This (line 16) _____
7. It# (line 20) _____

8. He (line 22) _____
9. This event (line 24) _____
10. Technique (line 27) _____
11. Them (line 29) _____
12. He (line 30) _____
13. It (line 32) _____

Exercise-4:

Say true if the sentence is true and false if the sentence is false. Remember to justify your answer from the text if you say false.

1. When a man eats his mouth waters.
_____.
2. Salivation is a natural reflex studied by the Russian psychologist.
_____.
3. Salivation is unnatural.
_____.
4. The dog and the experimenter were in the same room.
_____.
5. Shaping is a technique used to condition animals to salivate.
_____.
6. When a dog is taught or trained, it can give conditioned response.
_____.
7. Skinner taught pigeons to play table tennis.
_____.

8. To make the study sure, Pavlov troubled the dog.

.....

Exercise-5:

Here are steps which Pavlov followed in his experiment,
so put them in the order they happen.

- Rang a bell
- Gave dog food
- Dog salivated
- Put dog in room alone
- Put dog in frame

- A.
- B.
- C.
- D.
- E.

Appendix-C: Teaching Material for the control group

UNIT ONE

Vocabulary

I. Meaning

A. Study the meanings of the following words:

1. to enhance (V. line 3) to make greater, to intensify the value or quality of.

The literacy programme will no doubt enhance the progress of the country.

2. ingredient (N. line 6) one of the parts of a mixture.

The ingredients of ice cream are carbohydrates, minerals, proteins and fats.

3. dung (N. line 12) Waste matter dropped by domestic animals and used on fields as manure.

In many parts of Ethiopia dung is used for fuel. It is a satisfactory substitute for wood.

4. Withstand (V. line 40) resist, hold out against (Pressure, attack). Adults can withstand hardship better than children.

5. Prematurely (Adj. line 46) before the right or usual time. The baby was born Prematurely and had to put in an incubator.

B. Study the meanings of the words. Then select the word or phrase that would best complete the sentence.

1. required (V.) needed.

A strong _____ is required to safeguard the on-going Revolution.

- a) reactionary force b) military force c) revolution-
ary army.

2. litter (N.) straw and similar material used as bedding for animals or for protecting plants from frost.

In many parts of Ethiopia litter is used _____

- a) as food for people
- b) as food for animals.
- c) for protecting animals from frost.

3. Stock (N.) farm animals.

we usually drive stock _____ to the abattoir.

- a) fit for slaughter as food
- b) fit for breeding
- c) fit for hoarding

4. Foliage# (N.) all the leaves of a tree or plant.

In autumn most _____ last their foliage.

- a) animals
- b) trees
- c) fertilizers

5. Pests (N.) troublesome or destructive things, animals, etc.

This poison can kill all garden pests such as _____

- a) tree, weed and straw.
- b) insects, mice and snails.
- c) cows, dogs and cats.

6. The wind lodged the wheat. This resulted in _____.

- a) more production.
- b) less production.
- c) more ammonium sulphate.

7. To hinder (V.) - to delay

Illiteracy hinders _____ of any country.

- a) the progress
- b) the poverty
- c) the ignorance.

8. Scorched (V.) - became discoloured from heat or from lack of plant nutrients such as potash.

Look! the plants are scorched. This has resulted from _____

- a) lack of rain b) over-supply of ammonium sulphate
c) enough of everything.

II. Word practice

Exercise 2:1

A. Select the word or phrase that is nearest in meaning to the underlined word or phrase.

1. The International Livestock Center for Africa sees to it that both the quality and quantity of farm animals in Africa are improved.
a) cattle b) flock c) stock
2. The competition for weapons of mass destruction will speed up the misery and ruin of the whole world.
a) aggrandize b) aggravate c) progress
3. The nurse gave one of her patients a penicillin injection without knowing that he was allergic to it. Fortunately, the doctor on duty was around and prescribed another kind of medicine to neutralize it.
a) counter-attack b) counteract c) count on
4. Doctors usually know the composition of each syrup.
a) essay b) drama c) ingredients
5. An over-supply of ammonium sulphate makes cereal straw so weak that the crop is easily laid.
a) lodged b) cut c) crushed

6. Where there is no rain there is no leaching.

- a) soil erosion b) wind erosion c) washing away of
plant nutrients.

7. The two constituents of water are oxygen and hydrogen.

- a) component parts b) mixture c) characteristic.

8. Where there are frequent earthquakes, prefabricated houses are preferable to other buildings because they resist strong vibration.

- a) withstand b) can be damaged by c) can be affected
by

A. Use the following words or phrases in sentences of your own to show that you understand their meanings and use:

required	litter	Scorched
dung	foliage	pests
liable	hinder	prematurely

Comprehension

A. Which of these statements are true and which of them are false ? Say which part of the passage provides the evidence.

1- Plant nutrients in soil help plants grow well.

2- Organic fertilizers are not as effective as inorganic fertilizers.

3- The organic materials contain carbon and carbonte.

4. The inorganic materials consist of carbon as the main ingredient.

5. Leaching does not decrease soil fertility.

6. In nitrogen fertilizers the main constituent is potassium.

7. An over - supply of ammonium sulphate is good.

8. Bacteria and fungi are disease - causing agents.

9. Potash is more important for oil producing plants.

10. If a certain soil has a lot of acid, plants grow well.

B. Answer the following Questions in complete sentence.

- 1) What are the main plant foods that are required to speed up plant growth ?
- 2) What does Ethiopia import, organic or inorganic fertilizers ?
- 3) Which of these two fertilizers is widely used in your region ? Which one is more effective ?
- 4) What is the effect of a shortage of potash ?
- 5) What is the effect of using potash in conjunction with nitrogen ?

UNIT TWO

Vocabulary

I. Meaning

Study the meanings of the following words.

1. Undistinguished (V. line 4) unseen, unrecognized.

Aster is undistinguishable from her twin sister.

2. Cosmic (Adj. line 5) of the whole universe.

Cosmic rays mainly reach the earth from outer space.

3. Crowded (V. line 13) filled space

Let's not crowd the room with furniture.

4. Conception# (N. line 21) Conceiving of an idea or plan that takes shape in mind.

A good novelist needs great powers of conception.

5. Wrapped (V. line 27) put round, covered or rolled up.

The mountain top was wrapped in mist.

6. Flood (N. line 37) great quantity of water in a place that is usually dry.

The rainstorms caused floods in the low-lying parts of the town.

Exercise-1:

Use the following words to show that you understand their meanings and use.

wrapped

crowd

undistinguished

flood

conception

Exercise-2:

Give suitable answers to the following questions according to the information in the passage.

1. _____ are scientists who classify our small and undistinguished life-giver as a 'yellow dwarf'.
- a) geologists c) archaeologists
b) botanists d) astronomers
2. One of the following sentences is Kerrod's idea:
- a) Anyone can see the universe in perspective.
b) Astronomers can view the universe in appearance.
c) Universe is made up of space with stars etc..
d) The solar system is the center of the universe.
3. The planet Venus is _____ away.
- a) 25 million miles
b) 40 million kilometres
c) more than 40 million kilometres
d) a and b are correct
4. According to the passage, the concept of cosmic scale is mediated by _____.
- a) light year
b) western style education
c) senses
d) intellect.
5. One of the teachings of the geologist is that _____.
- a) the earth is flat
b) the sun is a star of a distant light
c) everything moves round the earth
d) none of the above.

Exercise-3:

Answer the following Questions in Complete sentences.

1. What do you understand by the phrase 'yellow dwarf' ?

2. Do you feel the earth moving round the sun ?

3. What is the nearest planet to the earth on which we live ?

4. How many kilometres is the sun away from our home planet ?

5. Mention some of the elements which a universe is made up of ?

Exercise-4:

Which of these statements are true and which of them are false ? Say which part of the passage provides the evidence.

1. In the universe gas floats every where.

2. The sun which is 93 million miles away is the nearest planet to earth.

3. Geologists teach us that continents move.

4. It is scientifically accepted that everything moves round the sun.

5. The earth is wrapped in a blanket of liquid.

UNIT THREE

Vocabulary

I. Meaning

A. Study the meaning of the following words

1. Adapt (V.) adjust, make something suitable for
2. Inactivity (N.) motionless, immobility
3. Hibernate (V.) sleep
4. Lethargy (N.) fatigue, exhaust
5. Migration (N.) coming and going with season, departure
6. Belonging to (V.) member of, relating to, characterizing

Exercise-1:

Word practice

Choose a suitable word for each blank space from the list below and complete the sentences that follow.

belong adapt hibernating
lethargy inactivity

1. Some animals pass the whole winter_____.
2. Working day and night causes_____.
3. When a man is over seventy his time is full of_____.
4. When you go to a new country, you must_____yourself to new manners and customs.
5. Which club do you_____ to ?

Exercise-2:

Give suitable answers to the following questions according to the information in the passage.

1. A period of inactivity when animals sleep the whole winter is _____.
 - a) hibernation
 - b) diurnal hibernation
 - c) estivation
 - d) carnivorean lethargy
2. One of the following is a way animals adapt to their environment:
 - a) housing
 - b) heating
 - c) eating
 - d) migrating
3. Animals that go into sleep-like state during winter are _____.
 - a) bears
 - b) humming Birds and Bats
 - c) hamsters and squirrels
 - d) snakes and lizards
4. One of the following is true about the fourth period of inactivity:
 - a) Some animals sleep all day and become weak at night.
 - b) All animals sleep at night and become active in day time.
 - c) Some animals sleep all day and become active at night.
 - d) a and c are correct.
5. _____ is a form of migration in which animals move from place to place in a definite of time.
 - a) Periodic
 - b) Estivation
 - c) Diurnal hibernation
 - d) Sporadic
6. _____ is a good example of the animals which leave home for every 5 to 20 years.
 - a) Dear
 - b) Huming bird
 - c) Bear
 - d) None

Exercise-3:

Which of these statements are true and which of them are false ? Say which part of the passage provides the evidence.

1. During hibernation animals' body temperature is the same as the surrounding air.
2. Bears never sleep in winter.
3. Frogs and lizards are passive in hot season.
4. Lemming is a mammal.
5. When the cold sets in, some animals migrate to place where they can find heat.

Exercise-4:

Give a complete answer to each of the following questions.

1. What are the two forms of migration ?

Give a definition and an example of each form.

- i) _____

- ii) _____

2. What are some of man's abilities in controlling his environment ? _____
3. What is the difference between hibernation and diurnal hibernation ? _____
4. Define estivation and list at least two names of animals that estivate. _____
5. What is the body temperature of bears during winter ? _____



UNIT FOUR

Vocabulary

I. Meaning

Study the meaning of the following words:

1. Aviation (N. line 1) flying, art and science of flying in air craft.
2. Apparently (Adv line 2) seemingly, as it seems
3. Catastrophic (Adj. line 2) destructive, ruinous
4. Garbage (N. line 10) waste food put out as worthless, litter rubbish, waste material.
5. Predatory (adj. line 13) (of animals) preying upon others.
6. Devices (N. line 21) things invented for special purposes.
7. Scarecrow (N. line 21) figure of a man dressed in old clothes.

Exercise-1:

Word practice

Choose a suitable word for each blank space from the list below and complete the sentences that follow.

Apparent

Predatory

Scarecrows

Catastrophic

Device

1. That is a _____ made for catching flies.
2. Such a storm could cause a _____ accident.
3. It was _____ to all of us.
4. Ethiopian farmers usually set up _____ to frighten birds away from crops.
5. Some say even rabbits are easily attacked by _____ birds.

Exercise-2:

Select the best answer for each of the following questions.

1. According to the passage bird strikes usually occur _____.
 - a) in big cities
 - b) at any transport stations
 - c) at or near aerodromes
 - d) near slaughter houses
2. At airports, one of the following mainly catches the interest of birds.
 - a) the existance of rats and rabbits
 - b) garbage deposits
 - c) the existance of worms and insects
 - d) attractive plants
3. Active control is preferred to habitat management because _____.
 - a) it is unable to illiminate attractants
 - b) it is not expensive to apply it
 - c) it is more theoretical
 - d) it can be used immediatly
4. Which of the following is an example of a reptile ?
 - a) a rat
 - b) a rabbit
 - c) a lizard
 - d) a and b
5. In the first paragraph, it is stated that bird strike
 - a) is a source of income to the aviation industry.
 - b) causes destructive accidents.
 - c) opens a chance of work to many people.
 - d) a and c are correct.

Exercise-3:

Which of these statements are true and which are false ?
Justify your answer from the text.

1. Active control is the practical method of dispersing birds away from agricultural fields.
_____.
2. The reason why birds are attracted to the airport is to welcome guests. _____.
3. A trap is a device or technique used in the active control.
_____.
4. Bird control operations have three approaches.
_____.
5. A noise producing device helps to control bird hazard.
_____.

Exercise-4:

Answer the following questions from the passage.

1. What are some of the reasons which attract birds to the airports ? _____
2. What are the approaches used for bird control operations ?

3. State only three techniques which active control covers.

4. How can one apply habitat management ?

5. Which of the two approaches do you think is better and more applicable ? Why ?

UNIT FIVE

Vocabulary

I. Meaning

Study the meaning of the following words.

Species (N. line 2) sort, order, type.

Incisor (N. line 5) sharp-edged cutting teeth.

Valuable (Adj. line 7) of great value, worth or use.

Domesticate (V. line 9) kept by man, living with man.

Enormous (Adj. line 15) very great, immense.

Weaned (V. line 21) fully grown.

Gestation (N. line 21) a period between conception and birth.

Keen (Adj. line 30) active, sensitive, sharp.

Exercise-1:

Word practice

Choose a suitable word for each blank space from the list below and complete the sentences that follow.

Keen

Valuable

Enormous

Incisors

Domestic

Gestation

1. Adults have about eight _____ in both jaws.
2. Articles of gold, silver, and jewels are _____.
3. Horses, cows, and sheep are _____ animals.
4. That boy eats _____ food.
5. The _____ period in women is about nine months.
6. Abba Gebrekidan is a _____ and enthusiastic priest.

Exercise-2:

Select the best answer for each of the following questions.

1. One of the following sentences characterizes African elephants.

- a) They are domesticated enough to carry large loads.
 - b) Their species is quite plenty throughout the world.
 - c) They have valuable ivory tusks.
 - d) They have flatter foreheads and convex backs.
2. Why are most of the African elephant survivors in game reserves ?
- a) To protect them from being hunted.
 - b) To domesticate and train them to perform heavy work.
 - c) To train them on how to defend themselves.
 - d) To provide them with better treatment.
3. African female elephants have tusks which grow _____
- a) upto 3.5 meters long.
 - b) more than 3.5 meters long.
 - c) less than 3.5 meters long.
 - d) none of the above is correct.
4. One of the following is not true about elephants.
- a) they are the largest of all land animals.
 - b) They have one molar each for crushing food
 - c) Cow elephants give birth twice a year.
 - d) Elephants' gestation period is the longest of all mammals.
5. When can an elephant start to mature ?
- a) at the age of 25.
 - b) beyond 14 years.
 - c) at the age of 60.
 - d) between 15-25 years.

Exercise-3:

Which of these statements are true and which are false ?
Justify your answer from the text.

1. A Young calf takes 150 days to be fully weaned.

_____.

2. Indian female elephants bear tusks.
_____.
3. The maximum weight of an elephant is 60 tons.
_____.
4. Trunks are used for sucking up water and for smelling out air.
_____.
5. A molar is an elongated nose used for gathering food.
_____.

Exercise-3:

Answer the following questions in complete sentences.

1. Why do people hunt African elephants ?
_____.
2. In the first paragraph uses of the tusks are clearly stated; so write them down:

_____.
3. According to the passage what do you think is the function of the molar and the trunk ?

_____.
4. How many years does a young calf take to develop inside its mother ? _____.
5. What is the gestation period for mice ?
_____.

UNIT SIX

Vocabulary

I. Meaning

Study the meaning of the following words:

1. reflex (N. line 2) action done, not on purpose, in reply to some outside influence.
2. physiologist (N. line 3) person who studies the bodies of living things.
3. experimenter (N. line 10) person who makes tests.
4. conditioned (V. line 13) trained, accustomed.
5. frame (N. line 18) firm border or case.
6. invented (V. line 19) created or designed.
7. flashed (V. line 22) shone or appeared for a moment.
8. technique (N. line 26) skilled method.
9. shaping (V. line 26) determining a pattern of behaviour.
10. opponent (N. line 31) person or animal who is against in game.

Exercise-1:

Word practice

Choose a suitable word for each blank space from the list below and complete the sentences that follow. Make any necessary changes.

invent	conditioned	flash
experiment	opponent	reflex

1. Lightning_____ during the storm.
2. When was the steam engine_____ ?
3. Animals can be _____ to expect food at certain times.

4. Sorry I hit you; it was a pure_____.
5. Our _____ in saturday's game were very active.
6. The researchers are repeating the _____ on rats.

Exercise-2:

Comprehension questions

Choose the best answer to complete the following sentences

1. A dog would salivate_____.
 - a) when it was eating.
 - b) when it saw the man who fed it.
 - c) when it saw a man eating.
 - d) a and b.
2. _____ is a psychologist who developed the idea of conditioning.
 - a) Pavlov
 - b) Barlow
 - c) Skinner
 - d) Miller
3. Natural reflex is_____.
 - a) conditioned response
 - b) similar to a technique called shaping
 - c) an action that can be taught or trained
 - d) involuntary action made in reply to an outside influence/stimulus.
4. As pigeons are to Skinner; _____ are to Pavlov.
 - a) rats
 - b) horses
 - c) dogs
 - d) rabbits
5. According to the passage, pavlov's experiments on the salivation of dogs are_____.
 - a) important in the history of modern physiology.
 - b) essential in the history of old psychology.

c) central in modern history.

d) significant in the history of modern psychology.

Exercise-3:

Which of these statements are true and which are false?

Justify your answer from the text.

1. Salivation is natural.

2. Skinner invented the technique called shaping.

3. A kind of frame was used to enable the experimenter to observe the dog.

4. Unless a dog is taught or trained, it cannot give conditioned response.

5. Skinner was an American physiologist.

6. Pavlov used some meat in his experiment.

Exercise-4:

Answer the following questions from the passage

1. What is the difference between physiologist and psychologist ?

2. Write clearly what the following phrases mean:

a) natural reflex

b) conditioned response

3. Why did Pavlov put the dog in a kind of frame ?

4. According to the passage what does shaping mean ?

5. From Pavlov's point of view, when does a dog salivate ?

Appendix-D:

Name _____

Roll No. _____

Section _____

POST-TEST ONE

Glands manufacture and secrete necessary substances. The two main glands are exocrine and endocrine glands. Exocrine glands secrete their products through ducts, but endocrine glands, or ductless glands, release their products directly
5 into blood stream.

One important endocrine gland is the thyroid gland. It is in the neck and has two lobes, one on each side of the wind pipe. The thyroid gland collects iodine from the blood and produces thyroxine, an important hormone, which it stores
10 in an inactive form. Thyroxine is combined in the body cells with other chemicals and affects many functions of the body.

The thyroid gland may be underactive or overactive, resulting in problems. An underactive causes the growth process to slow down. Overactive, on the otherhand, results in extreme
15 nervousness, an increase in heart action, and other problems.

Either underactive or overactive may result in goiter, or an enlarged thyroid gland. A goiter will appear when the body is not getting enough iodine. Goiter is less common today, since most people use iodized salt.

Adapted from Cliffs:

Test of English as a foreign
Language, by Michael A.

Pyle and M.E. Munoz p. 304.

Exercise-I:

Complete the following Outline form with the information from the text.

I. Glands are of two kinds:

1. _____

used to _____

2. _____

They release their products directly
into the blood stream.

A good example is _____ gland.

It functions:

i) _____

ii) _____

Exercise-II

Decide what the following words or phrases in the passage refer back to:

1. Their (line 3) _____

2. Ductless glands (line 4) _____

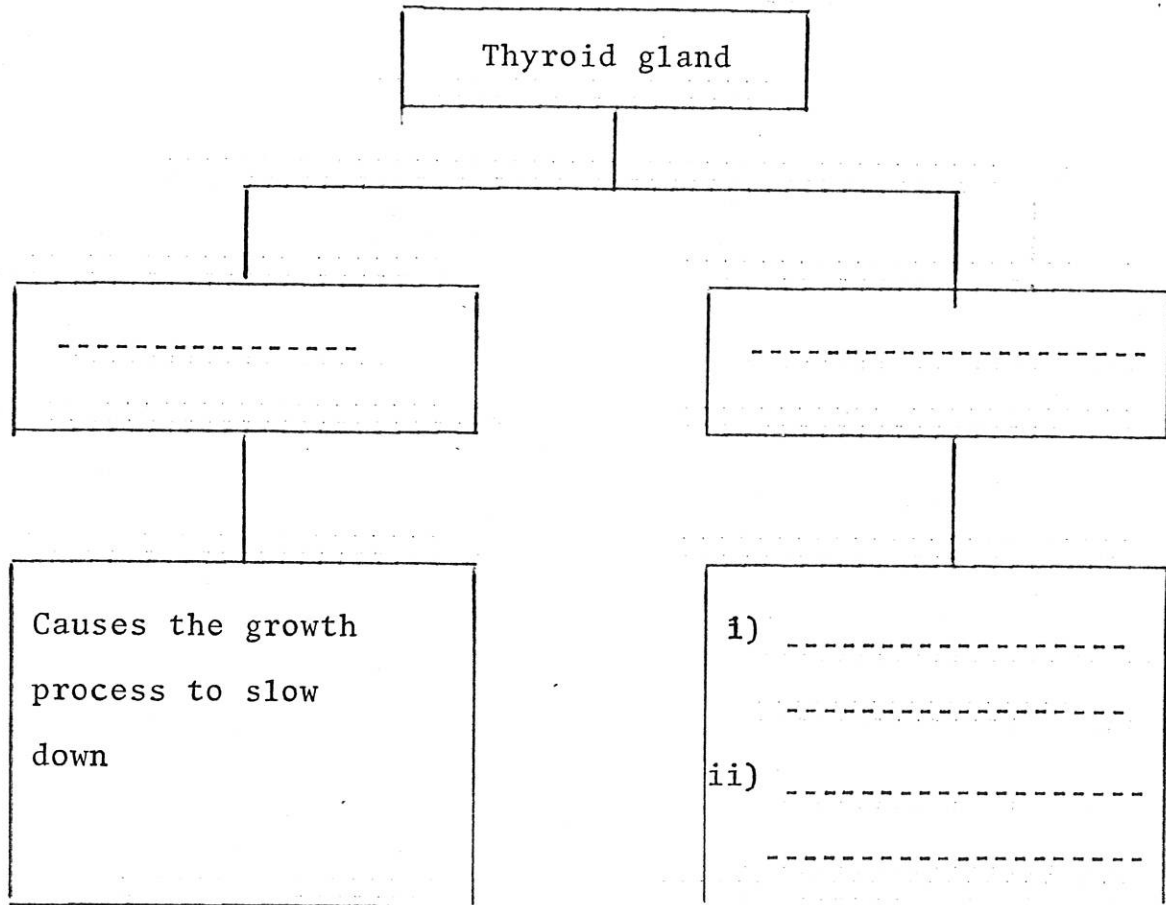
3. It (line 6) _____

4. Thyroxine (line 9) _____

5. It (line 9) _____

Exercise-III

Complete the following diagram with the necessary information from the passage.



Exercise-iv:

Here are words from the passage. Decide which of the alternatives given is the best definition for the word as it is used in the passage.

1. Manufacture (line 1)

a) produce b) industrialize c) fabricate d) design

2. Secrete (line 3)

a) bury b) deceive c) hide d) suppress

3. Release (line 4)

a) emancipate b) allow to pass c) restore d) exempt

4. Stores (line 9)
a) accumulates b) provides c) economize d) none.
5. Enlarged (line 17)
a) matured b) developed c) swelled d) all are correct

Exercise-v:

Comprehension questions

Select the best answer to complete each of the following sentences

1. A goiter is _____.
a) a person with a cretin.
b) a swollen thyroid gland.
c) an underactive thyroid gland.
d) a chemical.
2. The thyroid gland is called endocrine gland _____.
a) because it is located in the neck,
b) because it has ducts.
c) because it has lobes.
d) because it excretes directly into the blood stream.
3. The cause for a goiter to appear in the human body is _____.
a) lack of getting iodized salt.
b) due to an extreme production of thyroxine.
c) due to the slow growth process.
d) because of an excess production of thyroxine.
4. The hormone which thyroid gland stores in an active form is _____.
a) exocrine c) thyroxine
b) endocrine d) iodine

5. One of the following is not true about thyroid gland.
- a) it is a ductless gland.
 - b) it is underactive which results in extreme nervousness.
 - c) It collects iodine from the blood.
 - d) all are true.

Exercise-vi:

Decide and say if each of the following sentences is true or fals. Give evidence to support your answer.

1. Thyroid gland is in the head and has two lobes.
.....
2. Thyroxine is an essential hormone stored in active form.
.....
3. Exocrine glands release their products directly into the bloodstream.
.....
4. Getting less iodine causes a goiter to appear in our body.
.....
5. Underactive thyroid gland makes the growth process to slow down.
.....

Name _____

Roll no. _____

Section _____

POST-TEST TWO

THE ART OF TEACHING

Leisure is one of the three greatest rewards of being a teacher. It is, unfortunately, the privilege which teachers most often misuse.

The teacher's second reward is that he is using his mind
5 on valuable subjects. It is plain that one can get accustomed
to operating an adding-machine for five and a half days a week,
or to writing advertisements to persuade the public that one brand
of cigarettes is better than another. Yet no one would do either
of these for its own sake. But if you really understand important
10 and interesting subjects, like the structure of the human body
or the history of the two world wars, it is genuine happiness
to explain them to others, to feel your mind struggling with
their difficulties, to welcome every new book on them and to
learn as you teach.

15 With this the third reward of teaching is very closely
linked. That is the happiness of making something. When the
pupils come to you, their minds are only half-formed and full
of blank spaces. You take the living mind, and mould it. As
you work, it often comes into firmer shape and gives you the
20 incomparable happiness of helping to create a human being. For
instance, to teach a boy the difference between truth and lies
in print, to start him thinking about the meaning of poetry, to
hear him hammering back at you with the facts and arguments you
have helped him to find, gives the sort of satisfaction that an
25 artist has when he makes a beautiful picture out of blank canves;

or a doctor when he hears a sick pulse pick up and carry the energies of new life under his hands.

Adapted from English Comper-
hension and summary.

by R.W.Noble pp. 61-62

Exercise-I:

Complete the following outline form with the information from the text.

1. T. The three rewards of teaching are

1. _____

2. _____

i.e. to understand important subjects such as:

i) _____

ii) _____

3. _____

For instance:

i) _____

ii) _____

iii) _____

Exercise-II:

Decide what the following words in the passage refer back to

1. he (line 4) _____

2. these (line 9) _____

3. them (line 13) _____

4. your (line 13) _____

5. their (line 17) _____

6. it (line 19) _____

7. him (line 22) _____

8. he (line 25) _____

9. he (line 26) _____

Exercise-III:

Fill the blank spaces with the proper information

Persons

Source of satisfaction

Artist

Doctor

Teacher

i) to take the living mind and to mould it.

ii)

iii)

Exercise-IV:

Here are words from the passage. Decide which of the alternatives given is the best definition for the word as it is used in the passage.

1. Privilege (line 2)

a) benefit or right b) restriction c) authority d) principle

2. Accustomed (line 4)

a) be known b) examined c) familiarized d) acquired

3. Persuade (line 6)

a) demonstrate b) convince c) satisfy d) dominate

4. genuine (line 10)

a) partial b) historical c) unreal d) certain

5. Canvas (line 23)

a) strong cloth b) cave c) subscription d) design

Exercise:V Comprehension questions

Select the best answer to complete each of the following sentences.

1. According to the passage, understanding important subjects
_____ .
 - a) sharpens the mind of the reader
 - b) helps to create a human being
 - c) is authentic satisfaction to explain to others
 - d) all are correct answers
2. One of the following is not true about the passage .
 - a) using the mind on valuable subjects is a reward which teachers most of them misuse .
 - b) A doctor feels satisfied when he sees a sick person healed.
 - c) to start a learner thinking about the meaning of poetry gives a sort of satisfaction .
 - d) none of the above.
3. _____ is an art of teaching .
 - a) to write advertisements on making money
 - b) to do Jobs where the mind must be kept passive.
 - c) to learn as you teach
 - d) a and c are correct
4. One of the following gives a teacher incomparable happiness .
 - a) when the mind of a child/learner lies passive .
 - b) when the learner's mind refuses to accept any imprint.
 - c) when a learner's mind seems to melt and become featureless .
 - d) when a learner's mind starts to have firmer shape as he/she learns.

5. making a picture out of blank canvas belongs to _____

- a) an artist c) a teacher
- b) a medical doctor d) a writer

Exercise -VI:

Decide and say if each of the following sentences is true or false. Give evidence to support your answer.

1. The third reward of teaching is very closely related to the teacher's first reward.

2. Teaching a boy the difference between truth and lies does not give a sort of satisfaction.

3. To operate an adding-machine is to comprehend an interesting subject.

4. To hear students argue on silly facts gives incomparable happiness.

5. Leisure is a privilege which teachers most often use.

Name _____

Roll No. _____

Section _____

POST-TEST THREE

READING PASSAGE

The evidence taken from the observation of the behaviour of apes and children suggests that there are three clearly separable groups of simple causes for the outbreak of fighting and the exhibition of aggressiveness by individuals.

- 5 One of the most main causes of fighting among both children and apes was over the possession of external objects. The disputed ownership of any desired object—food, clothes, toys, females, and the like was sufficient ground. Two points are of particular interest to notice about fights for possession.
- 10 In the first place, they are often carried to such an extreme that they end in the complete destruction of the objects of common desire. Secondly, it is observable that the object for whose possession aggression is started may sometimes be desired by one personally or merely because it is desired by someone
- 15 else. Toys and other objects, for instance, which had been discarded as useless were violently defended by their owners when they became the object of some other child's desire. Among children one of the commonest causes of quarreling was 'jealousy' the desire for the exclusive possession of the interest
- 20 and affection of someone else. This form of behaviour is sometimes classified as a separate cause of conflict under the name of 'rivalry' or 'jealousy'. Possessiveness is, then, in all its forms a common cause of fighting.

Another cause of aggression closely allied to possessive-
 25 ness is the tendency for children and apes to feel angry at the
 intrusion of a stranger into their group. When monkeys, for
 example, meet a new monkey or children a strange child, aggression
 often occurs. The competition of the new comers is
 feared because the present members of the group feel that
 30 there will be more rivals for the food or the attention of the
 adults. Otherwise, monkeys do not mind being joined by a goat
 or a rat; children do not object when animals are introduced
 to their group.

Finally, another common source of fighting among children
 35 is a failure or frustration in their own activity. A child may
 frustrate itself by natural causes such as bad weather or
 illness; by the apposition of some adult from doing something
 he wishes to do at a given moment, and by failing through to
 complete successfully some desired activity. Such a child will
 40 then in the ordinary sense become 'naughty' and will engage in
 aggression i.e. attacking and fighting other children or adults.

In general, the causes are so common and obvious. Yet it
 is not really obvious either why revenge should be taken on
 entirely innocent objects, since no good to the aggressor can
 45 come of it. It is just a fact of human behaviour that cannot
 really be deduced from any general principle of reason but it
 shows how it is possible for aggression and fighting to spring
 from an entirely irrelevant and partially hidden cause.

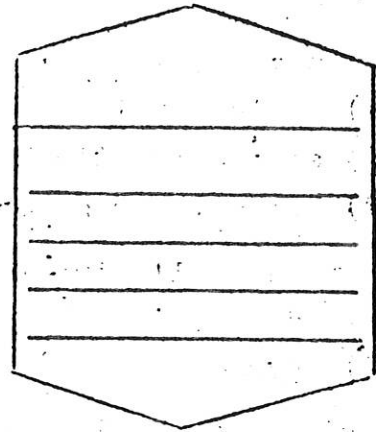
Adapted from Inside Meaning

Proficiency Reading Comprehension

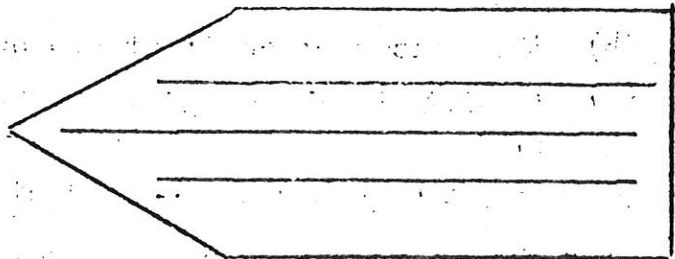
by Michael Swan pp. 81-83

Complete the following diagram / Chart with the necessary information from the passage.

things stated as the
disputed ownership of any
desired object



Aggression is
defined as



This is a form of beha-
viour classified under
the name of rivalry or
jealousy.

Exercise-II

Complete the following outline form with the information from the text.

I- Causes for the outbreak of fighting and aggression

1. _____

Two points of interest about this cause of fighting are:

a) _____

b) _____

2. _____

For instance, _____

3. _____

A child may frustrate itself by:

i) _____

E.g. bad weather, illness, etc.

ii) _____

Exercise-III

Comprehension question

Select the best answer to complete each of the following sentences.

1. When an adult opposes a child from doing something he wants to do the child _____

a) never engages in aggression.

b) feels happiness.

c) starts to attack and fight other children or adults.

d) tries to do some other thing he likes.

2. One of the following is not stated as the disputed ownership of any desired object_____.
- a) toys b) food c) clothes d) male
3. According to the last paragraph one can learn that_____.
- a) aggression and fighting come from relevant and obvious causes.
- b) the causes of conflict are uncommon to human beings.
- c) revenge is unnecessary because nothing good can come out of it.
- d) the writer has not stated his idea clearly.
4. One of the following is correct according to the passage
- a) Fighting for possession ends in complete destruction of objects and human beings.
- b) The involvement of a strange child to a group causes aggression.
- c) Monkeys and goats usually live together.
- d) None of the above is correct.
5. The right title for the passage could be:
- a) Revenge c) Aggression
- b) The causes of jealousy d) The causes of conflict

Exercise-iv:

Here are words or phrases from the passage. Decide which of the alternatives given is the best definition for the word as it is used in the passage.

- 1, Sufficient ground (line 8)
- a) ample floor c) adequate reason
- b) enough room d) rocky ground

2. Disputed (line 7)

- | | |
|-----------------|--------------|
| a) being argued | c) displaced |
| b) agreed | d) disperse |

3. Rival (line 30)

- a) One who competes with another
- b) One who fights
- c) One who takes revenge
- d) none of the above

4. Engage (line 40)

- | | | | |
|------------|------------|------------|-------------------------|
| a) neglect | b) involve | d) indulge | d) a and c are correct. |
|------------|------------|------------|-------------------------|

5. Frustration (line 35)

- | | |
|----------------------|----------------|
| a) right expectation | c) success |
| b) negative result | d) achievement |

Exercise-v:

Decide what the following words or phrases in the passage refer back to.

- 1. the (line 10) _____
- 2. they (line 11) _____
- 3. their (line 16) _____
- 4. their (line 24) _____
- 5. their (line 35) _____
- 6. itself (line 36) _____
- 7. he (line 38) _____

Exercise-vi:

Decide and say if each of the following sentences is true or false. Give evidence to support your answer.

1. Illness is a natural cause that frustrates a child
_____.
2. What makes a child (to be) naughty is a failure to
complet a desired activity.
_____.
3. Rivalry or jealousy is usually classified as a separate
cause of conflict
_____.
4. For every revenge or aggression to take place, there is a
general principle
_____.

Appendix-E: The Pre and Post test raw scores gained by the control and experimental groups

Control group					
	pre	post		pre	post
1	32.5	29	29	47.5	53
2	62.5	58	30	55	51
3	51	53	31	52.5	50.5
4	51	53	32	50	48.5
5	37.5	55	33	32.5	42
6	55	60	34	52.5	51
7	52.5	57	35	45	55
8	42.5	48	36	55	57
9	47.5	45	37	66	45.5
10	50	52	38	50	49
11	45	40	39	55	57
12	55	59	40	47.5	52
13	60	63	41	78	68
14	45	43	42	52.5	50
15	37.5	35	43	60	57
16	55	55	44	55	55
17	47.5	47	45	57	53
18	52.5	43	46	75	65
19	47.5	51	47	55	57
20	42.5	41	48	65	63
21	47.5	50	49	32.5	40
22	40	45	50	47.5	77
23	50	42	51	50	54
24	45	40	52	55	58
25	42.5	43	53	32.5	41
26	70	58	54	67.5	63
27	32.5	35	55	60	65
28	57.5	54			

Pre 51

Post 51.5

Experimental group					
	pre	post		pre	post
1	45	54	29	40	59
2	65	58	30	55	60
3	32.5	57	31	47.5	66
4	55	72	32	65	64
5	55	63	33	77.5	80
6	37.5	50	34	50	77
7	52.5	77	35	57.5	63
8	47.5	51	36	65	77
9	57.5	77	37	60	67
10	50	70	38	30	62
11	45	63	39	47.5	65
12	52.5	54	40	45	67
13	50	72	41	37.5	45
14	55	66	42	55	65
15	62.5	75	43	47.5	67
16	57.5	62	44	52.5	79
17	55	83	45	42.5	72
18	42.5	44	46	42.5	45
19	62.5	75	47	55	62
20	55	63	48	67.5	65
21	57.5	82	49	50	69
22	50	64	50	32.5	48
23	52.5	57	51	70	74
24	55	62	52	80	68
25	45	53	53	47.5	64
26	60	68	54	52.5	59
27	45	55	55	45	50
28	37.5	47			

Pre 51.9

Post 63.8

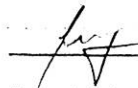
DECLARATION

I, the undersigned, declare that this thesis is my work and that all sources of material used for this thesis have been duly acknowledged.

Name:

Semere Ghebreab

Signature:

_____

Place:

Institute of Language Studies,

Addis Ababa University.

Date of Submission:

June 8, 1992.