ASSESSMENT OF ENGLISH READING COMPREHENSION OF PUPILS COMPLETING PRIMARY EDUCATION; A CASE STUDY OF MERU MUNICIPALITY ZONE

BY

ELIUD KIRUJI KIRIGIA

A THESIS SUBMITTED IN PARTIAL FULFILMENT FOR THE DEGREE OF MASTER OF ARTS OF KENYATTA UNIVERSITY.

OCTOBER, 1991
DECLARATION

This is my original work and has not been presented for a degree in any other university.

ELIUD KIRUJI KIRIGIA

This thesis has been submitted for examination with my approval as University supervisor.

DR. JOSEPH MUTHIANI
DEPARTMENT OF ENGLISH
KENYATTA UNIVERSITY
To my parents: M'Kirigia M'Marete

and Eunice Kajuju Kirigia
<table>
<thead>
<tr>
<th>Table of Contents</th>
<th>PAGE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title page</td>
<td>(i)</td>
</tr>
<tr>
<td>Declaration</td>
<td>(ii)</td>
</tr>
<tr>
<td>Dedication</td>
<td>(iii)</td>
</tr>
<tr>
<td>Table of contents</td>
<td>(iv)</td>
</tr>
<tr>
<td>List of tables and figures</td>
<td>(vi)</td>
</tr>
<tr>
<td>Acknowledgements</td>
<td>(vii)</td>
</tr>
<tr>
<td>Abstract</td>
<td>(ix)</td>
</tr>
</tbody>
</table>

**CHAPTER ONE: BACKGROUND TO THE PROBLEM**  1

1. Introduction  1

1.1 Statement of the problem  4

1.2 Rationale of the study  5

1.3 Scope and Limitation of the study  8

1.4 Objectives of the study  10

1.5 Hypotheses of the study  11

1.6 Theoretical framework  12

2. CHAPTER TWO: REVIEW OF RELATED LITERATURE  17

2.1 Background information  17

2.2 Comparable researches  23

3. CHAPTER THREE: METHODOLOGY  35

3.1 Area of study and study population  35

3.2 Sampling procedure  37

3.3 Data elicitation: Collection and Administration of research instrument  38
<table>
<thead>
<tr>
<th>3.4 Procedure</th>
<th>40</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.5 Mode of assessment</td>
<td>42</td>
</tr>
<tr>
<td>3.6 Strategies used in assessing certain Problem areas</td>
<td>43</td>
</tr>
<tr>
<td>4. CHAPTER FOUR: DATA ANALYSIS AND INTERPRETATION</td>
<td>45</td>
</tr>
<tr>
<td>4.1 Analysis of performance</td>
<td>45</td>
</tr>
<tr>
<td>4.2 Detailed analysis</td>
<td>48</td>
</tr>
<tr>
<td>4.3 Facility values</td>
<td>50</td>
</tr>
<tr>
<td>4.4 Presentation, Facility values, and Interpretation of Certain selected items</td>
<td>51</td>
</tr>
<tr>
<td>4.5 Frequency distribution of the scores</td>
<td>66</td>
</tr>
<tr>
<td>4.6 Graphic representation of the scores</td>
<td>83</td>
</tr>
<tr>
<td>CHAPTER FIVE: CONCLUSION AND RECOMMENDATIONS</td>
<td>85</td>
</tr>
<tr>
<td>BIBLIOGRAPHY</td>
<td>95</td>
</tr>
<tr>
<td>APPENDIX</td>
<td>99</td>
</tr>
</tbody>
</table>
LIST OF TABLES AND FIGURES

Table 1
Summary of the pupils' strengths and weaknesses

1.0 Unordered scores from 120 pupils of Meru Municipality zone in English reading comprehension

1.1 Scores from table 1.0 organized in ascending order of magnitude

1.2 Scores from table 1 converted to grouped data distributions

1.3 Scores of table 1.2 showing exact limits

1.4 Relative frequency distribution of the scores

1.5 Cumulative frequency distribution

1.6 Mean of the grouped data

1.7 Median of the grouped data

1.8 Standard deviation of the distribution

Figure

1: Histogram

2: Frequency polygon
ACKNOWLEDGEMENTS

Acknowledgements are made to the following:

Kenyatta University whose scholarship enabled this work to be accomplished.

Dr. Joseph Muthiani for his invaluable work of supervision during the entire period of preparation, carrying out the study, and compilation of report.

The pupils and teachers concerned of DEB Township, CCM Township, Consolata (Gitoro) and the Meru Primary Schools for their cooperation during the study.

My dear wife Gakii and our son Kinoti for their patience, notwithstanding moments of boredom, during the times I was busy with this work.

Mr. Kiogora Kiugu for his advice, proof reading and concern for the work and for his help in the administration of the assessment test.

Miss Frida Kagwiria for her help in supervision and administration of the assessment test.

My elder sister Mrs. Lois K. Kiruki whose academic pursuits and her personal involvement in my academic life acted as a source of inspiration.
Godfrey Kithinji, David Mwirigi, and Dedan Gichunge for their Moral and Material support during the time spent together. To Peterson Githungo, many thanks for his moral support and encouragement all the way from Canterbury.

Mrs. Hellen Chimoyi for being of great help in typing the work, sometimes coping with "illegible hand-writing" and making untold changes with little token of appreciation for her great work.

And finally to my brothers and sisters, friends too numerous to mention, and colleagues at Kenyatta University whose contribution directly or indirectly led to the success of this work.
ABSTRACT

This study was undertaken with the aim of providing information on the level of the ability of pupils completing primary education to read messages written in English with understanding. The study attempted to find out how broad their language experience was, by assessing their ability to read directions on modern technological items. The study also tried to find out their ability to read any other information intended for public utility.

Psycholinguistic theory of reading was employed. This was necessary as it was felt it would best explain the phenomenon of reading comprehension.

The data were collected from 120 standard eight pupils in four primary schools of Meru municipality zone. They were assessed on a passage, sets of directions and other messages written in English.

The assessment discriminated strongly between the pupils who did well and those who did not, and this indicated a wide range of
proficiency levels among them. The ones in the lower half of the score band, in fact those for whom primary education may be terminal, showed lack of sufficient comprehension of common messages written in English.

This work is presented in five chapters. Chapter one introduces the work, giving reasons for it. Chapter two reviews related literature while chapter three deals with the methodology employed. Chapter four deals with data analysis and interpretation and finally chapter five gives conclusions and recommendations.
CHAPTER ONE

BACKGROUND TO THE PROBLEM

1 Introduction

Several studies have been done on reading abilities acquired by primary school pupils, but many of them have focused on pupils at elementary stages. Few have been done with pupils in the higher stages in mind. This research was concerned with pupils completing primary education.

Local researchers, including Obondo (1984), Obuya-Deya (1980), Owino (1987), Wario (1981), and Wagesa, (1985), concentrated on classroom reading instruction. So far no research has been done on the assessment of English reading comprehension of pupils completing primary education. This research aimed at assessing the level of preparedness of these pupils to independently read with understanding. In assessing how the pupils coped with written English, the researcher had in mind pupils for whom primary education might have been terminal.
Reading comprehension presupposes the mastery of the reading process. This process should enable a pupil to apply his knowledge of reading to situations in which he is asked to perform, hence "performance-referenced" (Baker 1985:7) and which bear outward resemblance to those encountered outside the classroom. He should also be able to apply his knowledge of reading in "real-life situations" (Cashdan 1986). Moreover, "day to day affairs of our society require ability to read in the official language" (Potts 1976).

The assessment in this study was based on the comprehension of the details of a passage, main points of instructions, and common announcements. It was also concerned with other reading tasks the pupils were likely to have encountered or would most likely encounter outside the classroom.

This assessment followed closely the stipulations of the syllabus, for Kenya primary schools (1984:78) which state that the methods of assessing reading comprehension include written tests based on texts, written instructions, labels, notices, posters, written directions and
advertisements. In the light of this syllabus, the study sought to assess the understanding of a passage and the ability of the pupils to perform a set of specified activities consequent to reading directions and other messages with understanding. The latter appear quite frequently on common technological items and other areas.

The assessment ultimately assessed "functional reading" in accordance with Harris (1970:1). That is, the assessment was undertaken in order to obtain the information necessary to tackle a specific problem, to locate information quickly and efficiently, including the ability to read texts swiftly and with understanding. It partly implied proficiency testing where "proficient" (Hughes, 1989:9) means having sufficient knowledge of a language for a particular purpose. It was felt that if the pupils had sufficient exposure to written English, they would be able to sufficiently comprehend simple commonly found written materials in the usual typescript and in a familiar context.

Ideally the assessment was "criterion -
This entailed rating the pupils against a predetermined standard of correct performance of some reading tasks. This was regardless of whether or not some, or all of them, or none of them were successful.

1.1 Statement of the Problem

The aim of this research was to examine the reading performance of pupils completing primary education, and to determine which difficulties appeared to account for the variation in that performance. The report, and the analysis of the results, give a clear picture of how these pupils coped with comprehension of selected aspects of written English, especially that which they were likely to encounter outside the classroom.

By being more comprehensive, the research hoped to reduce the shortcomings of researches done locally on reading. Answers to the following questions were sought: Can the pupils completing primary education understand the message contained in a reading passage? Can they understand various other messages in short texts? Can they independently follow a set of written
directions?

1.2 Rationale of the Study

Many primary school pupils terminate their education at the completion of the primary cycle of education. According to the editorial column of The Standard newspaper of January 4, 1991, out of the 366,711 pupils who sat for K.C.P.E. (Kenya Certificate of Primary Education) in 1990, 189,241 were expected to drop out of school. This represented 52 per cent of the total number of pupils who sat for K.C.P.E. Many of these were expected to join unskilled workforce. At this stage they would be left on their own to perform their duties independently. This research aimed to assess whether they had acquired a solid background in reading with understanding. It aimed to assess whether they could independently read and understand various messages, and therefore, act intelligently from this reading.

Once out of school, they would be expected to read and understand regulations where they find jobs. They would be required to understand various abbreviated notes and messages, various
specifications on medicine packets, application of chemical sprays, recipes, stickers, price tags, bills, street signs, bulletin boards etc. They would also be expected to understand memos, notices, circulars etc. All these are pertinent to the need to read with understanding (Brumfit 1982).

In their jobs, primary school leavers handle processed foods and chemicals, serve food and drinks to people in hotels, and are involved in storage and safe keeping of items requiring reading instructions. They are also employed as subordinate staff in schools, hospitals, factories, bars and restaurants. Many are employed as houseboys and housemaids, waiters and waitresses in bars and restaurants, shopkeepers or salesmen, labourers, drivers; the list is endless. Thus it was the aim of this research to assess whether pupils completing primary education had basic reading skills to enable them to cope with written English in their employment.

The "do-it-yourself" manuals and instructions on domestic items and medicine packets make it imperative that our school
leavers be able to read (Pappas 1972). The syllabus for Kenya primary schools emphasizes that at the end of the primary course, pupils should be able to read and understand instructions and to read for information.

Comprehension means understanding. So, in order to establish whether a given pupil had understood a text presented to him, there was need to set before him a set of comprehension tasks. If a word was ambiguous by itself, could he explain its meaning in its context? Could he infer intended meanings? Such was the rationale underlying the use of comprehension tests as a measure of effective reading.

By describing the reading performance of standard eight pupils (these are completing primary education) the researcher hoped to avail his findings to educators, policy makers, curriculum designers and the general public. It would be reliable information on what to expect of primary school pupils when they leave school and the information to use in the consideration on alternative directions for educational policy. It was also expected that manufacturers of various technological items would also realize
the importance of using appropriate language for the intended users of their products.

1.3 Scope and Limitation of the Study

Assessment was based on a single comprehension passage derived from 1990 K.C.P.E English comprehension passages. This was a suitable passage bearing public information and which had outward resemblance to any other kind of information for public utility. It had approximately 358 words. All other texts were short; in fact some were one sentence long.

"Intellectual reading skills" (Brumfit 1980) were investigated and elementary skills were ignored. The former skills include reading for required information, reading for implied meaning, and reading for gist.

The short texts were extracted exactly the way they appear in their original form. However, care was taken to pick those that appear frequently and are within reasonable comprehension level of an average upper primary school child. For this purpose the syllabus for Kenya primary schools proved an invaluable guide.
For the purpose of the study, short texts dominated because as Fyfe and Mitchell (1985: 54) say, "people tend not to read lengthy instructions". However, the limitation here was that where short texts were used, only a handful of questions was really worth asking. This meant that many texts were required to get enough information from the pupils.

Limitation of space and time did not make it possible to undertake the reading in a natural context as was done by Sticht (1977). It would have proved impracticable to bring real items bearing messages in class. Effort was made, however, to provide the pupils with an imaginary context whenever this was expedient. Pupils were also expected, as explained in chapter three, to provide their own imaginary contexts. Thus, it was thought that absence of a natural context would not in any way significantly handicap one’s understanding of the message.

Where open-ended questions were used, valuable information on pupils’ comprehension was got. However, as Fyfe and Mitchell say,
their use often makes it impossible to decide whether pupils' problems derive from difficulties in reading the text or from difficulties in formulating a response to the question (p.175, Ibid).

Though that may be so, it was felt that the reading and writing skills are inter-related and therefore, as Heaton (1982) says, there is an interplay between reading and writing. This means that a pupil who read with comprehension was expected to formulate an answer in open-ended questions with reasonable ease.

1.4 Objectives of the Study

Having reviewed the relevant literature the following broad objective, further subdivided into three specific objectives, was formulated and tested. This was:

Assessment of the ability of pupils completing primary education to read messages in English with understanding.

Specific

1. Assessment of the ability of pupils completing primary education to read a passage with understanding.
2. Assessment of the same pupils to read directions on common technological items with understanding.

3. Assessment of the same pupils to read other messages they are likely to encounter outside the classroom with understanding.

1.5 Hypotheses of the study

Similarly, relevant literature was reviewed and the following broad hypothesis, further subdivided into three specific hypotheses, was formulated and tested.

If pupils completing primary education are sufficiently exposed to written English, they will be able to read a passage, sets of directions and other messages they are likely to encounter outside the classroom, with understanding.

Specific

1. If pupils completing primary education are sufficiently exposed to written English they will be able to read a passage with
understanding.

2. Given the same variable, the same pupils will be able to read directions on common technological items with understanding.

3. With the same variable, these people will read other messages they are likely to encounter outside the classroom with understanding.

1.6 Theoretical Framework

Researchers have attempted to provide a model that explains what people do when they read. To date, "no group of scholars has been successful in describing the reading act completely" (Dahl 1981). The psycholinguistic theory draws heavily on the role played by language ability when the reader meets the printed page. If a reader is to be successful at discovering the author's meaning, adds Dahl, it seems to be essential "that the language of the reader and the language of the author be closely matched" (Ibid.:13).

Kenneth Goodman and Frank Smith have greatly expounded the psycholinguistic theory of reading.
Goodman (1973) maintains that:

reading is a psycholinguistic process by which the reader reconstructs, as best as he can, a message which has been encoded by the writer as a graphic display (Ibid:22).

Many cognitive processing mechanisms help the reader understand written language. Dahl concludes that the reading process makes use of some combination of perceptual and linguistic information. She adds that specific perceptual and linguistic cue systems have been outlined in Goodman's theory. Explaining this she says:

These systems can be labelled as graphophonic, syntactic, and semantic (Goodman, Ibid). Graphophonic sequences within (English) Word boundaries primarily aid the reader in recoding written language. These sequences refer more to morphophonemic (spelling patterns) relationships than to singular letter-sound correspondences. At the structural level, syntactic cues operate. Here the redundant features of language markers (noun, verb, etc.), and inflectional forms help the reader formulate a structure that will ease his search for meaning (p. 14).

Finally, Goodman's theory relies on what Dahl calls "semantic framework supplied by the reader." she says that:

In order to complete the decoding process, the reader must be able to draw on his
Smith (1971 and 1975), proposes a feature analysis theory of reading. His theory holds that reading is the reduction of uncertainty. To expound on his theory Dahl says:

Cognitive agents search for visual and non-visual cues in order to decode underlying meaning. Features of the graphic stimuli, along with linguistic structures (lexical, syntactic, semantic) present varying amounts of information that reduces the uncertainty of the author’s message (Ibid:14)

She gives an example of a cloze sentence to explain this uncertainty of the author’s message. A reader uses his knowledge of the patterning of syntax to predict the meaning of the cloze sentence. She gives this sentence as an example: "The child put on his shoes and his__________" (Ibid.: 14). In this problem she explains that the reader’s syntactic information predicts that a noun or noun substitute must occur in the open slot; semantic
background would help him select noun such as "socks". Dahl explains what Smith posits to be fluent reading like this:

a reader constantly makes hypotheses about the author's meaning and uses just enough cues to accept or reject the hypotheses. Redundancy provided by the patterns found in our written language provides cues that help the reader limit possible predictions. We know that letters and words are limited in distribution by rules of structure (Ibid.: 14).

As linguistic input enters the processing system, syntactic and semantic constraints operate to aid in predicting and then testing possible meanings. In the act of reading, Smith feels that a person samples just enough visual information to categorize units of language. At the same time, relationships between units are being established and the passage is understood. The more syntactic and semantic information a reader can make use of, the less visual information is required.

Smith's theory of reading is that reading is a process of sampling bits of information sufficient to test and confirm hypotheses about the meaning of a written message.

Therefore, this study has borrowed to a
large extent on psycholinguistic theories as advanced by Kenneth Goodman and Frank Smith, especially in regard to processes involved in reading comprehension.
CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1. Background information

Reading has been looked at from a psycholinguistic perspective in this study especially in regard to the works of Kenneth Goodman and Frank Smith. To these researchers, looking at reading from a psycholinguistic perspective means looking at reading in its natural state, as an application of a person's general cognitive and linguistic competence. They seem to suggest that there is really no distinction between reading and reading comprehension. The distinction that many of us make between word identification and comprehension would seem arbitrary to them (Pearson 1974).

An important concept that cannot be easily ignored in the process of reading is that of context. Over the years the concept of context has played an important role in the study and teaching of reading. Aulls (1978), in his article entitled "The Nature and Function of Context during Reading and Writing", remarks that in order
to explain the extent of contextual resources used by humans in expressing meaning as text or acquiring meaning from longer discourse, it is necessary to reconceptualize the nature of context. He gives an illuminating account of the role of context as it relates to the reading process. By way of definition he says:

Any linguistic units preceding or following a single word, phrase-sentence, or series of sentences may influence the reader/author's construction or reconstruction of meaning. Those linguistic units or sources of knowledge which can be shown empirically to specifically and consistently influence the processes of constructing or reconstructing meaning may be considered as 'contextual constraints' (Ibid.:265).

He says that prior to the 1970s, reading educators and most psychologists typically viewed the function of context to be within the sentence. Studies of reading focused on the sentence as the largest unit of meaning. He adds that during the decade between 1960 and 1970 psychologists and psycholinguists studied the nature of context as it applied within sentence contextual constraints. These studies attempted to determine what linguistic constraints "operated that might independently or jointly influence the prediction of word units and word groups as well as the derivation of word meaning"
(Ibid.: 267)

The following finding were obtained:

1. Position of a word influences accuracy in its predictability and text segments following a word tend to have greater constraints than the preceding segments.

2. The grammatical class of a word influences its predictability.

3. The syntactic patterns within which a word occurs influences it predictability.

4. The organization of words into groups is determined by syntactic constraints and the unit of meaning processed during reading is closer to a phrase or clause than a word unit as reading becomes faster and more efficient.

5. While syntactic constraints do influence the reader’s ability to predict words and group words into
meaning units. Understanding sentences appears to be most predominantly a function of semantic variables. Thus accurate and rapid syntactic access does not necessarily assure accurate acquisition of meaning. Some essential contexts are semantically richer than others in aiding readers to predict and get access to word meanings as well as the meaning of word groups, such as metaphors.

Results like those above served, to a large extent as a basis for reading educators and researchers in the late 1960s and early 1970s to gain a fresh perspective in the significance of syntactic patterns and semantic relationships. Word concepts were seen as "generalizable" underlying contextual constraints which influence the processing and understanding of any sentence or the word units and word groups comprising a sentence (Aulls, loc. cit.).

Aulls says that during the late 1960s and early 1970s, a new approach toward studying the function of syntactic and semantic cues within a
meaning units, Understanding sentences appears to be most predominantly a function of semantic variables. Thus accurate and rapid syntactic access does not necessarily assure accurate acquisition of meaning. Some essential contexts are semantically richer than others in aiding readers to predict and get access to word meanings as well as the meaning of word groups, such as metaphors.

Results like those above served, to a large extent as a basis for reading educators and researchers in the late 1960s and early 1970s to gain a fresh perspective in the significance of syntactic patterns and semantic relationships. Word concepts were seen as "generalizable" underlying contextual constraints which influence the processing and understanding of any sentence or the word units and word groups comprising a sentence (Aulls, loc. cit.).

Aulls says that during the late 1960s and early 1970s, a new approach toward studying the function of syntactic and semantic cues within a
sentence emerged. The alternative was to assess the readers' "use" of general grapho-phoneme, syntactic, and semantic cues within a sentence. This led to the study of strategies like predicting, sampling, self-correcting and confirming prediction, which the reader might use to access or integrate cues. The proponents of this new approach included Kenneth Goodman and Frank Smith whose more detailed contribution is highlighted in the theoretical framework of this study in chapter one.

In this regard, it is argued that it is important to emphasize to the pupils ways of combining the major linguistic cues within sentences. It was recognised that sentences vary widely in contextual constraints. However, the most important issue was to determine how readers vary in their ability to access and integrate the grapho-phonemic, syntactic, and semantic cues available in order to process the meaning of a sentence.

Aulls goes on to say that since 1970s' the study of the nature and function of context has been expanded beyond the sentence level to
include "between sentence - contextual constraints" (Ibid.:269). In this aspect, Halliday and Hasan and other researchers, for instance, have proposed text grammars for understanding how text statements are linked together to refer to one another and to afford contextual or semantic networks, which readers use to weave together author’s meanings in a cohesive manner. They use the word text to refer to "any passage of whatever length that forms a unified whole" (1976:269). They add that a text is a unit of meaning and must have cohesion, in the sense that interpretation of some element in the discourse is dependent on that of another. Cohesion exists where interpretation of any element in the discourse requires making reference to some other element in the discourse.

Aulls concludes that teaching students to use context is a matter of properly representing the nature of context cues as they operate both within and between sentences. It is equally a matter of not ignoring the importance of teaching readers strategies of how to get meaning access from text level contextual constraints.
Therefore, a reader must be exposed to a variety of text genre in order to obtain the number of strategies necessary to fluently acquire meaning from a broad variety of texts (op.cit: 272). For instance, front page news articles do not employ the same organizational structure as a newspaper editorial, and both are quite different in structural organization from poetry.

2.2 Comparable Researches

As our society has become more and more literate, reading has become an integral part of our lives. Faced with the print media, reading with comprehension aids us in going about our day to day affairs. Reading exposes us to new experiences. It helps scholars to study independently across the school curriculum. According to Owino (1987), routine work dictates that we read regulations, travel guides and manuals. The mastery of the reading process is a pre-requisite for creating awareness to combat disease and ignorance.

The government spends a colossal sum of money in making sure that our society is literate. Owino (ibid), quoting from "The Kenya Times" newspaper of 14th May, 1983 says that the
The government of Kenya has employed 9,000 full and part time officers to combat illiteracy by the end of 1984. A total of 3.5 million pounds was allocated for adult education in 1982 - 1983 financial year alone.

It is necessary, thus, to assess how effective our primary school pupils are in reading with understanding, and no other stage in the school cycle is assessment more crucial than at the end of the primary cycle of education. This is so partly because, as mentioned in chapter one, to many pupils primary education is terminal.

Reading is an important component in our society's pursuit of literacy. As Castell, Luke and Egan (1986) maintain, "there is need to pay greater attention to the importance of out of school contexts in which literacy becomes "functional".

The term "functional literacy" (Castell et al. ibid) was coined by the United States Army during World War II. It referred to "the capability to understand written instructions necessary for conducting basic military functions and tasks
(Sharon, 1973:48). "Functional literacy" thus can be taken to mean ability to apply knowledge of a language in the appropriate context.

According to Shipman (1983) assessment has become part of everyday life, with life becoming more complicated in the twentieth century. Assessment, especially, functional literacy assessment, is necessary to avoid unnecessary damage to other humans or to organisations, or to machines.

The Bullock Committee (1975) gives a telling illustration provided by the "survival literacy study", conducted for the U.S. National Reading Council in 1970. The purpose of the study was to determine the percentage of Americans lacking the functional reading skills to "survive" as participants in the social and economic life of the country. The reading material consisted of five application forms in common use in daily life, ranked in ascending order of difficulty. The Committee reports that the results were as follows:

3 per cent of all Americans were unable to read adequately the form of application for public assistance, 7 percent a simple identification form, 8 per cent a request
for a driving licence, 11 per cent an application for a personal bank loan, and 34 per cent an application for medical aid (Ibid.:11)

The same situation may apply to Kenya’s primary school graduates, (where "graduates" refer to pupils completing primary education), hence the need for this research.

Murphy (1973) carried out a study of reading proficiency of 7,500 adults. The material to assess it was chosen on the basis of the extent to which it was in everyday use, its importance, and the time spent upon it. The most important reading material of the average day was presumed to be news, material associated with work, signs of various kinds, and print on consumer goods. The items used in the assessment reflected as closely as possible the level of difficulty involved for a proper understanding. The Bullock Committee reports the results to be as follows:

20 per cent of the adults in the sample were unable to achieve more than 47 per cent correct responses, and over half of them made more than 10 per cent incorrect responses (Ibid.: 116).

The Committee suggests that evidence of this kind points to the good deal of inefficient reading
among adults who are generally regarded as being "able to read."

Potts (1976) argues that within the context of a study of language, the reading skills necessary to cope with everyday problems might be more successfully developed since, in this situation, the pupils would most likely see their relevance.

In this study, it was necessary to assess English reading comprehension in the light of the above literature as a way of determining whether or not primary school graduates have acquired sufficient functional literacy, in order to cope with written material once they are out of school. A reading test was therefore necessary as a means of determining with some precision the extent to which the respondents had acquired this level of literacy.

Part of the urgency of this research was prompted by the 1982 C.P.E (Certificate of Primary education) Newsletter, which stated that out of 350,000 candidates who sat the examination, 20,000 produced work which clearly proved their "road" to illiteracy was quite
evident (Owino, 1987). This study tried to provide further evidence to attest to these findings but with inclination towards applied English.

According to Southgate, Arnold and Johnson (1981) reading comprehension is aided by semantic cues from one's recognition of the words of the written language and the knowledge of their meaning. It also uses cues from the phonic rules of the language, and cues from one's underlying understanding of the grammatical structure of the language.

They also explain that comprehension is not a one way process with the reader merely trying to understand the author's meaning, but rather is a two-way process, with the reader's own background knowledge contributing as much to the understanding of the text as do the words of the author. Therefore the wider the reader's experience of texts, the easier he can cope with different and unusual presentation formats.

For pupils to find reading easy, maintain Fyfe and Mitchell (1985), they have to bring to
the text the level of knowledge and experiences that the writer assumes them to have. On the mode of presentation they say that the reader has to be familiar with the chosen mode of presentation, not least because this is likely to reflect the writer’s purpose in writing.

This study had a future goal in mind, because "language development determines to a great extent how well a pupil will cope with the subject matter in any real life situation" (Heaton, 1982). He says that in real life the efficient reader uses a combination of language information and known content to discover unknown content.

Fyfe and Mitchell (Ibid) carried out a study with a future goal in mind. While asserting that the principal component of most reading tasks undertaken in school is comprehension, they coined a term for reading tasks that require action responses. They called this "Comprehend - Do Reading Tasks." They said that readers are faced with this sort of task when they read directions or instructions. They carried out a research to investigate "how pupils coped with
sets of directions", among other things. In their research, they tried to identify potential sources of the difficult pupils face. They also collected detailed information about how pupils tackled their reading tasks, about the more common sources of difficulty inherent in reading tasks, and about what made items easy or difficult. They studied upper primary and secondary pupils and their research was based at Aberdeen College of Education. Their research is broadly comparable to this research, albeit the latter is concerned with upper primary pupils alone.

Among sources of difficulty, they found those involving coping with general statements, coping with specialised vocabulary, and those involving layout and incidental difficulties. For general statements, pupils found difficulty in judging how a general statement applies to a particular context. Non-redundant texts, another source of difficulty, require pupils to process the meaning of every word in the text. Pupils got bogged down by specialised vocabulary even if such vocabulary was irrelevant to the understanding of the text. They also reported that unusual lay-
out of instructions and incidental problems like misreading caused difficulties.

For general statements, Fyfe and Mitchell give an example of a set of instructions that tell how the medicine in question can be used. This was: FOR MILD SORE THROATS AND MINOR MOUTH IRRITATIONS. In their report, pupils found difficulty in deciding whether toothache (a specific term) is a minor mouth irritation (a general term). When pupils in this research were given the same problem, similar findings were also found.

Though complete understanding of non-redundant texts was not necessary, pupils got problems. They noted that pupils tended to have a partial understanding of certain medical terms. Terms such as "dose" and "tablet" were familiar to pupils, but their concepts of them were too narrow and this led to some misunderstanding (Ibid.: 55). For instance, several pupils assumed that if the word "dose" appeared in the direction, then the medicine must be in liquid form.
A similar thing was found in this study; pupils seemed to have a partial understanding of terms such as "toilet" and "refrigerator". Several pupils mistook "toilet" for a "pit latrine" whereas others said that a packet labelled "store in a cool dry place" can be stored in a refrigerator.

A number of difficulties pupils experienced in the study conducted by Fyfe and Mitchell were due to misreading and/or failing to notice parts of the text (Ibid.:47). These features, remark Fyfe and Mitchell, have been introduced by the manufacturers to draw attention to particular parts of the text. In this study some pupils misread "prosecution" as "persecution". Others misread "true" to be "yes", "false" to be "no".

In the 1981 C.P.E."Newsletter"(P.I), Owino says that the letter indicates that in answering comprehension questions, many candidates simply look for an answer that repeats some of the words in the passage. If this is so, it was felt that the target candidates in this study would encounter problems when they are supposed to understand messages, sometimes by inference,
without focusing on a particular word, hence the decision for this study.

Many of the reading tasks investigated in this study, especially in the questions named "B" questions, were of the "Comprehend - Do" style. Fyfe and Mitchell say that Comprehend - Do reading tasks are very common in job situations (Ibid:54). They give an example of Sticht (1977) who carried out a study of Navy personnel. They reported that 60 per cent of the reading tasks investigated were of the Comprehend - Do type. (The other 40 per cent were comprehend - learn). The decision for this study was partly based on this observation as primary school graduates would find themselves involved in reading tasks of some kind in their future employment.

Fyfe and Mitchell made certain conclusions from their research. They posit that for effective language communication, people must have the ability to "instantiate the general terms encountered in discourse" (Anderson and Shifrin 1980). They argue that where language is used to communicate with others, people have to translate general terms into more particularised
terms. To make successful instantiations, pupils require first, the appropriate background information on which to make inferences. Presence of specialized vocabulary, they argue, makes instantiation difficult even if such are irrelevant to the understanding of the text.

Commenting on non-redundancy of texts, they say that directions are usually kept as short as possible because people tend not to read lengthy instructions. In their opinion direction on medicine packaging are further constrained in that they often have to be squeezed in a comparatively small space. This affects the comprehension task which the reader is faced with; for the texts are usually non-redundant or have a low level of redundancy. This means that all the words in a sentence need to be understood. However, complete understanding of all the parts of a set of instructions is not always required, though certain words seem to draw pupils attention and dominate their understanding.
CHAPTER THREE

METHODOLOGY

3.1 Area of Study and Study Population

The study was carried out in Meru Municipality zone (where zone means the smallest educational administrative unit in a district) with the knowledge that contemporary standard eight classes existed. It was assumed that the pupils had average reading ability and would form a population from which reliable findings would be got. It was also assumed that pupils were used to seeing visitors or being assessed and thus the presence of the researcher and his assistants would not be an extraneous factor to affect the findings. It was also assumed that schools had equally qualified staff, comparable minimum teaching facilities, and generally pupils were exposed to fair amount of reading.

Being a town environment pupils were expected to have had enough background information to aid their reading comprehension. Thus extraneous factors like location of the school, lack of teachers or facilities, lack of reading environment and so on were not present in this
area. It was assumed that pupils in town proximity had easy access to the print media, e.g. circulars, announcements, advertisements, newspapers, public library, posters, road signs etc. and therefore would not find texts drawn from them or similar things strange.

The schools that formed the population were:

1. CCM Township Primary School
2. Giantune Primary School
3. DEB Township Primary School
4. Irinda Primary School
5. Mwithumwiru Primary School
6. Kaaga Primary School
7. Gitoro Primary School
8. The Meru Primary School
9. Consolata (Gitoro) Primary School
10. Kinoru Primary School
12. Mwirine Primary School

Thus the population comprised eleven schools excluding Kaaga School for the Deaf. Schools that did not have a standard eight class were similarly excluded.
3.2. **Sampling procedure**

Names of the eleven schools were written, each on a separate piece of paper of the same size and quality. After this they were shuffled in a satchel whose top had been closed save for a small opening for the hand doing the shuffling. The researcher drew the first four papers at random after thorough shuffling had been done by somebody else. The following schools were thus sampled.

1. CCM Township Primary School
2. DEB Township Primary School
3. The Meru Primary School
4. Consolata (Gitoro) Primary School

Thirty pupils' work in each school was examined, making a total of 120 for the sample population.

All the pupils in standard eight were allowed to take the assessment test. This was done to ensure pupils found the assessment a serious exercise. Otherwise, if few of them did the test there would have been a tendency to assume the test was not for any meaningful purpose, given the age of the pupils.
Each of the four schools had 40 pupils except for DEB Township Primary School that had 57. When all the written answers were ready in the written scripts, they were all kept in separate bundles for each school. The researcher removed every fourth script from each school except in DEB Township primary school in which about every other script was removed to leave 30 scripts for analysis in each school. Finally, all the scripts were mixed up to make a complete entity of 120 written scripts for the analysis.

3.3 Data Elicitation: Collection and Administration of Research Instrument

Pupils were expected to follow a sequence of instructions or to interpret a set of directions as demanded by each question. Instructions for each question were explained to the pupils clearly by the researcher and his two assistants. In principle the pupils were asked to take about two hours for the test, but no pupil was told to stop after the end of the two hours. In fact, many pupils had finished by the end of the first one and half hours.

Pupils wrote down their own names and the
names of their school. The names were necessary to avoid mixing up the scripts and to ensure pupils found the exercise a serious thing to do. Some questions were close-ended, multiple choice type and others were free response, open-ended. The open-ended questions sometimes sought explanations for making certain choices.

According to Oller, multiple choice questions are easy to administer. He adds that (1979:256):

It is the purpose of the multiple choices offered to any field of alternatives to trick the unwary, ill informed, or less skilful learner. If the test succeeds in discriminating among the stronger and weaker students it does so by decoying the weaker learners into misconceptions, half-truths, and Janus-faced traps.

Even this being so, Oller argues that open-ended formats tend to produce a greater amount of reliable and valid test variance. In the light of this observation, it was decided to use both open-ended and close-ended questions.

The two assistants mentioned above also helped in marking the written scripts. All the questions used are given in the appendix column of this thesis.
3.4 Procedure

The questions were subdivided into two distinct groups. The first group comprised multiple choice questions derived from a comprehension passage, itself, derived from one of the passages in English comprehension in 1990 K.C.P.E. English examination. They were called questions A and comprised 12 multiple choice questions. This passage contained reading problems and pupils were assessed on their comprehension "at those points at which the problems were crucial" (Lado 1961:238). This passage could be called "systems-referenced" (Baker 1989), because the aim was to evaluate language without referring to any specific use for which it might be put.

The second group of questions (B) were performance-referenced, and were designed with a particular performance in mind. They gave information about each pupil's ability to perform that specific task. They owe their development to the desire to have information about what a pupil can do with his language proficiency. The researcher chose an approach that would resemble more closely what the pupil might have to do in a
real life task. This deviates from cases like in (A), in which pupils were asked to perform things that had little outward resemblance to those encountered outside the classroom. By illustration, for instance, in purely practical purposes, pupils are unlikely to be told to sort out jumbled sentences.

Questions were asked only about important pieces of information; there was no need for the pupils to understand, or even to read the whole text. Questions were such that they had to make repeated reference to the reading material.

It was found necessary to code a certain text to ensure that pupils would not rely on past experience. The item "JIK" in questions (B) was coded as "MM". This was a common detergent whose message pupils were expected to understand. GUSATHION EC 200, an insecticide, and JIKO, a domestic cooking device were used and messages attached on them provided texts for the subsequent questions. Assessment technique in some of these texts directed pupils' attention to the important information in a set of directions attached to them.
A certain text was derived from first aid instructions on how to handle an epileptic patient. Other texts were derived from instructions on handling, and application of crop protection productions from Simpson and Whitelaw SIMLAW Seed Limited. Then followed texts found on various public places. Pupils were not only expected to interpret literal meaning. They were also expected to interpret implied meaning.

Where it was not possible to get a real text from a known item, improvisations were made, trying as much as possible to make them look real. In general a variety of texts were chosen to ensure the assessment was broad.

3.5 Mode of Assessment

Pupils were asked questions whose answers appeared in four choices, three of which were wrong and one correct. A pupil had to circle the correct alternative. He had to subsequently write down below his choice the reason for choosing that alternative. If the reason correlated with the correct answer he would score a maximum of two marks. Those with partial understanding, depending
on their reasoning, would not get the maximum mark but would fall somewhere between zero and two. However, in questions (A) no such explanation was sought.

It was found out that in some questions B, a pupil could score the initial response correctly yet his explanation showed that he never knew the answer. Questions A could not provide this information.

3.6 Strategies used in assessing certain problem areas

When the "Comprehend - Do" element was out of context of a real situation, imaginary contexts were provided, where "context" (Leech 1983) refers to the social and physical setting of an utterance. Pupils were introduced to the text by being told where it was derived from or where was to be found. It was assumed that where contexts were not provided, pupils would provide their own.

When layout was expected to be a big source of difficulty, pupils were helped by highlighting (Fyfe and Mitchell 1985). This was done by
inserting graphic aids in the text. Important parts were underlined or block letters were used in some words. This was done in order to direct attention to them.

If the language used was thought to provide difficulty, the text was made redundant by "glossing or by expanding/simplifying the text". This was a way of comparing how pupils faired in non-redundant texts and redundant ones. If the final response was supposed to be written, pupils were expected to generate a response and write it down. A space was provided to direct pupils where to put the answer.
CHAPTER FOUR

DATA ANALYSIS AND INTERPRETATION

4.1 Analysis of Performance

The following categories of questions provided the assessment data.

1. The 12 multiple choice questions referred to as questions A from a reading passage in chapter three of this study were answered with reference to explicit statements contained in the passage. Also included were questions that involved the recognition of information that was implicit in what was written.

2. There were messages in form of directions on common technological items that were followed by six multiple choice questions and explanations for choices made.

3. There were two true or false questions with subsequent explanations for choices made.

4. There were also four right or wrong questions
with similar subsequent explanations for choices made.

5. There were four free response questions without multiple choices from selected messages.

6. Finally, two questions from selected messages on modern technological items were multiple choice, without requiring explanations for choices made. It was felt here that explanations were not necessary to test comprehension of the message.

Questions 2, 3, 4, 5 and 6 are referred to as questions B in chapter three and comprised sets of directions and other messages written in English. The texts containing these messages were short.

The findings were:

Pupils who did well in part A also did well in part B and those who were poor in part A were also poor in part B. The good pupils showed higher literacy levels than the poor ones, because they could generally read with understanding and could express themselves in writing in such a way as to be understood. The poor pupils did not
understand majority of the items tested, or had partial understanding of them. These were many as detailed information will show, and were the target group in this study. The study explored what they were poor in.

Results show that proficiency levels of these poor pupils, henceforth referred to as potential school leavers, are not developed well enough to serve their personal and social needs. They fail to reach the criterion of literacy proposed by the Bullock Committee (1975).

The committee recommended a literacy level:

**Capable of showing whether the reading and writing abilities of children are adequate to meet the demands made upon them in school and likely to face them in adult life** (researcher's emphasis)

The above findings were mostly availed by questions B, because unlike in questions A, they enabled the researcher to find out at what points it was easy to answer certain questions and at what points it was difficult. Part B questions therefore made it easier to diagnose pupils' strengths and weaknesses.
4.2 Detailed Analysis

The marks ranged from 7% to 83% for the poorest pupils and the best pupils, respectively. All the pupils tested (120) had a mean score of 45% in the grouped data and 44.9% in the ungrouped data. The median of the grouped data was 44.5%. The standard deviation was 18.5. 55% (66) of the pupils under study scored below 50% of the assessment test. Furthermore 50.8% (61) of the pupils tested scored below the mean mark of the sample. These results show a marked variation in performance and, therefore, the sample was not homogeneous in performance.

Approximately half of the pupils tested did not do well in the reading comprehension test, and this forms part of the group that is likely to terminate primary education. The latter assumption is given credence by the observation of the editorial column of The Standard newspaper of 4th January, 1991, that facts showed 52% of the pupils who had sat for 1990 K.C.P.E. would most likely drop out of school.

This study investigated the weaknesses of the pupils and the following findings were obtained. They concur with the findings of Fyfe and Mitchell
in several ways.

1. Failure to interpret general statements in particular contexts.

2. Failure to cope with words with specialised usage.

3. Failure to cope with non-redundant texts

4. Failure to cope with complex text layout.

5. Partial understanding

This study also found two common sources of difficulty encountered by Fyfe and Mitchell in their research. These were:

1. Difficulty in handling more than one source of information and to recognise the appropriate source to draw on for particular information. When this happened, the pupils affected ended up failing to get the expected response.

2. Lack of adequate background knowledge and experience, relevant to both the content and the format of the text. There were pupils
who, however, used background information alone to answer certain questions, and this usually led to misunderstanding.

4.3 Facility values

In the calculation of facility values the proportion of the pupils who answered a certain item correctly was expressed as a decimal or percentage of the number of pupils tested (Gorman, White, Orchard, and Tate, 1981).

Gorman et al. (ibid:24) recommend that in interpreting the information relating to facility values, it is important to recognise that many factors contribute to the difficulty of the questions. These include the wording of the question itself and the format in which it is presented. In case of multiple choice questions, the phrasing and content of the alternatives given are factors that affect the difficulty of the question.

Nevertheless, the researcher tried to minimize the effect of these factors in such a way that it was insignificant in the overall comprehension of a message. The wording of the questions was made
as clear as possible. Similarly, the format of presentation was unambiguously explained both in writing, or verbally, whenever need arose during the supervision of the assessment test. The phrasing and content of the alternatives was equally made explicit in such a way that the intended purpose would be achieved with minimum difficulty.

In any case Fyfe and Mitchell argue that:

formative assessment often shows that pupils’ difficulties lie in not only misunderstanding texts but also in misunderstanding what they have been asked to do with them.

4.4 Presentation, Facility Values, and Interpretation of certain selected items

1. In Question 3, pupils were told in the introductory statement that what they were going to read was a message on a domestic cooking device. This was an attempt to provide them with an imaginary context to ease their comprehension and to cater for the absence of a real object.

The message was: JIKO: CAUTION; USING JIKO ON NON-VENTILATED ROOM CAN CAUSE SUFFOCATION.
To test comprehension of this message four multiple choice statements were written concerning what one can do with the JIKO on the basis of the message given. However, doing one of the things stated was wrong. Pupils were expected to make the correct choice if they understood the message.

81% (97) of them understood this message. This high facility value can be attributed to the use of familiar syntax and the text is fairly redundant. Background information may also have aided the comprehension of this message as most of the respondents may have known this item from their past experience.

In Question 4a, however, no imaginary context was provided. Pupils were expected to provide their own context (Fyfe and Mitchell 1985). The message was:

TAR AND PAINT STAIN REMOVER. HIGHLY FLAMMABLE. IRRITANT. Use only in ventilated areas. In case of contact with the eyes, rinse immediately with plenty of water and seek medical advice.

Pupils were asked to say whether it was true or false that "when using TAR AND PAINT STAIN REMOVER close all windows and doors". They were expected to show understanding of "ventilation" as
was the case in Question 3.

Results show that unlike in Question 3, only 45% (54) of the pupils tested understood this message. The reasons for this could be, either, they were baffled by the complex syntax, non-redundant nature of the text or they allowed the difficult words to dominate their understanding. Absence of the real object containing the message and subsequent decision not to provide them with an imaginary context may also have led to this relatively poorer performance. However, complete understanding of this message was not necessary. This may help to explain why certain words in the whole study seemed to draw the pupils' attention and dominate their understanding.

Thorndike (1917) calls the problem of allowing certain words to dominate one's understanding "Overpotency" effect. He found that some of the errors pupils produced in his paragraph comprehension texts were best explained in terms of the reader allowing the meaning of one word or phrase to dominate understanding of a complete section of text.
Fyfe and Mitchell report that a modern critique has described one of Thorndike’s test passages as a "mutinous conundrum" (Stauffer 1971). It is a very concise single sentence paragraph, with little or no redundancy. Faced with a very difficult, non-redundant text, pupils may have to base much of their understanding on isolated familiar words, without the benefit of context to shape their interpretation of them. Text difficulty and non-redundancy may, therefore, be factors in producing Thorndike’s overpotency effect.

Question 4b expected the pupils to understand whether it is true or not IF TAR AND PAINT STAIN REMOVER goes to the eyes, drink plenty of water and seek medical advice immediately. Results showed that only 25% (30) of the pupils tested understood that it is false to do so. The reasons for this, apart from those given for Question 4a, could be as explained by Fyfe and Mitchell; handling more than one source of information may make it difficult to decide which one is important for answering a certain question.

3. In Question 5, a context was provided. The
message, was: **EPILEPTIC FEATS:** Gag the patient's jaws to prevent his biting the tongue.

Results show that 73% (88) understood this message, possibly because the text is redundant. The few pupils who missed the answer may have been victims of Thorndike's overpotency effect.

4. In Question 6, a context was also provided for the pupils. They were expected to read instructions on handling and application of crop protection products from Simpson and Whitelaw SIMLAW SEED LIMITED. For the first question, they were expected to understand this statement: *always fill spray mixture through a strainer into the spray tank.* They were asked to say whether it was right or wrong for someone who filled the spray mixture into the spray tank through a piece of cloth.

Results showed that 37% (44) said that he was supposed to use a strainer and not a piece of cloth and, therefore, failed to know that the cloth was something that could have been used as a
strainer. They were, therefore unable to interpret the general statement in a particular context. This is what Anderson and Shifrin (1980) call "failure to instantiate general terms encountered in discourse", earlier mentioned in chapter one.

In their explanations, some pupils also said that use of a piece of cloth would close the spray passage while others said that "you can't spray through a piece of cloth". The latter show further misunderstanding of the message. Good explanations, e.g. "a piece of cloth would filter the spray" were given by fewer than 25% of the pupils.

Another interesting sub-question in Question 6 was where pupils were expected to understand do not spray into the wind. They were asked to say whether or not it was right or wrong to spray facing the direction of the wind. Results show that 42% (50) of the pupils, by way of their explanations, understood this message but mistook he sprayed facing the direction of the wind to mean spraying into the wind. Several of them, in fact, went on to say spraying facing the direction
of the wind would blow away the spray from the crops. The instruction, however, did not imply so. This meant they were using background information wrongly.

5. In Question 7, it was interesting that only 39% (47) of the pupils fully understood the message, THIS TOILET IS OUT OF ORDER. Majority of them had partial understanding of this message, or did not understand it at all. In fact 27% (33) of the pupils had partial understanding of it. 18% (22) of them said the toilet was "full" and 9% (11) said there was a possibility of catching a disease if one used the toilet.

Pupils with partial understanding may have mistaken a toilet for a pit latrine and used the two words to mean the same thing. A toilet is a "water closet", whereas a latrine is a "pit or trench to receive human urine and excrement" according to Hornby (1974) and pupils may have been saying the toilet was full in reference to a latrine.

In the attempt to explain their choices, many of which were wrong, several pupils explained the
above message, THIS TOILET IS OUT OF ORDER, in the following manner, and this further attested to their misunderstanding:

(i) the floor is weak
(ii) the floor is under construction
(iii) somebody might fall inside
(iv) the toilet is closed by health officers for being dirty (researcher’s emphasis)
(v) it is too dirty to be used
(vi) "do not use because it is not yours"
(vii) the toilet is full or damaged/spoilt (researcher’s emphasis to show partial understanding).
(viii) the toilet has been messed up by faeces
(ix) "If it is a pit latrine, the floor may be having a crack and you may fall in"
(x) the toilet "will be dirty when used".

Performance on a question of this nature reveals inadequacy of reading comprehension of common public messages written in English whose understanding we take for granted.

6. In Question 8 a context was provided for the pupils and the text was redundant.
This text was:

**Silicone Teat (for feeding babies): STERILISE BEFORE USE.** Results showed that 81% (97) of the pupils tested understood this message. This high score rate can be attributed to the high level of redundancy of the text and use of background knowledge to aid understanding. The bit of information, for feeding babies, appended to the item named Silicone Teat may have provided sufficient background information that aided comprehension.

7. In Question 13 a context was provided for this fairly non-redundant text that Fyfe and Mitchell also used in their research. It was a text for a Medicine, labelled, FOR MILD SORE THROATS AND MINOR MOUTH IRRITATIONS. Results showed that only 29% (35) of the pupils tested could interpret or instantiate that uncomfortable sensation in the gums was a minor mouth irritation.

Other responses from the pupils on selected messages.
GUSATHION EC 200.

Insecticide.

Precautions: poisonous by swallowing, inhalation and contact with the skin.

Results showed that 34% (41) of the pupils had partial understanding of this message. In their explanations, they attributed the risk of poisoning to children and seemed oblivious of the fact that adults too should not have access to the chemical. They only said children are the ones to stop having access to it. They addressed themselves to swallowing and ignored inhalation and contact with the skin bit of information.

In Question 9, an imaginary context was provided for the message: BEWARE OF THE SLIPPERY FLOOR. Results showed that a sizeable number of pupils said the following of what the message directed them to do. This showed further misunderstanding of given messages:

i. To beware of people who sleep on the floor
ii. Do not enter without permission
iii. Remove the slippery floor
iv. Remove shoes
v. To be washing the floor properly
vi. The floor is having soil and water
vii. Stones may fall on one’s head
viii. Instead of saying “what to do” some repeated
      “the floor is slippery”
ix. Do not step on the floor
x. Seek permission first before entering
xi. Do not enter in slippers
xii. Slippery floor prevents us from dust

In Question 10, some of the pupils understood
the following notice:

There is a DC’s meeting at Kinoru Stadium on
Saturday this week for all the residents of
Meru town. Failure to attend the meeting may
lead to prosecution.

to mean the following, when asked: **What might
happen to those who do not attend the DC’s meeting:**

i. they are breaking the raw (sic)
ii. they will not get sponsorship when they are
   in problems
iii. They will not ‘hear/ear’ (sic) the DC’s speech.

In Question 11 pupils were expected to
explain the message DO NOT TRAVEL IN OVERLOADED
VEHICLES. **THIS MIGHT CAUSE ACCIDENT.**

Some said the following:
(i) "don't travel in upsidedown cars"

(ii) others tried to paraphrase the statement without explaining the meaning.

(iii) one pupil used Kiswahili poorly to explain the meaning.

The latter is a case of "linguistic bifurcation" (Adler 1977:125). Here, one set of language is used in one situation and another in another situation "the result of which the children do not master" either language completely and that they therefore perform badly in language tests.

In Question 14, pupils were expected to understand a message on a packet saying STORE IN A COOL DRY PLACE. They were asked to name one place where the packet could be stored. Some said the following:

1. Sufuria of cold water
2. Clean cemented floor
3. Refrigerator/or in a fridge because "it will not melt" (sic)
4. In the store to make food
These pupils either thought they understood the message by understanding one word alone, or they misunderstood both. In fact 28% (33) of them said "refrigerator". Pupils who named it were generally the poor lot and there is no evidence, given their dismal performance, for them to understand instructions contained in the manual for the safe storage in the correct refrigerator compartment.

Other Weaknesses

Some pupils never understood anything and sometimes left some questions unanswered. Others copied expressions here and there arbitrarily to fill in blank spaces. Some did not choose "right or wrong, true or false" but went ahead to explain choices they never made. A number of pupils had incomprehensible hand writing. In fact, when some were asked to explain, they repeated the message. Others contradicted what would have been correct choices by their faulty explanations.

Some pupils used words that they never intended when they explained some things. For example:

"lickage" for leakage
Several pupils made choices without explaining them, contrary to the demands of the question asked. Some wrote disjointed expressions here and there. This revealed their inability to communicate. Others were unable to communicate at all.

Some pupils misread certain things. They said "no need", "yes", "true" etc where they were required to say "true or false, right or wrong". One pupil named a packet of milk, in question 14 when asked where he would store a packet labelled "store in a cool dry place". In question 9, some pupils wrote the word "persecuted" instead of "prosecuted." In question 7, a student says "pay money to use the toilet" but reasons "people do not pay money when using toilet".

The following is a summary of the pupils' strengths and weaknesses as shown in Table 1.0
<table>
<thead>
<tr>
<th>Strengths</th>
<th>Weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Could interpret the information given correctly</td>
<td>Usually talked of irrelevant things and did not comprehend information given</td>
</tr>
<tr>
<td>2. Used their own words correctly to explain unambiguously</td>
<td>Use of their own words revealed misinterpretation or ambiguous explanation</td>
</tr>
<tr>
<td>3. They could provide answers when asked</td>
<td>Failed to answer the question asked</td>
</tr>
<tr>
<td>4. Answers were given using the words of the text accurately</td>
<td>Failed to provide a valid interpretation of the words used. They got stuck at certain words some of which were irrelevant to the understanding</td>
</tr>
<tr>
<td>5. They would rarely go beyond the information given in the text to make unjustifiable assumptions</td>
<td>They were poor at inferential questions which needed thinking beyond the text</td>
</tr>
<tr>
<td>6. Answers focused on the relevant parts of the text</td>
<td>They were less successful with questions which demanded synthesis of information drawn from different parts of the text</td>
</tr>
<tr>
<td>7. Used the wording of the question (and/or parts of the text to formulate answers</td>
<td>Answers were formulated poorly from their own heads</td>
</tr>
<tr>
<td>8. Tried to produce answers even if the question and/or the text was not understood</td>
<td>Left the question blank when unsure of the meaning of the text</td>
</tr>
</tbody>
</table>
4.5 Frequency distribution of the scores

Table 1: Scores from 120 pupils in English reading comprehension among standard eight pupils of Meru Municipality zone.

<table>
<thead>
<tr>
<th>P. S. P. S. P. S.</th>
<th>P. S. P. S. P. S.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 83 21 77 41 72</td>
<td>61 67 81 59 101</td>
</tr>
<tr>
<td>2 14 22 18 42 24</td>
<td>62 30 82 39 102</td>
</tr>
<tr>
<td>3 7 23 20 43 27</td>
<td>63 35 83 48 103</td>
</tr>
<tr>
<td>4 15 24 30 44 39</td>
<td>64 52 84 53 104</td>
</tr>
<tr>
<td>5 80 25 78 45 72</td>
<td>65 66 85 57 105</td>
</tr>
<tr>
<td>6 16 26 20 46 26</td>
<td>66 30 86 41 106</td>
</tr>
<tr>
<td>7 11 27 23 47 28</td>
<td>67 35 87 49 107</td>
</tr>
<tr>
<td>8 17 28 30 48 43</td>
<td>68 52 88 58 108</td>
</tr>
<tr>
<td>9 81 29 77 49 75</td>
<td>69 66 89 55 109</td>
</tr>
<tr>
<td>10 16 30 20 50 25</td>
<td>70 31 90 25 110</td>
</tr>
<tr>
<td>11 13 31 25 51 28</td>
<td>71 35 91 48 111</td>
</tr>
<tr>
<td>12 23 32 32 52 45</td>
<td>72 53 92 58 112</td>
</tr>
<tr>
<td>13 80 33 76 53 69</td>
<td>73 65 93 53 113</td>
</tr>
<tr>
<td>14 17 34 23 54 27</td>
<td>74 34 94 49 114</td>
</tr>
<tr>
<td>15 16 35 25 55 32</td>
<td>75 38 95 50 115</td>
</tr>
<tr>
<td>16 26 36 38 56 45</td>
<td>76 53 96 66 116</td>
</tr>
<tr>
<td>17 77 37 76 57 68</td>
<td>77 64 97 52 117</td>
</tr>
<tr>
<td>18 18 38 24 58 28</td>
<td>78 39 98 51 118</td>
</tr>
<tr>
<td>19 19 39 26 59 34</td>
<td>79 42 99 66 119</td>
</tr>
<tr>
<td>20 26 40 38 60 50</td>
<td>80 53 100 42 120</td>
</tr>
</tbody>
</table>

Notes: "P" stands for "pupil"

"S" stands for "score"

Table 1 shows the pupils and the corresponding scores obtained by each of them in the study carried out among standard eight pupils of Meru Municipality zone in English reading comprehension. Note that these scores are unordered.
Table 1.1 Scores from Table 1 organised in ascending order of magnitude and the corresponding frequencies

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
<th>Score</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>1</td>
<td>34</td>
<td>2</td>
</tr>
<tr>
<td>11</td>
<td>1</td>
<td>35</td>
<td>5</td>
</tr>
<tr>
<td>13</td>
<td>1</td>
<td>38</td>
<td>4</td>
</tr>
<tr>
<td>14</td>
<td>1</td>
<td>39</td>
<td>3</td>
</tr>
<tr>
<td>15</td>
<td>1</td>
<td>41</td>
<td>2</td>
</tr>
<tr>
<td>16</td>
<td>3</td>
<td>42</td>
<td>2</td>
</tr>
<tr>
<td>17</td>
<td>2</td>
<td>43</td>
<td>1</td>
</tr>
<tr>
<td>18</td>
<td>2</td>
<td>45</td>
<td>2</td>
</tr>
<tr>
<td>19</td>
<td>1</td>
<td>48</td>
<td>2</td>
</tr>
<tr>
<td>20</td>
<td>3</td>
<td>49</td>
<td>2</td>
</tr>
<tr>
<td>23</td>
<td>3</td>
<td>50</td>
<td>1</td>
</tr>
<tr>
<td>24</td>
<td>2</td>
<td>51</td>
<td>1</td>
</tr>
<tr>
<td>25</td>
<td>4</td>
<td>52</td>
<td>5</td>
</tr>
<tr>
<td>26</td>
<td>4</td>
<td>53</td>
<td>6</td>
</tr>
<tr>
<td>27</td>
<td>2</td>
<td>55</td>
<td>2</td>
</tr>
<tr>
<td>28</td>
<td>3</td>
<td>57</td>
<td>1</td>
</tr>
<tr>
<td>30</td>
<td>4</td>
<td>58</td>
<td>2</td>
</tr>
<tr>
<td>31</td>
<td>1</td>
<td>59</td>
<td>3</td>
</tr>
<tr>
<td>32</td>
<td>2</td>
<td>60</td>
<td>2</td>
</tr>
</tbody>
</table>

\( \xi = 5392 \) \( n=120 \)

Where \( \xi \) = Summation of scores

\( n = \) Number of subjects (pupils)

Table 1.1 shows scores in Table 1 arranged in frequency distribution. This distribution puts the scores into classes with the frequency of each class shown. It makes possible to tell the highest and the lowest score at a glance. It also shows the score that most frequently occurred. Thus the lowest score was 7 and the highest was 83. The score that occurred most frequently was 53, occurring six times.
Table 1.2: Scores from Table 1 converted to grouped data distributions in descending order of magnitude.

Class interval width = 5

<table>
<thead>
<tr>
<th>Score</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 - 84</td>
<td>5</td>
</tr>
<tr>
<td>75 - 79</td>
<td>8</td>
</tr>
<tr>
<td>70 - 74</td>
<td>4</td>
</tr>
<tr>
<td>65 - 69</td>
<td>12</td>
</tr>
<tr>
<td>60 - 64</td>
<td>4</td>
</tr>
<tr>
<td>55 - 59</td>
<td>8</td>
</tr>
<tr>
<td>50 - 54</td>
<td>13</td>
</tr>
<tr>
<td>45 - 49</td>
<td>6</td>
</tr>
<tr>
<td>40 - 44</td>
<td>5</td>
</tr>
<tr>
<td>35 - 39</td>
<td>12</td>
</tr>
<tr>
<td>30 - 34</td>
<td>9</td>
</tr>
<tr>
<td>25 - 29</td>
<td>13</td>
</tr>
<tr>
<td>20 - 24</td>
<td>8</td>
</tr>
<tr>
<td>15 - 19</td>
<td>9</td>
</tr>
<tr>
<td>10 - 14</td>
<td>3</td>
</tr>
<tr>
<td>5 - 9</td>
<td>1</td>
</tr>
</tbody>
</table>

\[ n = 120 \]

In Table 1.2 scores in table 1 have been grouped in frequency distribution as an economical method of interpreting them. However, some information
is lost due to grouping. But this is negligible. For instance it can clearly be seen that interval 65 - 69 has 12 scores. This means that 12 pupils scored between 65 - 69. It can also be noted that the total number of frequencies is equal to the total of pupils in the distribution. Thus \( n \) represents the total number of frequencies. By reducing individual scores to smaller numbers of groups it has made it easier to display the data more graphically and to grasp their meaning. Given the nature of the data involved, it has been convenient to use 16 class intervals with a class size of 5.

Table 1.3: Scores of Table 1.2 showing exact limits

<table>
<thead>
<tr>
<th>Score limits</th>
<th>Exact Limits</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 - 84</td>
<td>79.5 - 84.5</td>
<td>5</td>
</tr>
<tr>
<td>75 - 79</td>
<td>74.5 - 79.5</td>
<td>8</td>
</tr>
<tr>
<td>70 - 74</td>
<td>69.5 - 74.5</td>
<td>4</td>
</tr>
<tr>
<td>65 - 69</td>
<td>64.5 - 69.5</td>
<td>12</td>
</tr>
<tr>
<td>60 - 64</td>
<td>59.5 - 64.5</td>
<td>4</td>
</tr>
<tr>
<td>55 - 59</td>
<td>54.5 - 55.5</td>
<td>8</td>
</tr>
<tr>
<td>50 - 54</td>
<td>49.5 - 54.5</td>
<td>13</td>
</tr>
<tr>
<td>45 - 49</td>
<td>44.5 - 49.5</td>
<td>6</td>
</tr>
<tr>
<td>40 - 44</td>
<td>39.5 - 44.5</td>
<td>5</td>
</tr>
<tr>
<td>35 - 39</td>
<td>34.5 - 39.5</td>
<td>12</td>
</tr>
<tr>
<td>30 - 34</td>
<td>29.5 - 34.5</td>
<td>9</td>
</tr>
<tr>
<td>25 - 29</td>
<td>24.5 - 29.5</td>
<td>13</td>
</tr>
<tr>
<td>20 - 24</td>
<td>19.5 - 24.5</td>
<td>8</td>
</tr>
<tr>
<td>15 - 19</td>
<td>14.5 - 19.5</td>
<td>9</td>
</tr>
<tr>
<td>10 - 14</td>
<td>9.5 - 14.5</td>
<td>3</td>
</tr>
<tr>
<td>5 - 9</td>
<td>4.5 - 9.5</td>
<td>1</td>
</tr>
</tbody>
</table>

\( n = 120 \)
In table 1.3, the limits of each class interval are recorded in score limits. For instance, the lowest class interval in this table is 5 - 9. It is intended that scores 5, 6, 7, 8, and 9 would be included. However, the score of 5 extends from 4.5 to 5.5 and the score of 6 from 5.5 to 6.5, and so on. Therefore the score limits of 5 - 9, following the same principle, include all the scores that might have values between 4.5 and 9.5. Limits written this way are referred to as "exact limits" (Minium, 1970). Exact limits are used here so that all possible scores are included. In the class interval 5 - 9, 5 is the lower limit and 9 is the upper limit. The next class interval is 10 - 14, whose limits extend from 9.5 to 14.5, as shown in column two.
Table 1.4: Relative frequency distribution showing proportion of performance

<table>
<thead>
<tr>
<th>Score limits</th>
<th>F</th>
<th>Prop. F</th>
<th>%F</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 - 84</td>
<td>5</td>
<td>0.04</td>
<td>4</td>
</tr>
<tr>
<td>75 - 79</td>
<td>8</td>
<td>0.07</td>
<td>7</td>
</tr>
<tr>
<td>70 - 74</td>
<td>4</td>
<td>0.03</td>
<td>3</td>
</tr>
<tr>
<td>65 - 69</td>
<td>12</td>
<td>0.10</td>
<td>10</td>
</tr>
<tr>
<td>60 - 64</td>
<td>4</td>
<td>0.03</td>
<td>3</td>
</tr>
<tr>
<td>55 - 59</td>
<td>8</td>
<td>0.07</td>
<td>7</td>
</tr>
<tr>
<td>50 - 54</td>
<td>13</td>
<td>0.11</td>
<td>11</td>
</tr>
<tr>
<td>45 - 49</td>
<td>6</td>
<td>0.05</td>
<td>5</td>
</tr>
<tr>
<td>40 - 44</td>
<td>5</td>
<td>0.04</td>
<td>4</td>
</tr>
<tr>
<td>35 - 39</td>
<td>12</td>
<td>0.10</td>
<td>10</td>
</tr>
<tr>
<td>30 - 34</td>
<td>9</td>
<td>0.08</td>
<td>8</td>
</tr>
<tr>
<td>25 - 29</td>
<td>13</td>
<td>0.11</td>
<td>11</td>
</tr>
<tr>
<td>20 - 24</td>
<td>8</td>
<td>0.07</td>
<td>7</td>
</tr>
<tr>
<td>15 - 19</td>
<td>9</td>
<td>0.08</td>
<td>8</td>
</tr>
<tr>
<td>10 - 14</td>
<td>3</td>
<td>0.03</td>
<td>3</td>
</tr>
<tr>
<td>5 - 9</td>
<td>1</td>
<td>0.01</td>
<td>1</td>
</tr>
</tbody>
</table>

In Table 1.4, the obtained frequencies for each class interval of the frequency distribution has been translated to relative frequencies by converting each to proportion, or percentage of the total number of cases. To obtain the relative frequency, each frequency of a class has been divided by the total number of cases in the distribution (thus \( f/n \)). This has given the proportion of cases in the interval, expressed as a decimal fraction, or parts relative to one. Parts relative to one hundred have also been given to show percentage by multiplying the decimal
fraction by 100.

**Table 1.5: The cumulative frequency distribution**

showing the number of cases that lie below the upper exact limit of the particular class interval

<table>
<thead>
<tr>
<th>Exact Limits</th>
<th>F</th>
<th>Cum. F</th>
<th>Prop.Cum.F</th>
<th>Cum.% of F</th>
</tr>
</thead>
<tbody>
<tr>
<td>79.5 - 84.5</td>
<td>5</td>
<td>120</td>
<td>1.0</td>
<td>100</td>
</tr>
<tr>
<td>74.5 - 79.5</td>
<td>8</td>
<td>115</td>
<td>0.96</td>
<td>96</td>
</tr>
<tr>
<td>69.5 - 74.5</td>
<td>4</td>
<td>107</td>
<td>0.89</td>
<td>89</td>
</tr>
<tr>
<td>64.5 - 69.5</td>
<td>12</td>
<td>103</td>
<td>0.86</td>
<td>86</td>
</tr>
<tr>
<td>59.5 - 64.5</td>
<td>4</td>
<td>91</td>
<td>0.76</td>
<td>76</td>
</tr>
<tr>
<td>54.5 - 59.4</td>
<td>8</td>
<td>87</td>
<td>0.73</td>
<td>73</td>
</tr>
<tr>
<td>49.5 - 54.5</td>
<td>13</td>
<td>79</td>
<td>0.66</td>
<td>66</td>
</tr>
<tr>
<td>44.5 - 49.5</td>
<td>6</td>
<td>66</td>
<td>0.55</td>
<td>55</td>
</tr>
<tr>
<td>39.5 - 44.5</td>
<td>5</td>
<td>60</td>
<td>0.50</td>
<td>50</td>
</tr>
<tr>
<td>34.5 - 39.5</td>
<td>12</td>
<td>53</td>
<td>0.46</td>
<td>46</td>
</tr>
<tr>
<td>29.5 - 34.5</td>
<td>9</td>
<td>43</td>
<td>0.36</td>
<td>36</td>
</tr>
<tr>
<td>24.5 - 29.5</td>
<td>13</td>
<td>34</td>
<td>0.28</td>
<td>28</td>
</tr>
<tr>
<td>19.5 - 24.5</td>
<td>8</td>
<td>21</td>
<td>0.18</td>
<td>18</td>
</tr>
<tr>
<td>14.5 - 19.5</td>
<td>9</td>
<td>13</td>
<td>0.10</td>
<td>10</td>
</tr>
<tr>
<td>9.5 - 14.5</td>
<td>3</td>
<td>4</td>
<td>0.03</td>
<td>3</td>
</tr>
<tr>
<td>4.5 - 9.5</td>
<td>1</td>
<td>1</td>
<td>0.01</td>
<td>1</td>
</tr>
</tbody>
</table>

\[ n=120 \]

If student (A) scored 52 marks this study requires
to know how many of his class scored less well, or
how many scored better. Table 1.5 has made it easier to know this by casting the distribution in cumulative form. The cumulative frequency shows how many cases lie below the upper exact limit of the particular class interval. Cumulative frequency has been obtained by adding the frequency of the given class interval to the cumulative frequency recorded for the next lower class interval. The cumulative frequency for the uppermost class interval equals \( n \). Relative frequency has also been calculated. The cumulative frequencies have been converted by dividing each cumulative frequency by \( n \). For example in the interval 69.5 - 74.5 \( \frac{f}{n} = \frac{107}{120} = 0.89 \), the proportional cumulative frequency shown in the fourth column. They are then converted to percent frequency by multiplying each by 100, as shown in the last column.
Table 1.6: mean of the grouped data

<table>
<thead>
<tr>
<th>Scores</th>
<th>X (Midpoint)</th>
<th>F</th>
<th>FX</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 - 84</td>
<td>82</td>
<td>5</td>
<td>410</td>
</tr>
<tr>
<td>75 - 79</td>
<td>77</td>
<td>8</td>
<td>616</td>
</tr>
<tr>
<td>70 - 74</td>
<td>72</td>
<td>4</td>
<td>288</td>
</tr>
<tr>
<td>65 - 69</td>
<td>67</td>
<td>12</td>
<td>804</td>
</tr>
<tr>
<td>60 - 64</td>
<td>62</td>
<td>4</td>
<td>248</td>
</tr>
<tr>
<td>55 - 59</td>
<td>57</td>
<td>8</td>
<td>456</td>
</tr>
<tr>
<td>50 - 54</td>
<td>52</td>
<td>13</td>
<td>676</td>
</tr>
<tr>
<td>45 - 49</td>
<td>47</td>
<td>6</td>
<td>282</td>
</tr>
<tr>
<td>40 - 44</td>
<td>42</td>
<td>5</td>
<td>210</td>
</tr>
<tr>
<td>35 - 39</td>
<td>37</td>
<td>12</td>
<td>444</td>
</tr>
<tr>
<td>30 - 34</td>
<td>32</td>
<td>9</td>
<td>288</td>
</tr>
<tr>
<td>25 - 29</td>
<td>27</td>
<td>13</td>
<td>351</td>
</tr>
<tr>
<td>20 - 24</td>
<td>22</td>
<td>8</td>
<td>176</td>
</tr>
<tr>
<td>15 - 19</td>
<td>17</td>
<td>9</td>
<td>153</td>
</tr>
<tr>
<td>10 - 14</td>
<td>12</td>
<td>3</td>
<td>36</td>
</tr>
<tr>
<td>5 - 9</td>
<td>7</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

\[ \bar{x} = \frac{\sum fx}{n} \]

\[ \bar{x} = \frac{5445}{120} = 45 \]
Where \( n \) is the number of cases investigated, and \( \bar{x} = \sum fX \) refers to the mean of the sample.

Table 1.6 shows the calculation of arithmetic mean of the grouped data. Simply said, it is the average score. It was computed by adding the product of the midpoint score and their frequencies and dividing the sum of the scores by the total number of cases \( (n) \).

When the scores are grouped, those in a given interval lie somewhere between the lower limit and the upper limit. It is assumed that the midpoint of the interval is the mean of the scores in that interval, and thus it is used to represent the scores in that interval.

Ideally, all the scores in a distribution should be added together in the calculation of the mean but in this study work was eased by multiplying the midpoint of each class interval \( (X) \) by the number of cases in the interval, as shown in column four. This gave \( (fX) \). All \( (fX) \) cases were added together and the sum was divided by the total number of cases \( (n) \). This gave a mean of 45.
Note the mean of ungrouped data as shown in table 1 should be the sum of all the cases (5392) divided by the total number of cases in the distribution. This should be $\frac{5392}{120} = 44.9$

The slight difference between this mean and the grouped data mean is because some insignificant information was lost when the data were grouped.

The mean is the balance point of the distribution and is responsive to the exact position of each score in the distribution. The 45% mean shows that if this figure represented the pass mark, half of the pupils would have failed. This information, however, is not enough as further analysis will show.

Minium says that the mean is likely to be the most useful of the measures of central tendency. He adds that, if from a large population of scores, samples were repeatedly drawn at random, mean of such samples would have similar, but not identical values, and would vary least among themselves. Thus, under ordinary circumstances, the mean best resists the influence of sampling
fluctuation. This observation makes the mean obtained in this data a fairly reliable measure of central tendency.

Table 1.7: Median (Mdn) of the grouped data
(Cumulative percentage frequency distribution and calculation of median).

<table>
<thead>
<tr>
<th>Score limit</th>
<th>F</th>
<th>Cum.F.</th>
<th>Cum.%F</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 - 84</td>
<td>5</td>
<td>120</td>
<td>100</td>
</tr>
<tr>
<td>75 - 79</td>
<td>8</td>
<td>115</td>
<td>96</td>
</tr>
<tr>
<td>70 - 74</td>
<td>4</td>
<td>107</td>
<td>89</td>
</tr>
<tr>
<td>65 - 69</td>
<td>12</td>
<td>103</td>
<td>86</td>
</tr>
<tr>
<td>60 - 64</td>
<td>4</td>
<td>91</td>
<td>76</td>
</tr>
<tr>
<td>55 - 59</td>
<td>8</td>
<td>87</td>
<td>73</td>
</tr>
<tr>
<td>50 - 54</td>
<td>13</td>
<td>79</td>
<td>66</td>
</tr>
<tr>
<td>45 - 49</td>
<td>6</td>
<td>66</td>
<td>55</td>
</tr>
<tr>
<td>40 - 44</td>
<td>5</td>
<td>60</td>
<td>50</td>
</tr>
<tr>
<td>35 - 39</td>
<td>12</td>
<td>55</td>
<td>46</td>
</tr>
<tr>
<td>30 - 34</td>
<td>9</td>
<td>43</td>
<td>36</td>
</tr>
<tr>
<td>25 - 29</td>
<td>13</td>
<td>34</td>
<td>28</td>
</tr>
<tr>
<td>20 - 24</td>
<td>8</td>
<td>21</td>
<td>18</td>
</tr>
<tr>
<td>15 - 19</td>
<td>9</td>
<td>13</td>
<td>10</td>
</tr>
<tr>
<td>10 - 14</td>
<td>3</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>5 - 9</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
</tbody>
</table>

\[ \text{Mdn} = L + \frac{(N/2 - \text{CFb})i}{Fw} \]

is the formulae advanced by Kiminyo (1981:11) for the calculation of the median of grouped data.

where \( L \) = the lower real limit of the interval containing the median

\( N \) = the total number of scores in the distribution
$CF_b = \text{The total frequency in all intervals below the interval containing the median or cumulative frequency below}$

$FW = \text{the frequency of scores within the interval containing the median}$

$i = \text{interval size}$

hence $L = 39.5$

$N = 120$

$C_b = 55$

$i = 5$

$w = 5$

hence, $39.5 + (120/2 - 55) \frac{5}{5} = 44.5$

Using Kiminyo's reasoning, the median was calculated to show at what point the upper half of the scores divided with the lower half. In doing so the median responded to how many scores lay below (or above) the median, but not how far away the scores may have been. This median is less sensitive than the mean to the presence of few extreme scores.
Table 1.8: Standard deviation of the distribution

Grouped score method.

<table>
<thead>
<tr>
<th>Scores</th>
<th>F</th>
<th>X</th>
<th>FX</th>
<th>FX² (FX.X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>80 - 84</td>
<td>5</td>
<td>82</td>
<td>410</td>
<td>33620</td>
</tr>
<tr>
<td>75 - 79</td>
<td>8</td>
<td>77</td>
<td>616</td>
<td>47432</td>
</tr>
<tr>
<td>70 - 74</td>
<td>4</td>
<td>72</td>
<td>288</td>
<td>20736</td>
</tr>
<tr>
<td>65 - 69</td>
<td>12</td>
<td>67</td>
<td>804</td>
<td>53868</td>
</tr>
<tr>
<td>60 - 64</td>
<td>4</td>
<td>62</td>
<td>248</td>
<td>15376</td>
</tr>
<tr>
<td>55 - 59</td>
<td>8</td>
<td>57</td>
<td>456</td>
<td>25992</td>
</tr>
<tr>
<td>50 - 54</td>
<td>13</td>
<td>52</td>
<td>676</td>
<td>35152</td>
</tr>
<tr>
<td>45 - 49</td>
<td>6</td>
<td>47</td>
<td>282</td>
<td>13254</td>
</tr>
<tr>
<td>40 - 44</td>
<td>5</td>
<td>42</td>
<td>210</td>
<td>882</td>
</tr>
<tr>
<td>35 - 39</td>
<td>12</td>
<td>37</td>
<td>444</td>
<td>16428</td>
</tr>
<tr>
<td>30 - 34</td>
<td>9</td>
<td>32</td>
<td>288</td>
<td>9216</td>
</tr>
<tr>
<td>25 - 29</td>
<td>13</td>
<td>27</td>
<td>351</td>
<td>9477</td>
</tr>
<tr>
<td>20 - 24</td>
<td>8</td>
<td>22</td>
<td>176</td>
<td>3872</td>
</tr>
<tr>
<td>15 - 19</td>
<td>9</td>
<td>17</td>
<td>153</td>
<td>2601</td>
</tr>
<tr>
<td>10 - 14</td>
<td>3</td>
<td>12</td>
<td>36</td>
<td>432</td>
</tr>
<tr>
<td>5 - 9</td>
<td>1</td>
<td>7</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>n=120</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

$$\sum x = 5445$$  $$\sum x^2 = 288345$$  

$$\bar{x}^2 = \frac{\sum x^2}{n^2} = \frac{(5445)^2}{120}$$

$$= 288345 - 247066.9$$

$$= 41278.1$$

Calculation of S: (standard deviation)

$$S = \sqrt{\frac{\sum x^2}{n}}$$

$$= \sqrt{\frac{41278}{120}}$$

$$= 18.5$$
The standard deviation of the grouped scores was calculated this way:

1. Each \( x \) (midpoint score of a group interval) was multiplied by its corresponding \( f \) (frequency) to obtain \( fx \).

2. Each \( x \) was multiplied by \( x \) to obtain \( fx^2 \).

3. The values were summed up to obtain \( \sum fx \) and \( \sum fx^2 \).

4. Calculation proceeded as shown below table 1.8 to obtain a standard deviation of 18.5.

The standard deviation of the grouped scores was calculated in this study to indicate the spread, scatter or variability that existed in the distribution.

Standard deviation is affected by the spread of the scores from the mean. According to Kiminyo, the smaller the standard deviation the more homogeneous the class is. In this study, the standard deviation (18.5) was fairly large and therefore the group was not homogeneous. This means there were extreme scores away from the mean. Borrowing from Baker (1985:45), two conclusions were drawn:
1. that the test discriminated strongly among the pupils assessed.

2. there was an extremely wide range of proficiency levels among the pupils.

4.6 Graphic representation of the Scores

A histogram and a frequency polygon was constructed, as shown on Figure 1 and Figure 2, respectively, to indicate a visual impression of the assessment test.

The procedure of construction was as follows:

Steps: (Histogram)

1. The horizontal axis represents all possible scores. The scores are in class intervals.

2. The vertical axis represents the frequencies.

3. A bar is raised above each on the horizontal axis. The width of this bar extends from the lower exact limit to the upper exact limit of each class interval.

4. The area of the bar represents the frequency of each score or class.
FIG. 2: Scores from 120 pupils in English reading comprehension shown on a frequency polygon.
FIG. 1: Scores from 120 pupils in English reading comprehension shown on a histogram.

Histogram of 120 scores (grouped data).
(Frequency Polygon)

1. The horizontal and vertical axis were constructed as was done for histogram.

2. Instead of using bars, points were plotted on the graph directly above the mid-points of all intervals at a height corresponding to the frequencies of the intervals.

3. These lines were joined by straight lines.

4. The polygon line was brought down to the horizontal axis in both ends.

According to the impression of the histogram two bulks of the pupils lie in the upper half and lower half of the score bands respectively. This means half of the pupils found the assessment test difficult and the other half did not experience as much difficulty.

A similar observation is given by the frequency polygon.

A large number of the pupils did not comprehend the messages written in English.
CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

In the preceding chapters, this report has tried to describe the study on reading comprehension of pupils completing primary education. The study particularly focused on pupils on the lower end of the score scale as these would most likely terminate primary education after the completion of the primary cycle. By so doing, the study hoped to find out whether these graduates had sufficient comprehension of written English to be able to understand a passage, sets of directions and other messages likely to be encountered outside the classroom.

Results showed, however, that they lacked sufficient knowledge of written English to be familiar with all its use outside the classroom. A large number of the pupils did not comprehend common messages written in English.

Non-compliant texts, after reading difficult words, were observed:

The following difficulties were observed:

Pupils found it hard to understand general
statements when used in particular contexts and at the same time failed to apply them in particular contexts. These were mostly pupils in the lower half of the score scale. There were low facility values when pupils were asked to interpret general statements in particular contexts. This is a problem of instantiation. Anderson and Shifrin, add that in assessing pupils' understanding of general statements, they must be asked to apply them to appropriate contexts rather than being asked to restate them.

They also found it difficult to comprehend statements with difficult words, or words with specialised usage, even when these were irrelevant to the understanding of the text. They might have allowed difficult words to dominate their understanding. Pupils must be made to practise on the relevant parts of texts and therefore be able to infer meanings of words from the way they are used in their contexts.

Non-redundant texts, often having difficult words, caused comprehension problems. There were low facility values for non-redundant texts but remarkably high facility values for redundant
ones. Pupils must be made to understand important words and ignore the rest as well as being able to process the meaning of a whole message rather than words in isolation.

Unusual text lay-out including unfamiliar syntax may have caused problems to several pupils. Also, misreading or failing to notice some parts of the text resulted in misunderstanding. Syntactic complexity at times caused problems, despite individual words being easy to understand.

This is in keeping with the findings of Tatham (1970) who experimented extensively on second and fourth grade children's reading comprehension to the syntactic structures of written material. He found that infrequent language patterns cause problems in reading comprehension.

Exposing pupils to other ways of displaying language may benefit them when they are faced with such language in their adult life. They must be aided to apply their English to more advanced uses, and as The Bullock Committee says.
a pupil should be helped to develop increasing technical control over his language so that he can put it to increasing complex uses (op. cit:516)

This would also help pupils who experienced difficulty in handling more than one source of information and, therefore, failed to recognise the appropriate source to draw on for a particular information. This could be why the Bullock Committee also recommends that while pupils are at school they should be exposed to a variety of skills, necessary for coping with the reading demands of adult life.

Partial understanding was observed and may have resulted from a combination of the above problems. Some pupils got the wrong idea of some message, which made them write irrelevant responses. Some gave ambiguous explanations. Some even misunderstood instructions of the questions they were answering, apart from misunderstanding the texts themselves. There is need to match what they read with what they are likely to find outside the classroom. This would prepare them better to cope with several forms of written English used outside the classroom.
An article by Mulusa (1990:14) entitled "Conceptualizing, Administering and Evaluating the 8-4-4 System" while acknowledging that English has been considered to be difficult in all school examinations, has recommended matching classroom teaching and other support mechanisms outside the classroom. He says that:

The structure of the English language is so different from most Kenyan languages that a learner needs a number of mechanisms to support classroom learning, such as English speakers in the home and neighbourhood, efficient and accessible public education media and a wide variety of reading materials.

These support mechanisms may be difficult to achieve as many primary schools are situated in the rural areas where it might be very difficult to find English speakers at home and in the neighbourhood. Only a few places can achieve this. As Mulusa (ibid:15) himself rightly says, "presently only a few children from wealthy homes have sufficient support mechanisms outside the classroom."

This agrees with the findings of Elley (1979:292) that children from homes where English was regularly used, where the parents were well
educated, where socio-economic levels were high, where there were many books in the home, and where parents took an interest in their children’s school work, such children read English with greater comprehension.

The findings in this research made Fyfe and Mitchell’s assertion necessary. They say that assessment tasks seldom match natural reading tasks and have therefore argued for a case where reading assessment must be matched with natural reading tasks.

There must always be doubts about the validity of drawing conclusions about a pupil’s reading of a text from his or her performance on appended assessment tasks. Given this situation, the teacher can only try to match the pupil, the text and the reading/assessment task. The aim must be to construct questions and exercises in such a way that, as far as possible, they invoke the same processes as are demanded by the natural reading task (op.cit.:173).

Pupils in the higher stages must be provided with a variety of reading materials to give them more experience of what they will encounter in adult life. The Bullock Committee (op.cit:123) says that in everyday life the consequences of failing to read with understanding or a tendency to read carelessly can be disastrous. He concludes that:
Pupils need experience in reading with an eye to consequences, for these will be waiting for them in insurance policies, guarantees, contracts, income tax forms, conditions of employment, works, notices, trade union leaflets, and operating instructions, to name but a few. We do not suggest that these should be imported into the classroom en masse and studied one by one... We believe that reading demands of this kind should certainly be discussed with the pupil before he leaves school. It is not a question of training in the handling of specific reading tasks but of learning to apply general principle to 'official' reading of one kind or another.

The findings of this study confirmed the utility of this Bullock's recommendation. The Bullock committee adds that it is important that pupils completing primary education should acquire a level of proficiency in reading to enable them to meet their needs as adults in society on leaving school. This is so because the results of this study also have shown that many pupils who are completing primary school were unable to understand fully much of the reading material presented to them, and which directly related to their lives and actions.

Functional literacy is a key element in making pupils who have completed primary school cope with the demands of written English as a way
of benefiting them and the society at large. By more practice in reading with understanding, pupils would enrich their own experience for further competence in reading comprehension. The realization that a large number of pupils completing primary education do not read simple English used outside the classroom with understanding is very useful. There is need to examine closely the need to drill older pupils in primary school with several ways of English use outside the classroom.

The response mode i.e. how pupils are asked to answer questions should be broadened. The exercise should include open-ended questions. That way, pupils are not only made to think harder and be independent readers but also helps to diagnose their reading problems in the light of the responses they give. Choosing answers formulated by the teacher may not reveal adequately at what points they have problems.

Pupils must be adequately exposed to written English that bears outward resemblance to that which is likely to be encountered outside the classroom. For instance, Fyfe and Mitchell
recommend that sets of instructions from paint labels may be used to construct assessment units based on them. In fact important items like price tags, bills, advertisements, stickers, posters, recipes, bulletin boards etc mentioned in chapter one should be familiar to them.

In this study, close-ended questions which elicited a first response were followed by a request for explanation of that response. This was a successful combination that can be used to assess reading comprehension. This is in keeping with what Fyfe and Mitchell say:

the logic by which pupils produce responses often becomes clear only when their interpretation of the task is understood or when the limited sources on which they have based their responses are recognised. Understanding the logic by which pupils arrive at an inappropriate response is probably the most important step in preparing to help them (op. cit:175)

The conclusions and recommendations made in this chapter assume that the individuals in the sample used got results comparable to a much larger group, which means, if a larger group had taken the same test, similar findings would have been got. This larger group would represent the target population which consists of all potential primary school leavers who have completed the
primary cycle of education.

Further research is needed to assess English listening comprehension. These primary school graduates may have difficulty in, not only understanding written English, but also spoken English, especially when they are expected to receive oral instructions and other messages encountered outside the classroom.


Warwick B. Elly.


Stauffer, R.G. (1971) "Thorndike's 'Reading as Reasoning': a Perspective". In: Fyfe and Mitchell, E. (op. cit.)


Other References


ENGLISH COMPREHENSION QUESTIONS

TIME: 2 hours

Write down the following in this question paper:

Your Name...........................................
Name of your school..............................

Read the instructions carefully before you attempt to answer the questions.

A: Read the following passage and use the information to answer questions 1 - 12

Methods of communication have changed greatly since World War II. Nowadays moving from one place to another has become easier and faster. In the past, people travelled mainly on foot or by donkeys, camels or canoes. Messages were mainly conveyed in person or by beating a drum. In modern times, people use faster means of travelling like cars, ships and aeroplanes. Messages are communicated through such means as the telephone, which is quicker and more convenient.

In the olden days people did not travel far for various reasons. Although there were a few
long distance travellers such as some traders, most people moved within the boundaries of their own clans. Outside such boundaries a person became a stranger and was regarded with suspicion. In some places, when a visitor came to a strange land, he was questioned by the elders. If he was on peaceful business, it was customary to feed him, give him a place to sleep and help him on his way.

Today there are hotels where travellers can eat and sleep. If a person is travelling outside his country, he has to carry a passport to show that he is travelling with good intentions. There is no need for a traveller to fear being turned away because he is a stranger if his documents are in order.

Changes in the means of communication have led to increased interaction between people. Some people have jobs in which travelling forms an important part of their work.

This necessitates meeting people from other communities. Moreover, it is possible to be aware of events taking place far away from one’s country.
even without travelling. The radio and the television, for example, make this possible.

Improvements in the means of communication have made people learn more about other cultures. Some people have even adopted ways of life which they admire from others. Certain similarities in dress, eating habits and sports are evidence of this cultural exchange. Members of the human race, therefore, have come closer. On the whole people now understand each other better. The world, once a vast place divided by numerous communication barriers, has become very small indeed.

1. Since World War II

A. People have moved from one place to another.
B. Donkeys, camels and canoes have become fewer.
C. Means used in communication have increased.
D. Difficulties in communication have been completely removed.

2. Which of the following is true according to the passage?

A. Messages have become much more useful.
B. Most messages are conveyed by telephone.
C. Messages have become more complicated since
World War II.

D. Ways of communicating messages have become more efficient.

3. In the past

A. People could not travel outside their clan boundaries.
B. Some of the people who travelled far were traders.
C. Only traders were long distance travellers.
D. People had many reasons for travelling.

4. What happened when one travelled outside one’s clan?

A. One regarded others with suspicion.
B. One was regarded as strange.
C. One was treated with suspicion.
D. One became strange and suspicious.

5. To be accepted in other lands, a person had to

A. Be obedient to the elders.
B. Show that he was a peaceful businessman.
C. Follow the customs of that land.
D. Show that he meant no harm.
6. Why is a passport necessary?
A. It makes it possible to travel to another country.
B. It proves that a person is good
C. It makes it possible for a person to belong to another country.
D. It makes it impossible to be suspected.

7. When a traveller's documents are in order it means
A. The documents are arranged properly.
B. The traveller has obeyed certain orders.
C. The documents belong to the traveller.
D. The traveller can be allowed into another country.

8. To be aware of events happening far away one
A. Has to own a radio or a television set.
B. Could travel or use the radio or television.
C. Must be able to travel far away from home.
D. Must know and understand other people.

9. Increased interaction between people has resulted in
A. Certain similarities between different cultures.
B. People having the same customs and behaviour
C. People admiring dresses worn by others.
D. Certain people exchanging habits.

10. Members of the human race have become closer
A. Read the following sets of directions and
means
B. Most people now live near each other.
C. Most people now think about the same things.
D. Barriers between them have been reduced.

11. Which of the following is not true according
to the passage?
A. Improved means of communication has made the
world smaller?
B. There were no passports in the old days.
C. World War II brought about changes in
communication.
D. Few jobs in the past involved distant travel.

12. The best summary of this passage is
A. Communication by telephone is quick and
convenient.
B. Improved means of communication has brought
about understanding among different people.
C. Some traders in the past used to travel outside the boundaries of their clan.

D. Cultural exchange has brought about changes in eating habits.

B. Read the following sets of directions and other messages and circle the correct alternative. Give your reason for doing so whenever you are asked. Example: Here is a message on a bottle; FANTASTIC BODY LOTION. You can use FANTASTIC BODY LOTION on (a) the skin (b) the eyes (c) the nostrils (d) the tongue

(a) is the correct answer and it has been circled.

1. Here is a message on a bottle containing a chemical liquid for spraying crops: GUSATHION EC 200: Insecticide. precaution; poisonous by swallowing, inhalation and contact with the skin.

Where are you likely to store GUSATHION EC 200?

(a) In the original container somewhere under lock and key.

(b) In the original container somewhere in the
top shelf of the Kitchen.

(c) In the original container somewhere in the food-store.

Give your reason for saying so.

2. MM (Detergent).

Special instructions:

Stains: most ordinary stains can be removed when they are fresh.

When can you remove ordinary stains with MM?

(a) As soon as they appear.
(b) Sometime after they appear.
(c) Only when they are few.
(d) Only when they are pure.

What is your reason for saying so?

3. Here is a message on a domestic cooking device.

JIKO: Caution: USING JIKO ON NON-VENTILATED ROOM CAN CAUSE SUFOXATION.

Which of the following can't you do when using JIKO?

(a) Opening the windows.
(b) Letting plenty of air inside the house.
(c) Closing all windows and doors.
(d) Cooking with kitchen doors open.

Why do you say so? ........................................

4. TAR AND PAINT STAIN REMOVER. HIGHLY FLAMMABLE. IRRITANT.

Use only in ventilated areas. In case of contact with the eyes, rinse immediately with plenty of water and seek medical advice.

Write TRUE or FALSE against the following statements about TAR and PAINT STAIN REMOVER.

(a) When using TAR AND PAINT STAIN REMOVER Close all windows and doors........ why do you say so?...........................

(b) If TAR AND PAINT STAIN REMOVER goes to the eyes, drink plenty of water and seek medical advice immediately........ why do you say so?.................................

5. Somebody giving first-aid to another person suffering from epilepsy should use the following instruction: EPILEPTIC FEATS: Gag the patient’s
jaws to prevent his biting the tongue.

What will you do with an epileptic patient?

(a) Hold him tightly to prevent him falling.
(b) Push his tongue in the mouth.
(c) Keep his jaws open by placing a clean object between his teeth.
(d) Lay him in bed.

Give your reason for saying so...

6. The following are some instructions on handling and application of crop protection products from Simpson and Whitelaw SIMLAW SEED LIMITED.

Always fill spray mixture through a strainer into the spray tank.

Do not spray at high temperatures.
Do not spray into the wind.
Do not dispose of washing, unused pesticides or surplus spray liquid in water courses.
Destroy empty containers and bury them deeply in the ground.
8. Silicone Teat (for feeding babies)  
   Instruction: STERILISE BEFORE USE.  
   What does the instruction tell you to do with the Silicone teat?  

(a) Wash it in hot water before use.  
(b) Wash it in cold water before use.  
(c) Dry it to remove air before use.  
(d) Press it to remove air before use.  

What is your reason for saying so?

Read the following messages and answer the questions as you are told:

9. The following is a message you are likely to see before entering certain buildings.  

BEWARE OF THE SLIPPERY FLOOR.  
What does this message tell you to do?..............

10. Read the following notice: There is a D.C.'s meeting at Kinoru Stadium on Saturday this week for all the residents of Meru town. Failure to attend the meeting may lead to prosecution. What might happen to those who do not attend the D.C's meeting?.........................
11. Here is a message: DO NOT TRAVEL IN OVERLOADED VEHICLES. THIS MIGHT CAUSE ACCIDENT.

Explain this message in your own words......

12. Cigarette smoking can be harmful to your health.

This message tells you....................

(a) To avoid smoking.
(b) Smoking is likely to endanger your health.
(c) Boys are not supposed to smoke.
(d) Those who smoke will suffer from cancer.

13. One set of directions for a certain medicine you have bought from the shops is:

FOR MILD SORE THROATS AND MINOR MOUTH IRRITATIONS.

You are likely to use the medicine for:

(a) Aching tooth.
(b) Bleeding gums.
(c) Sore lips
(d) Uncomfortable sensation in the gums.

14. On a certain packet is written STORE IN A
COOL DRY PLACE. Name one place where the packet can be stored.

........................ what is your reason for your choice?..........................