CHAPTER THREE

Research Methodology
1. **Background on Research Methods**

First of all, we find it is necessary to define research, particularly that type of research conducted in the field of education and linguistics. Cohen and Manion assert that

research is best conceived as the process of arriving at dependable solutions to problems through the planned and systematic collection, analysis, and interpretation of the data. It is a most important tool for advancing knowledge, for promoting progress and for enabling man to relate more effectively to his environment, to accomplish his purposes, and to resolve his conflicts (Cohen and Manion, 1994:40).

The first part or sentence of this quotation can be said to be the definition of research, whereas the second part stresses the importance of research in human progress. Therefore, it will be useful to go beyond research definition to research classification. Research classification and characteristics are discussed in the following few pages.

Brown (1988) categorises research into two kinds: secondary research and primary research. *Secondary research*, he argues, is that “research based on sources that are one step removed from the original information” (p.1). It is mainly derived from published studies, articles, books and the like. This type of research is familiar to language teachers and students in getting insights from different researches historically, or writing a term paper, where information is gathered and taken from books about a phenomenon.

Chapters one and two of this thesis fall into this category, where information, ideas, views, synthesising are all put together to present a
general view of reading sks and strategies as well as their teaching and testing methods. In addition, the secondary sources dealt with below in this chapter also fall into this category, where it was dependent on what was available about the language programmes at the faculties of Arts and Education.

The second category is primary research, for which the data is mainly derived directly from the subjects of study. Primary research itself seems to fall into two subdivisions: (a) case studies and (b) statistical studies.

Case Studies in language learning centre on one or a few individuals. Brown (1988:2) explains that “these studies are usually longitudinal, that is, they follow the individual or individuals over a relatively long period while tracing some aspect of language development”.

Statistical studies, on the other hand, are often cross-sectional, that is, “they consider a group of people as a cross section of possible behaviour at a particular point or at several distinct points in time” (ibid., :3). In addition, statistical studies are used to estimate the possibility, or likelihood, that the results did not occur by chance alone.

Brown (1988) goes on to classify statistical studies into two subcategories: surveys and experimental studies. Typically, survey studies seek to find out a group’s attitudes, opinions and characteristics on a particular phenomenon.
Characteristics of surveys and their nature may be deduced from the loose definition of Cohen and Manion (1994:83). They state that "surveys gather data at a particular point of time with the intention of describing the nature of existing conditions, or identifying standards against which existing conditions can be compared, or determining the relationships that exist between specific events".

The point to be stressed in this context is that surveys may vary in levels of complexity and scope. This type of study usually takes the form of a questionnaire. The advantage of this type of research is that substantial amounts of information can be collected in a relatively short period of time. However, the number of people who respond to a questionnaire is often low, especially when the questionnaire is mailed. Nevertheless, one can avoid this drawback by means of preparing a carefully planned questionnaire so as to obtain as much as relevant amounts of information in the most condensed form concerning the group under investigation.

On the other hand, Experimental studies are normally defined as a whole range of possible studies which investigate a particular phenomenon under controlled conditions. ‘Phenomenon’ is used here in its loose sense and can be applied to include language behaviour, language strategies, language performance and aptitude of two different groups, either, for example, on the basis of gender (male, female), or institution (as in our case Arts and Education) and so on.
The present study, according to the divisions enumerated above, fits into the statistical studies category and its subdivisions, and falls mainly into the experimental subcategory. Since this study will, at a later stage, touch upon the language programme at Sana’a University, we might conclude by quoting Best (1970) (cited in Cohen and Manion, 1994: 67),\(^1\) who asserts that descriptive research is concerned with

conditions or relations that exist; practices that prevail; beliefs, points of views, or attitudes that are held; processes that are going on; effects that are being felt; or trends that are developing. At times, descriptive research is concerned with how what is or what exists is related to some preceding event that has influenced or affected a present condition or event.

**Characteristics of statistical research**

Brown (1988) summarises Tuckman’s (1978)\(^2\) characteristics of statistical research that it should be (1) systematic, (2) logical, (3) tangible, (4) replicable, and (5) reductive. It is claimed that if one or more of these qualities is missing, then one should be cautious about the adequacy of the study. In turn, we provide a brief explanation for each characteristic as argued in Brown (1988, p: 3-5).

*Systematic* research demands a statistical study have “a clear structure with definite procedural rules that must be followed, rules for designing the study, for controlling the variables, for choosing and applying statistics. It is these rules that make such studies systematic and that can help you read, interpret, and critique statistical studies”.

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Logical research can be referred to as “the rules and procedures which form a straight forward, logical pattern in which there must be a step-by-step progression of building blocks, each of which is necessary for the logic to succeed”.

Statistical research is tangible since “it is based on the collection and manipulation of data from the real world”. These data must be quantifiable, that is, “each datum must be a number that represents some well-defined quantity, rank, or category”.

Replicable research should enable the reader to do it again under the same conditions, and in view of the “researcher’s proper presentation and explanation of the system, logic, data collection, and data manipulation”. Clarity and replicability of the study are also a characteristic of its quality, and can be one of the first yardsticks to critique any piece of work.

Reductive research should minimise and reduce the confusion and uncertainty of facts which language learning and teaching frequently present. Brown adds that in “doing or reading such studies, you may discover new patterns in the facts. Or through these investigations and the eventual agreement among many researchers, general patterns and relationships may emerge that clarify the field as a whole”.

To sum up, research can be either secondary or primary; the secondary research depends on others’ work, whereas the primary research involves
oneself directly in research and data gathering. On the other hand, the primary research can be based on case studies and statistical studies; statistical studies, in turn, can be either surveys or experimental studies. A major part of the present study is of the statistical type. For its data gathering, it exploits questionnaire and testing as its instruments.

2. The Present Study and Pedagogical Concerns

The major concern is to investigate the readers' strategies, mainly those of Arabic-speaking undergraduates learning English as a foreign language. Reading strategies have not received much attention as it is the case for reading processes or reading skills. Therefore, one main aim of this study is to investigate the nature of these strategies and their relation to language competence. Moreover, the present study will look into the impact of the language programmes at Sana'a University on both materials used for training and developing reading skills and reading strategies of English in general teaching reading in particular.

The present study will finally suggest what kind of strategies that are suitable situations (according to purpose and type of test). Upon, the results we get, and based on the language programme evaluation, we would suggest how the language programme at Sana'a University can be improved.
The following sections report about the design of the experiment which was carried to test our hypotheses, and through which answers for the research questions are sought. The components of the research methodology of this study are given in detail: subjects, materials, variables and control, method of analysis, and limitations of the study. The reader will notice that this framework is highly consistent with our aims on one hand, and with the hypotheses on the other.  

3. **Hypotheses and Research Questions**

The undergraduate students at the English departments of Sana'a University, Yemen, read slowly in the foreign language, applying the same strategies with different texts in different reading situations, i.e. they lack flexibility in reading. They read slowly due to the fact that they vocalize, read word-by-word, while they are learning the FL for better understanding. We assume that this problem is related to the teaching of reading and the English programme in general. One strong reason for this reading style is the chronically fossilised belief that reading is uttering words out aloud. This is the influence of the early learning and teaching practices at school, when the learners started learning to read their mother tongue, Arabic.

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1 What has been discussed in these various chapters will be discussed collectively in the final chapter, *Discussions and Suggestions*: particularly the applications of the findings of this study.
The interest here is to know the strategies of the undergraduates and to examine the course material to find out its weaknesses and strengths in respect to the teaching of reading. Our concern is also to find definite answers for some universal questions like the following:

1. Is it true that those who are linguistically competent are better readers than those who are weak in the foreign language?

2. Do readers of (assumed) good strategies and adequate reading speed have better comprehension than slow readers, even when they apply similar strategies?

3. Is the process of reading, and learning to read a second/foreign language the same as the mother tongue/\(L_1\)?

4. If the two processes are different, then in what respects are they so?

5. What is the nature and extent of the influence of \(L_1\) reading strategies and skills on the process of learning to read a SL/FL?

6. Specifically for Arabic speakers learning English: What is the nature and extent of the effect of:

   (a) Structural and linguistic differences between Arabic and English;

   (b) Orthographic differences between Arabic and English:

      - directions of writing

      - syllabic and alphabetic systems of writing

      - phonetic and non-phonetic spelling conventions

   (c) Speed of writing the FL script and speed of reading in the FL as compared to the speed of writing and reading the mother tongue.
4. Subjects

In the beginning it was thought that the study would be conducted on 80 to 120 students at Sana’a University, Yemen. We arrived at a slightly higher number, as shown in Table 3.1 below.

Table 3.1: Distribution of subjects of the study

<table>
<thead>
<tr>
<th>Groups</th>
<th>Arts</th>
<th></th>
<th></th>
<th>Education</th>
<th></th>
<th></th>
<th>Total</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td><strong>Total</strong></td>
<td>Male</td>
<td>Female</td>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Questionnaire</td>
<td>22</td>
<td>40</td>
<td><strong>62</strong></td>
<td>23</td>
<td>52</td>
<td><strong>75</strong></td>
<td><strong>137</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reading Test</td>
<td>20</td>
<td>40</td>
<td><strong>60</strong></td>
<td>20</td>
<td>46</td>
<td><strong>66</strong></td>
<td><strong>126</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Language Ability Test</td>
<td>20</td>
<td>40</td>
<td><strong>60</strong></td>
<td>20</td>
<td>46</td>
<td><strong>66</strong></td>
<td><strong>126</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The subjects were the fourth year students of English Departments at the faculties of Arts and Education at Sana’s University. Females outnumbered the male subjects, 40 in arts and 46 in education as compared to 20 male students each in arts and education.

These two different groups –arts and education– were chosen for the simple reason that they have different aims and purposes as well as unidentical programmes to achieve such goals. It is the aim of this study to find out the impact of such programmes on reading skills.

The fourth-year level, which is the final, would allow the students to have passed all courses offered in these programmes. Subjects are about to
graduate so that it is assumed that their language competence is fairly advanced. They would have presumably been taught all kinds of reading skills with enough practice to enable them execute these skills effectively quickly. Therefore, they present a good, if not perfect, sample for our experiment.

These students come from a similar background: culturally (Islamic, Arabic, Yemeni traditional upbringing); class (lower-middle to upper-middle society); age (between 22 to 24 years old); linguistically (all are native speakers of Arabic and English in Yemen is a foreign language). In this linguistic context the chances of the students practising the language outside class are low. As a result, their use of English, and specially reading in the FL, is restricted to the materials used in classroom situations.

5. Variables and Control

Brown defines a variable as “essentially what we can observe or quantify of the human characteristics or abilities involved” (Brown, 1988: 8). Before looking at our variables and how they are controlled, it is best to present a short summary of the different types of variables. This presentation is mainly based on two sources: Brown (1988) and Nachmias and Nachmias (1981).
The different variables can be classified into five types: dependent, independent, moderator, control, and intervening. A dependent variable is observed to determine what effect the other types of variables may have on it. It is the variable of focus. It makes sense only in the context of other variables in the study. In other words, we study its relationship with other variables. Our dependent variables in this study are:

- Comprehension in relation to language ability.
- Comprehension in relation to speed of reading.
- Speed of reading in relation to language ability.

These dependent variables are tested by means of statistical correlation. All groups are involved in this statistical analysis. (See Table 4.9 in the Results chapter). Or let us put it differently. We tested the influence of:

- language ability on reading comprehension,
- language ability on reading speed,
- and speed of reading on reading comprehension

Independent variables are those variables which the researcher selects to determine their effect on the dependent variable, or their relationship with that variable. Many independent variables can be included in a single study. Our main independent variables are: language ability and speed of reading.
A moderator variable is a special type of the independent variable. The investigator chooses a moderator variable to see how the relationship between the independent and dependent variables is affected or modified by the moderator variable. We have one moderator variable in this study, and that is the gender: the male-female distinction. We are interested to know whether they show any difference in performance, and how the direction of the relationship of the dependent - independent variables is affected.

The last word about variables concerns their relation to one another. This relation is explained by the fact that "when changes in the values of one [variable] systematically bring changes in the values of the other" (Nachmias and Nachmias, 1981:62).

This relation is measured by two ways: direction and magnitude. Direction of relation between variables can either be positive or negative. A positive relation means that an increase in the values of one variable causes an increase in the values of the other variable. A negative relation, on the other hand, shows that as values of one variable increase, the values of the other variable decrease. Nachmias and Nachmias (1981:64) argue that:

The magnitude of a relation is the extent to which variables co-vary positively or negatively. The highest magnitude of relation is a perfect relation, in which knowledge of the value of one or more independent variables determines exactly the value of the dependent variable.....

At the other extreme is the lowest magnitude of relation, the zero relation. No systematic co-variation between the values of an independent variable and a dependent variable can be discerned; that is, the variables are not related; changes in the values of one variable do not affect the values of the other. (Emphasis in the original).
Sections 5.1 and 5.2 deal with the variables pertaining to the subjects and the material of the experiment. It also points out the approach and method involved in controlling such variables.

5.1 Subjects: variables and control

In the previous section, we showed the similarities and homogeneity of the subjects, either in culture, age, or educational and societal background (control variables). The difference being that they study at two different faculties with unidentical language programmes, and they are either males or females. But these differences are significant for the present study, and we wish to investigate their impact on the reading skills in particular. And when we say unidentical programmes, it is due to the fact that each faculty emphasises on a particular achievement. Faculty of Arts adopts an intensive language programme whose focus is mainly laid on English literature whereas the Faculty of Education concentrates on the language aspect, and that some courses are studied in Arabic. (See the Appendix: Programmes Outline). This, of course, further reduces the chances of exposure to English either in class or at home.

It is assumed that almost all of the subjects have achieved a comparable, roughly equal level of language competence as they have already passed three full years of studying English as a major.

The above mentioned variables are controlled by means of the nature and the design of the experiment and its context of conduct. Yet, the free
variable is the gender and the programme. It is one of the aims of the study to find an answer to questions like: Does the difference in these two programmes have any impact on reading comprehension and language achievement? Are there any differences among males and females, either in language competence or reading comprehension?

5.2 Materials: variables and control

In this section we are concerned about the characteristics of the materials as variables for these materials. These include aims, content, construction, language (mainly grammar and vocabulary), length, timing, format, validation and administering. These variables were controlled by means of the test design, construction and administering. The materials’ variables are controlled if the materials serve to objectively test the hypotheses and answer the research questions. Thus, they have an aim to achieve. This aim is the starting point of this ‘control’. Therefore, we decided to apply three instruments, each of which has its own aims and objectives. Thus, design and construction were determined accordingly.

6. Elicitation Procedures and Instruments

There were two resources for getting the data relevant to the aim and purpose of the study, and by which the questions can be answered, hypotheses can be tested, and new insights and findings can emerge, and upon which suggestions can be made. These sources are divided into two
categories: primary and secondary. For stylistic convenience, it is preferable to start with the secondary sources.

6.1 **Secondary Sources**

As has been pointed out earlier in the *Hypotheses and Research Questions* that there might be an impact of the language programmes on the student’s level of linguistic competence, which in turn will have an impact on the reading comprehension outcome. The language programme of the Faculty of Arts is more intensive than that of the Faculty of Education. Therefore, it is necessary to look into these two different programmes and study their weaknesses and strengths in order to test this assumption. Also it will hopefully aid us in devising a language programme which should put the level of the students one step higher than that of the present.

Secondary sources will involve looking into the courses studied in each faculty and possibly their syllabi. The material and content of those courses will be investigated and evaluated by applying certain criteria. Because of time constraints we devised the following plan to serve our purpose, and to replace the formal, well-structured programme of evaluation. These criteria will serve two prominent purposes: (a) evaluation can be highly objective and bias-free, and (b) it will make the task easy, effective and time-saving.
Criteria and Procedural Steps of Evaluation

(1) Looking at the syllabus of the reading programme in order to investigate how it can be improved.

(2) To examine the material use in the reading courses, in the context of the syllabi prescribed.

(3) Attending classes to see how certain skills and strategies are taught, and whether they are compatible with the aims and objectives of the reading program and the materials used in these programmes.

(4) Finding out how many hours are devoted for the reading class per week during the actual time spent for teaching reading in the first two years.

(5) Investigating how the improvement of reading can be achieved through specific tasks assigned with other courses, that is, integration.

(6) Finding the place and position of extensive reading in the teaching of reading particularly during the semester holidays.

(7) Conducting interviews with teachers and students regarding the problems they face while struggling to achieve their objectives.

This will be referred to, and highlighted upon, in the discussion chapter of this thesis. However, the main information which this study highly depends upon is that data obtained by the instruments described below in the subsection: 6.2 on Primary Sources.
6.2 Primary Sources

These are the main instruments upon which this study heavily depends. These instruments received a carefully planned and well-scrutinised analysis. In addition, their preparation went through a careful evaluation so as to achieve their objectives and to make this study and its findings as valid as possible. These are: Questionnaire, Language Ability Test, and Reading Comprehension Test. These three instruments are to be found in the Appendix: Instruments of the Experiment. We would like to give a description of each mainly in terms of construction and purpose.

Finally, we feel the need to stress one main concern about the questionnaire. Prior to, and during, its preparation a number of points were taken into consideration to enhance its validity in achieving what it intended to achieve. Some authoritative literature in this field was consulted, such as Cohen and Manion (1994) Thorndike and Hagen (1971) and Oppenhein (1966), and other user-friendly books, particularly Henorsen, Morris and Fitz-Gibbon (1978). The main guidelines we draw from these different sources are briefly summarised below. Certainly, this questionnaire cannot be claimed to be perfect, we draw the readers attention to its drawback as perceived from our point of view. Section 6.2.1 below gives the steps of preparation and the precautions taken in the process. 6.2.2 has details of RCT and 6.2.3 LAT.
6.2.1 Questionnaire

(a) Steps of Preparation

1. Items and variables of interest to the investigation were gathered.

2. These were grouped and sorted out to make the construction of the questionnaire.

3. Aims of this questionnaire and reasons of its construction as such, are elaborated in Justification of Structure below.

4. Clear instructions were written carefully in order to help and encourage respondents to answer accurately and honestly.

5. We avoided negative items, in case they might create a sort of psychological dislike.

6. Wording of almost all items was clear and direct. Had ambiguity emerged during answering the questionnaire, the researcher was present among the respondents to clarify it.

7. Items are independent, that is, answering an item does not depend on answering a previous one.

8. Most items did not require efforts on part of the respondents since most of the items carried either choices or preferences. However, there were two open-ended questions, one was to do with reading habits and was added for the respondents' convenience for additional comments or information, if any. The other concerned direct elicitation of the respondents' reading strategies.
Finally, one advantage of this questionnaire is its simplicity in structure, clarity in layout, directness in eliciting information; being short in length and easy in analysis.

(b) **Justification of Structure**

The questionnaire is divided into two parts. The first part deals with reading strategies in particular. In this part almost twenty-four strategies are given and classified under eight main reading strategies. The candidates were given three choices, each represents a particular strategy. And assuming that the candidate may have an unknown strategy, he/she was requested in the end of every item to write that strategy, if there was any, or if they wished to comment on their choices they could do so in the same space.

The aim of this part is to find out the most frequently used strategies by second language learners. The results will enable us to devise a revised classification of good and bad strategies, by means of evaluating them against (comparing them to, and adding to them from) established research in this field.

The second part of the questionnaire is mainly concerned with reading habits and skills. It was our aim to investigate the relation between reading habits and reading strategies and skills. For example, the candidates were requested to indicate the kinds of reading material which was of priority
and frequent confrontation to their reading time. We believe that certain texts and/or purposes require certain strategies.

Part two of the questionnaire serves an aim by itself, that is, finding out the reading habits and skills as well as additional information on both skills and strategies. However, it will be of greater help in understanding the findings of the first part of the questionnaire, and discovering the reasons behind them. In addition, it includes two items, not essential but relevant, as one has to do with the influence of Arabic, if any, on beginning to learn to scan in English and the other is related to the amount of average daily time spent by students in the daily activity of reading.

The questionnaire carried a number on the top-right side on the first page. This number is used to identify candidates in a later stage, that is, with the reading comprehension test and language ability test. This number facilitated our task to trace “who is who”. More importantly, we were able to single out those candidates who either did not continue doing the Reading Comprehension Test (RCT) and Language Ability Test (LAT), or who did either test the only. In fact, those who did either test (RCT or LAT) were dropped from the analysis of RCT and LAT - but not the analysis of questionnaire, because we need to measure the correlation between language competence and reading comprehension of the same population. Therefore, these measurements and analyses are only logical and accepted if the same subjects are compared.4

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4 For more clarification see Method of Analysis.
One advantage of this numbering is that we could sort males and females out. For example, if someone missed to indicate their gender in the questionnaire and the RCT, but indicated that in the LAT, then we were able to know to which category (Male/Female) that candidate belonged. This explains why we insisted on keeping the category (Male/Female) in all the three instruments. Numbers can tell which subject, but not which gender, especially if the candidate forgot to indicate it in the Questionnaire.

Then, it is fair to say that one of the advantages of this questionnaire is its clarity, brevity and comprehensiveness. Conducting the questionnaire was successful and went smoothly, even the turnout was high. Yet, it should be admitted that the last items in PART TWO did not receive as careful attention from the candidates as did the first items which composed the more central items though.

6.2.2. Reading Comprehension Test (RCT)

(a) Objectives

This test is regarded the pivot of the study. It serves a number of objectives. The main ones are:-

1. To test reading speed and to measure comprehension in relation to this speed simultaneously. That is, finding the speed rate (word per minute, w.p.m.) and the comprehension rate (in terms of percentage, 100%).
2. Findings of No.1 above are essential to investigate the relation between comprehension and language ability, on one hand, and reading speed to language ability, on the other.

3. To look into the relation of the overall averages of groups (in comprehension) in view of the two language programmes of Arts and Education.

(b) *Test Features*

The test had the following features:-

1. A title so that the candidate could understand what kind of test he/she was doing.

2. Clear instructions and rubrics so as to guide the candidates, about what was expected from them.

3. Time allowed was 30 minutes, as five minutes per paragraph. However, there were the phrases “Starting time”, and “Finishing time”. The moment the candidate started reading, they were requested to write the starting time honestly and exactly, and as soon as they finished they were also requested to mention the finishing time. In later stages we were able to calculate the time spent in reading a number of the paragraphs of the text (e.g. six paragraphs) or the whole text, that is, the twelve paragraphs. Those who could only finish some paragraphs were instructed to mark the end of their reading and to record the finishing time as well.

4. The test carried a box where candidates were asked to put the numbers they were given in the questionnaire.
And in order to verify the gender of the candidate, the test included the category “Male-Female” distinction. If a subject missed to indicate their gender, we could deduce that by means of matching their numbers with the questionnaire or LAT.

One important point to be said about the construction of the reading comprehension as such is that this is one of the most applicable methods in measuring reading speed. In its style it is similar to a scale; but the units of this scale are minutes. Moreover, it allowed us to include a variety of topics so that it is of interest to different “tastes”. It helped us avoid the rigidity of the one-topic text. As can be easily seen and understood, it is nearly impossible to measure speed and comprehension simultaneously by means of a lengthy text followed by a number of questions, irrespective of their type.

By giving four alternatives (one correct answer and three distracters) the candidate’s time was kept in flaw and parallel to the actual reading time since they had to go through these four choices and choose one. This reviewing of the four choice (and the time of thinking spent in taking a decision of which is correct from the candidate’s point of view) doubled the words of the question. For example, if there were forty words in a question (as in No.1), then it is calculated as 80. This outcome is added to the number of words in the paragraph. The total sum composed the actual length of a paragraph in words. (See Table 3.2 below).
(c) **Test Structure**

As mentioned earlier, the test is composed of 12 paragraphs which vary in length and difficulty, not only in vocabulary but most importantly in eliciting the ideas embedded in these paragraphs. The more the reader continues and comes across subsequent paragraphs, the more attention he/she needs to pay. Then, every paragraph is followed by a multiple choice question of four alternatives, \(a, b, c\) and \(d\). The table below shows the distribution of words in a paragraph, as well as the accumulation of words as one progresses in reading the texts. This is the basis on which speed is calculated. More details on this method are given in the *Analytical Procedures* section below.

**Table 3.2: Distribution of words in RCT and their accumulation**

<table>
<thead>
<tr>
<th>Paragraph Number</th>
<th>No. of words in Text</th>
<th>No. of words in Question</th>
<th>Total</th>
<th>Accumulation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>62</td>
<td>(40x2)80</td>
<td>142</td>
<td>142</td>
</tr>
<tr>
<td>2.</td>
<td>95</td>
<td>(50x2)100</td>
<td>195</td>
<td>337</td>
</tr>
<tr>
<td>3.</td>
<td>98</td>
<td>(45x2)90</td>
<td>188</td>
<td>525</td>
</tr>
<tr>
<td>4.</td>
<td>147</td>
<td>(38x2)76</td>
<td>223</td>
<td>750</td>
</tr>
<tr>
<td>5.</td>
<td>70</td>
<td>(50x2)100</td>
<td>170</td>
<td>920</td>
</tr>
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<td>6.</td>
<td>101</td>
<td>(42x2)84</td>
<td>185</td>
<td>1105</td>
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<td>7.</td>
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<td>8.</td>
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<td>186</td>
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</tr>
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<td>9.</td>
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<td>10.</td>
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<td>12.</td>
<td>189</td>
<td>(38x2)76</td>
<td>245</td>
<td>2320</td>
</tr>
</tbody>
</table>
6.2.3. Language Ability Test (LAT)

This is the third instrument of getting data, and it is the other polar test in the statistical analysis. It fulfils the purpose of comparing the groups’ language competence in relation to the language programme implemented in each faculty. It also provides us with the necessary data to compare this language ability to the reading comprehension and reading speed respectively.

Purpose & Construction

It was constructed in a way so as to achieve these objectives, which are essential ingredients in reading skills, but not necessarily in measuring precisely the overall language ability (See Limitations of the Study below).

The test is composed of five sections with four different formats. The first section’s format is multiple choice questions. There are ten questions, with four choices each; only one answer is correct. Due to the limitation of time constraint on the candidates’ side, it was decided to reduce the number of questions from twenty to ten. There was a careful selection as to what to be included in this section.

This section tries to test three major areas in language competence, mainly use of language (appropriateness), usage of language (grammatical correctness), and appropriate vocabulary in context (relations of meaning
to the situation). There was nearly one sentence, at least on clause structure, passive active voice, prepositions contrast, pronouns, questions, modal and phrasal verbs. Most of the sentences tested more than one language ability at a time.

This section is followed by a short section, which deals with idiomatic phrases. It contained five sentences that required completion so that the sentence could be meaningful if the right idiomatic phrase was correctly identified. This section test the depth and background knowledge of the candidates in the foreign language. Those students of limited language knowledge were obviously weak in this part.

The third section was constructed to examine the language competence directly. In this section the candidates were requested to paraphrase a given sentence so that it meant what the first sentence did. Grammatical changes are accepted, and the sentence required was initiated by giving the candidates its beginning. As in the example given:

*Example:* It is ages since I saw you.

*Answer:* I have not seen you for ages.

In fact, all the first three sections were supported by an example each in order to guide the candidates as to what was required of them. The fourth and the fifth sections are composed of two texts (dialogue and passage, respectively) where the candidate was supposed to summarise the ideas of
the texts in the space given after each text. Yet, this summary varied in length; whereas it is about 70 words in section 4, it is 200 words in section 5. Unfortunately, because of time constraints and subjects’ complaints as well as blank answers for this question, we dropped it from the analysis.

The purpose of the fourth section is to examine the candidate’s ability of summarising and connecting different parts of the text in a meaningful, coherent paragraph. This section and the section that follows are directly based on comprehension. The difference being that the fourth section is short, while the fifth section is comparatively long and relatively more difficult. The fourth section is relatively easier than the fifth section in terms of ideas, structure, vocabulary and style.5

7. Analytical Procedures

It should be emphasised from the start that the method used for analysing the data is quite complicated since there are three instruments for data collection and elicitation, and each instrument serves more than one purpose. The analysis went through a multi-stage process in order to be effective, objective and error-free. It cannot be strongly claimed that it was the most suitable way of handling the data, we believe, however, that it was the right approach of treating the data in accordance with its nature and the purpose for which it was prepared and constructed in the first place.

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5 Marks distribution is discussed in the Analytical Procedures sections below.
In the following pages, we will report honestly and precisely how the data was treated and how it was analysed. There will be some kind of elaboration of certain points in order to clarify our point of view and position. The data underwent two major stages: marking and analysing. We will take each in turn. Our point of departure will be to describe how each instrument was treated in order to get quantifiable data, which will be statistically analysed.

7.1 Questionnaire

For no obvious reason the questionnaire was arranged in a numerical ascending basis from 1 to 75 in the case of Education, and 76-145 for Arts. It was not sorted out according to male-female category. It is not our interest to investigate the different strategies within a faculty group either. But it was our aim to investigate those strategies used by the two groups (Arts and Education) and to find out the differences, if any, and look for the reasons of similarities. Of course, we kept this aim in mind when we came to discuss this state of affairs in subsequent chapters.

It is planned in a later stage of the analysis to treat the data of the two groups collectively in order to come to generalisations about the Arabic reader strategy with English texts. This was not thought of in the beginning, but it was realised when carrying out the analysis. One can boldly say that this is another advantage of this study.
The answers to each item and choice were tallied. Then, these data were sorted out into accumulative numbers item-wise. We were interested to know how many candidates selected \( a, b \) or \( c \). Some items were left blank, or subjects opted for the fourth choice, that is, giving a different strategy. By doing so, it was easy to calculate the percentage of each choice in an item. (See *Results of Questionnaire Tallies* in the Appendix).

Part two of the questionnaire, we tallied the responses given for each item in questions 1, 2, 4 and 6. Questions 3, 5 and 7 were subjectively analysed in order to extract the most frequent habits and strategies. Questions 3 and 5, in particular, received high attention from the students. All the results of the questionnaire are reported in chapter IV, section 6.

### 7.2 Reading Comprehension Test

This test is in the centre of this study. It went through two stages of data processing:

1) Calculating time spent by individual candidates to complete the reading comprehension test.

2) Marking the comprehension test, and

We will deal with them each in turn in the following paragraphs.

The first step was to arrange the question papers numerically. This time another advantage of numbering papers appeared. While arranging the

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*Footnote:* The third stage can be that of *Item Analysis*, as reported in Chapter IV, Section 3.3.2.
papers it appeared that some papers were missing: either those candidates refused to continue or they kept the papers for themselves. In other words, they took them away. We decided to drop the same numbers from the language ability test (LAT), and vice versa.

Calculating the time and registering that on the paper followed this. In order to find out how much time was spent in covering the text. The “finishing time” was extracted from the “starting time”, and the result was the “reading time” spent in covering part of the text, or the text as a whole, in minutes.

Marking the papers followed this. Each correct answer is given one mark; this method makes the highest mark to be 12 provided that one reads the whole text and answers all items correctly. (See Section 7.2.b. below)

7.2.1 Reading Speed

Again a logical, simple formula was adapted. The text was perceived as a scale whose units are the words. It starts from as many as 142 words and ends in 2320 words, on the accumulative basis. (See Table 3.2 above). Therefore, assuming that the subject, who read eight paragraphs, he must have covered 1526 words according to the accumulative principle. And if the same subject spent 10 minutes in reading those paragraphs then his/her speed would be 153 w.p.m. 1526÷10. And if her/his score in comprehension say, 50%, then this subject can read 153 words per minute with 50% comprehension. The question is, if this subject reads more slowly, say, 120 words per minute, would his/her comprehension increase,
say for example to 70%? This will be investigated later in the Discussion Chapter.

7.2.2 Comprehension

In order to arrive at comprehension percentage, we divided the correct answer by the number of paragraphs covered. For example, if a subject covered eight paragraphs and got four of them correct, then his/her comprehension score is 50%, that is, $4/8 \times 100$. There was no need for a second rater since the test was objective. The candidate’s answer is either correct or wrong. The subjectivity is limited to zero.

7.3 Language Ability Test

As mentioned earlier in Data Collection the LAT is composed of five sections. But unfortunately, only the first four sections were answered, and nearly 30% of the candidates left the fourth section unanswered. The LAT, it seems received the least attention on the part of the candidates.7

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7 This, we believe, is due to the following reasons:

- Its sequence of presentation was the third, when the candidates, motivation was getting lower and lower.

- The conducting of the experiment was probably not the suitable time as the students were preparing for the mid-semester exams and the university teaching staff were planning to hold a strike.
The overall exam was marked out of a total of 100 marks and was divided as follows:

1. Multiple choice questions: ............ 3x10 = 30 marks
2. Idiomatic phrase completion: .......... 3x5 = 15 marks
3. Sentence paraphrasing: ............... 6x5 = 30 marks
4. Summarising: ................... Subjective = 25 marks

Total = 100 marks

In marking question one there was only one correct answer among the four choices, so that subjectivity in marking is zero. In question two, it is obvious from the structure of the sentences which phrase is required, e.g. He who is out of sight” is “______”. The candidate either is given the full mark if he/she gave the phrase required, or is given one mark if an acceptable answer is given, e.g. out of sight, out of love”, or zero if the answer does not make sense at all. e.g. He who is out of sight is “not in the room”, or provided that the phrase was left blank.

In the third question, the candidates were supposed to paraphrase the given sentence into another semantically identical sentence as initiated by the word or phrase given. The marks’ distribution was based on the number of correct choices or given, provided that these changes collectively make sense and are grammatically correct. In the fourth section the candidates were required to write a summary in approximately 100 words. This
summary is based on a dialogue in which a shop-lifter explains why she started shop-lifting. The candidates were supposed to write a paragraph being the reasons and justifications behind the shop lifting incidents. The paragraph starts as follows: “Julia started shop lifting because……”.

Marks and evaluation were distributed under, and done using the following criteria:

- **Ideas**: giving at least two major reasons according to the text (10 marks).

- **Language**: Spelling vocabulary, structure (5 marks)

- **Style**: Coherence, elaboration without repetition, clarity (5 marks).

- **Trial**: If there were short two sentences or more, in which the candidate tries to express his ideas, but failed to do so (5 marks).

Two persons did the evaluation: the researcher as the first rater, and another PhD scholar at JNU, who is doing research in the same area as the second. The first rater marked all the papers for all the groups. Once it was done, he gave it to the second rater to give his judgement on the candidates’ answers (writings and summaries). The last step was to add the judgement of the first and second raters and take their average.
8. Statistical Analysis

The analysis took three stages prior to the computerised statistical analysis:

a) Sorting papers according to groups, and arranging them on an ascending numerical basis;

b) Marking them, and taking the necessary steps for treating the data; and

c) Tabulating the data for analysis, and recording the raw data to form a part of the Appendixes and for any verification or preference in any future study.

The fourth stage was to involve the computer in the analysis. The data input was stored into the computer in the forms of tables. As the computer software Word Excel is equipped with built in statistical packages, it was easy for us to select the statistical formula and directly apply it to our data. We first calculated the standard deviation for all groups on LAT and RCT. Calculating the covariance in the same manner as the standard deviation follows this. The last step was to input the correlation coefficient formula and then instruct the computer through the statistical package to calculate the result. These steps were applied on all groups, until we got the required
The other statistical analysis is the regression analysis. The regression analysis formulae were followed step by step. One is advised to refer to books of *Statistics* for more clarification. Again, the results are discussed in Chapter IV, Section 5.

9. **Limitations of the Study**

Any study might well have its own limitations due to circumstances that arise unexpectedly, or when certain questions arise in one's mind during the analysis or discussion. At times, limitations appear when the researcher aims at a better study. These limitations, however, do not necessarily mean that this study is unvalid or unreliable. On the contrary, they stress its reliability and importance. They also indicate that the researcher is very much aware of its drawbacks once its findings should be generalised to other contexts. More importantly, should a similar study be duplicated, then it ought to avoid such limitations.

1. The questionnaire did not touch upon the learners' attitudes towards the language programme in general, and the teaching of reading in particular; nor did it cover points and suggestions of improvement as perceived by the stakeholders, mainly teachers and students.
informal programme evaluation was applied to compensate for this limitation.

(2) The real language competence of the learners cannot be claimed to have been precisely measured due to many constraints: many testing formats have to be applied such as the close text: recorded, structured interviews; listening comprehension and writing skills; in short, a tried, standardised language battery. But one should notice here the willingness and readiness of the subjects to co-operate and participate in taking the test, plus the money, time, and effort which would have been spent on achieving this. We, indeed, believe that we could become closer to the real level of the learners by the type of test we conducted on then.

(3) The researcher was unable to use the SPSS (Statistical package for Social Sciences), such a package was not available, otherwise it would have been used in this analysis so the data could receive a thoroughly complete analysis, and that all the computerised calculations would be attached fully in the Appendix (despite their length). However, the major statistical measures were done to assist in our interpretation of the data at hand.
(4) The last point is that the number of the male subjects in both groups was almost half of that of the female subjects.

Statistically speaking, it was less than thirty subjects in each group, which is the desired number for any reliable comparison. We, therefore, would suggest that this study would have been more reliable if at least fifty subjects from each category (male and female) had written the test.