CHAPTER V

METHODOLOGY

Textbook analysis - Collection of records - Preparation of the criteria for textbook analysis - Content - Vocabulary - Structures - Sentence patterns - Illustrations - Exercises - General get up - Poems - Supplementary Readers - Concept of standards.
METHODOLOGY

Textbook analysis

Analysis is a fundamental research technique and content analysis is of great significance in education. Mouly\(^1\) says:

Analysis plays the critical role of identifying the crucial aspects of phenomena, and thus not only provides a greater understanding of both the whole and the parts, but also permits the allocation of phenomena into ever-more precise and functional categories. It also permits combining into meaningful classes phenomena having in common one or more aspects crucial with respect to a given purpose, despite perhaps vast differences in irrelevant aspects. Analytical research frequently called content analysis or documentary analysis — is generally associated with the analysis of the content of speeches, textbooks, editorials, T.V. Programme or perhaps, essay examinations from the stand-point of prejudice, readability, nature of the mental process involved, and so on. Content analysis of considerable value to education both in the derivation and revision of the curriculum and in the understanding of some of the complex variables encountered in the field. At a more sophisticated level, content analysis may involve textbook analysis, job analysis and factor analysis.

Like historical research, this method of study uses collection of records already in existence. Content analysis of documentary materials can go beyond mere collection and tabulation.

of data, into the area of interpretation and significance. Its effectiveness depends on the exhaustiveness of the documents collected and their completeness. It is also dependent on the accuracy of measurement, extent of comparison and correlation with the existing materials in the related areas, in the techniques of analysis adopted and the norms on which the analysis is based.

Collection of records

The present study includes all the thirteen Readers and thirty-two supplementary Readers (excluding repetitions) prescribed for study in the secondary school pupils in Kerala since 1952. Both prose passages and poems in the Readers have been subjected to analysis. A list of the Readers and supplementary Readers was prepared first, from the Gazette Notifications, Administration Reports and the records kept in the Textbook office, Trivandrum. The syllabi and textbooks were collected from school libraries and from teachers. The collection of textbooks was a difficult task since the study covered a long period and there were many changes in textbooks. The investigator made use of a number of school librarians in Trivandrum District, the library in the University Department of Education, Trivandrum; the library in the Institute of English, the University Library, the Public Library, and Library in the Legislative Secretariat, Trivandrum. He also visited the
Central Institute of English and Foreign Languages, Hyderabad and the Regional Institute of English, Bangalore and collected useful data. He discussed the problem with experts, particularly Dr. N. Vedamony Manual, Professor and Head of the Department of Education, University of Kerala, Dr. R. N. Ghosh, Professor, Department of Methods, Dr. M. V. Nadkarni, Professor, Department of Linguistics and Contemporary English, and Mr. A. E. Subramanian, Reader, Department of Materials Production in the Central Institute of English and Foreign Languages, Hyderabad, the Director, Regional Institute of English, Bangalore, Mr. B. Coffey, Visiting Professor (Materials Production) and Mr. K. P. Raman Nambissan, Lecturer and their valuable suggestions were of immense help to him.

Preparation of the criteria for textbook analysis

Tentative criteria were formulated for the analysis of the prose passages and poems in the readers, and supplementary readers, on the basis of the literature available in the area and of individual discussion with experts. The procedures adopted by the Methods Department, Central Institute of English and Foreign Languages, Hyderabad were followed to some extent. The books were analysed with reference to (a) content, (b) vocabulary, (c) structures, (d) sentence patterns, (e) illustrations, (f) exercises and (g) general get up.
(a) Content

The content was analysed with a view to assessing whether

1. It is suitable for the age level of pupils.
2. It is capable of arousing the interest of the pupils.
3. It has universal appeal or abiding human significance.
4. It is presented in an artistic manner.
5. It is useful to the pupils.
6. The themes and situations are regional, national as well as international.
7. There are names, ideas or words which are too unfamiliar to be easily taught.
8. There is any instance of unnaturalness in the development of plot, characterisation, dialogue, the arrangement of thought, the use of language and its style.
9. It helps the pupils to develop healthy attitudes which go to foster national loyalties.
10. Each lesson is well-organised.
11. The passages are well-graded.
12. The space devoted to Indo-English writing is satisfactory.

(b) Vocabulary

The vocabulary items in the prose passages were analysed to assess whether they are useful, that is, they are such as will help pupils to improve their ability to express themselves and
improve their reading comprehension and how wisely is word choice adjusted to the pupils for whom the book is intended.

For achieving optimum results in the learning of vocabulary it is necessary to introduce a certain limited number of words well graded and to repeat them in various linguistic situations in the Reader till they have a good chance of being established in the pupil's mind. Vocabulary difficulties inhibit successful reading, lower pupil's interest and lessen the progress made. In order to express the degree of 'crowding' arithmetically, the density index of words was worked out.

Density index of different words

For counting, it was accepted that inflection of a verb (absorb, absorbs, absorbed, absorbing or go, went, gone) or of a noun (friend, friend's) is not a different word. Structural words were counted in the list of different words and in the total number of words. The number of their repetition was also counted. Proper nouns were not counted. The schedule used for counting is given below. Different words are entered in the extreme left column and columns on the right are used for the pages of the Reader.

---

The density index of different words was worked out by
(a) counting the number of different words,
(b) counting the total number of words.
a:b is the density index.

Similarly density index of different words was deter-
mined for the passages taken individually. The norm\(^3\) fixed for
the purpose of the study is 1:20. Density index is a comparative
indication of the difficulty of a passage or Reader. It is an
average figure.

**Density index of new words**

Density index of new words was worked out by
(a) counting the number of new words
(b) counting the total number of words.
a:b is the density index.

Similarly the density index of new words was determined
for the passages taken individually. The norm\(^4\) fixed is one new

---

\(^3\) Ibid., pp.62-63.
\(^4\) The Teachers' Manual, Language through Literature, Hyderabad-7:
Central Institute of English, 1967.
word for 35 known words for an easy passage and one new word for
15 words for a difficult passage. To determine the consistency
with which the density index is maintained, the vocabulary was
examined at regular intervals (every second page of the pass-
ages) by (a) counting the number of new words, (b) counting the
number of previously encountered words.

a:b proportion shows the consistency or otherwise.

**Frequency of occurrence**

If a pupil comes across the same new word in different
contexts he can master it. The number of times a word gets
repeated is a measure of the opportunity the Reader gives for
establishment of a word. Hence the number of times each
different/new word occurs was counted. The number of different/
new words occurring once, two times, three times and up to ten
times and their percentages were found out. The percentage was
calculated by expressing each as a proportion of the different/
new words.

**Spacing of repetition**

A high frequency of occurrence does not always indicate
a high degree of care. It may happen that a word occurs three
or four times in consecutive sentences in one lesson and does
not recur in the rest of the reader. Spacing of repetition,
therefore, was examined.
The words in the passages were checked against the list of 2500 word vocabulary for secondary schools, prepared by the Central Institute of English and Foreign Languages, Hyderabad.

**Classification of words**

The words were classified into the following categories:

1. common (essential) words
2. particular words
3. literary words
4. archaisms
5. technical words
6. Latinisms
7. colloquialism
8. loan words

This classification gives useful data regarding the nature of words and shows how many of these words are worth teaching and whether the passage has sufficient number of essential words and whether the passage is worth teaching.

The vocabulary was also examined to see whether it would help pupils to improve their ability to express themselves and improve their reading comprehension, whether they are related to their needs and whether they are easy to teach.
The nouns in the prose passages were classified into various categories and their frequencies worked out with a view to examining how far they are suitable and useful to the pupils.

(c) Structures

The structures introduced in the Readers were analysed to determine their frequency, usefulness and teachability and to what extent they relate to the syllabus content for the class and whether it is clear which parts are for mastery and which are for recognition only and whether they proceed from simple to difficult and provide for the further building up of the language.

Density index of structures

The density index of structures was worked out by (a) counting the number of sentences in which structures are used. (b) counting the total number of sentences in the Reader. 

\[ \frac{a}{b} \] is the density index.

Similarly the density index of structures for the passages taken individually was determined.

This was repeated at regular intervals (page 2 of each passage) to determine the consistency with which the density index was maintained.
Frequency of occurrence of structures

The frequency of occurrence of structures and their spacing of repetition were found out.

(d) Sentence patterns

The sentence patterns used in the passages were analysed to ascertain whether
1. they are suited to the pupil's level of ability
2. the proportion of simple, complex and compound sentences are adjusted effectively
3. interest is maintained effectively through sentence variety.

The structure of a sentence may be simple but the pupil will still find it difficult to understand it because of the number of clauses and phrases. The clauses and phrases in a sentence were examined. Sentence length is a possible source of difficulty to pupils. The sentences, therefore, were examined for length in terms of the number of words making up an average sentence. Average length of sentence was worked out by dividing the total number of words in the passage by the total number of sentences in the passage. The norm fixed is 15-18 words for easy passage and 23-25 words for difficult passage.

For the purpose of the study, for counting the number of sentences in a passage, the semicolon or colon was taken and not first the full stop, question mark or mark of exclamation as
making the end of one sentence and the beginning of another, provided these parts of the sentence can be treated as independent units.

**Clauses and phrases**

The clauses and phrases in a sentence were counted and averaged to determine the complexity of an average sentence on account of its clause and phrase structures. Clauses/phrases per sentence were averaged by dividing the total number of clauses/phrases in the passage by the total number of sentences. The norms allow 2.75 to 3.25 for easy passage and 3.76 to 4.50 for difficult passage.

**Phrasal verbs and idioms**

In a phrasal verb, the combination of the verb and preposition/adverb gives a meaning which is not contained in the meaning of the verb or the preposition/adverb taken individually. The pupil has to learn the meaning and uses through special effort. Idioms and expressions like 'of course, long long ago' etc. which are idiomatic in the true sense of the term have to be assessed and reckoned with in determining the difficulty level of a passage. The phrasal verbs and idioms in a sentence were counted. For arriving at the average the total number of phrasal verbs/idioms in the passage was divided by
the total number of sentences. The norms allow one phrasal verb/idiom per sentence for a difficult passage and one phrasal verb/idiom for every three sentences in an easy passage.

**Figures of speech and allusions**

The figures of speech and allusions in the passages were examined and their averages worked out. The norms allow one figure of speech per 250 words in an easy passage and one figure of speech per 50 words in a difficult passage. The averages were worked out by dividing the total number of words in the passage by the total number of figures of speech in the passage.

The averages of allusions were worked out by dividing the total number of words in the passage by the total number of allusions in the passage. The norm fixed is one allusion per 1000 words for an easy passage and one allusion per 250 words for a difficult passage.

The passages of the readers were graded according to language difficulty using the norms\(^5\) fixed for the purpose. The norms fixed for ascertaining the difficulty level of a prose passage were subdivided under.

\(^{5}\) *Ibid.*, Appendix C.
<table>
<thead>
<tr>
<th></th>
<th>Easy</th>
<th>Slightly difficult</th>
<th>Difficult</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vocabulary</td>
<td>one new word per 29-35 known words.</td>
<td>one new word per 21-28 known words.</td>
<td>one new word per 15-20 known words.</td>
</tr>
<tr>
<td>2. Sentence length</td>
<td>15-18 words per sentence.</td>
<td>19-22 words per sentence.</td>
<td>23-25 words per sentence.</td>
</tr>
<tr>
<td>3. Clauses and phrases</td>
<td>2.75 - 3.25 per sentence.</td>
<td>3.26 - 3.75 per sentence.</td>
<td>3.76 - 4.50 per sentence.</td>
</tr>
<tr>
<td>4. Phrasal verbs and idioms</td>
<td>0.33 - 0.50 per sentence.</td>
<td>0.51 - 2.74 per sentence.</td>
<td>0.75 - 1.00 per sentence.</td>
</tr>
<tr>
<td>5. Figures of speech.</td>
<td>one per 176-250 words.</td>
<td>one per 101-175 words.</td>
<td>one per 50-100 words.</td>
</tr>
<tr>
<td>6. Allusions</td>
<td>one per 751-1000 words.</td>
<td>one per 351-750 words.</td>
<td>one per 250-350 words.</td>
</tr>
</tbody>
</table>

(e) Illustrations

Suitable illustrations are useful aids to the teaching of the lessons. Illustrations were examined to ascertain whether
1. they are appropriate to the age and grade level of children
2. they are relevant and significant to the theme
3. they are appealing, vivid and attractive to children
4. they are clear and easily recognisable
5. they are appropriately placed to emphasise the relevant point
6. they are in right size
7. they are accurate.
Exercises

There is need to provide abundant exercises for effective learning. Exercises were examined to determine whether

1. they cover all the objectives of teaching English
2. there are the right number for adequate practice of words and structures
3. they are varied in nature to stimulate the children's interest
4. they are primarily concerned with the testing of language skills
5. they are at appropriate difficulty levels and cater to individual differences
6. they stimulate interest and initiative on the part of pupils
7. they are appropriately placed to bring into focus the learning points and have feedback potential in teaching (testing)
8. they are comprehensive, yet not too many to be repellent
9. help and insight are given before the exercises are actually set.

General get up

General get up of the Readers was examined to evaluate whether

1. the cover design is attractive and appealing
2. the preface gives a general scheme of the textbook and gives hints to teachers and pupils about the use of the textbook.
3. a list of new words introduced, is given.
4. the index of structures is given.
5. the paper is good.
6. the printing is clear and bold.
7. the size of the book is suitable for the pupils.
8. the binding is convenient to handle.
9. there are any errors in printing.
10. there are any factual and linguistic errors.

Poems

The poems in the readers were classified according to subject matter and analysed with a view to assessing whether
1. they are the right number or too few.
2. they are suitable for the age group.
3. the language is easy or difficult.
4. the vocabulary is simple.
5. there are archaisms.
6. there are words which mean many things.
7. there are symbolism and allegory.
8. there are figures of speech.
9. there are imagery and allusions.
10. there is too much adult life.
11. there is mysticism.
12. the poems are simple enough for the pupils to grasp the general meaning when they hear it for the first time.
13. they are from standard authors.
14. they provide variety and enjoyment.
15. they stimulate the pupil's aesthetic sense.

Supplementary Readers

All the thirty-two supplementary Readers (excluding repetitions) prescribed for study since 1952 were analysed. The following are the criteria formulated for the analysis.

1. How many pages of supplementary Reader would be appropriate?
2. Is the supplementary Reader easy to read and suitable for the age group?
3. Does it contain the words and structures already learnt by the pupils?
   Is glossary of new words provided?
4. Whether a glossary of new words is provided.
5. Is the language in current standard English?
6. Is the reading material interesting?
7. Is the scope of the book within the range of the pupil's comprehension?
8. Does it give universal interest?
9. Are the language materials and subject matter presented in an organised sequence, proceeding from simple to the complex?
10. Are the materials presented well proportioned, well-balanced and well-united?

11. Are the illustrations relevant and appropriate to the reading material and suitably placed?

12. Are they appealing to pupils?

13. Are the exercises carefully prepared to realise the objectives of teaching it?

14. Whether they have sufficient variety in them?

15. Are they capable of stimulating interest and initiative on the part of the pupils?

16. Is the size of the book suitable for the pupils?

17. Is the binding of the book convenient to handle?

18. Is the cover appealing and attractive and does it indicate the theme of the book?

19. Is the printing clear and bold and suitable for the pupils of the age group?

The findings of the analysis were classified and compared.

Concept of standards

The literature in this area given in Chapters III and IV indicates that there is a fall in standards in English. Analysis of the S.S.L.C. Examination results for the period under study also shows there is a decline in standards of English. Based on these evidences it was hypothesised for the
purpose of the study that standards of English have fallen with special reference to expected standards of attainment and achievement in English in secondary schools in Kerala.

**Questionnaire**

On the basis of the above hypothesis a questionnaire was prepared incorporating the main areas covered by textbook analysis, to get the opinion of experts on the validity and utility of the features given in the criteria and findings of the analysis. The questions included in the questionnaire related to features of textbooks under content, vocabulary, structures, sentence patterns, illustrations, exercises, general get up of the books, content, theme and language of poems, and theme, language, correlation with the Readers, illustration, exercises and general get up of the supplementary Readers. The questionnaire was prepared as a questionnaire-cum-rating scale and was given to 75 experts. The experts were expected to cover the teachers who have experience in teaching English over the period as far as possible. A proportion of the experts included teachers whose period of service is shorter but who possess additional qualifications and training in textbook preparation, analysis and teaching of English. The respondents were asked to indicate their opinion as to the extent to which standards have fallen on a three point rating scale ranging from 'a great extent' to 'very little'.
In addition to the questionnaire the experts were provided with the following materials.

1. Findings of textbook analysis carried out by the investigator.

2. Objectives of teaching English for the period of study.

The data obtained were analysed to arrive at the concept of standards.

The results of the S.S.L.C. Examinations for which the textbooks were prescribed, were analysed to find out the level of achievement of pupils in English.

The concept of standards in English was studied based on the analysis of textbooks, analysis of the results of the S.S.L.C. Examinations and the responses of experts.