SUMMARY, CONCLUSIONS and SUGGESTIONS

In this chapter an attempt has been made to report in brief, the procedures adopted in the construction and standardisation of the silent reading comprehension test in Marathi, for the pupils studying in Std. X, in the secondary schools in Osmanabad district of Maharashtra State.

Theoretical Bases:

The accepted concept of reading comprehension consists of —

1) Mechanical process of decoding graphic representations of sounds and/or symbols;
2) Word perception,
3) Comprehension.

This test of reading comprehension is of silent reading type. It is in Marathi, which is the mother tongue of the majority of pupils in Osmanabad district.

Objectives of the Study

The objectives of this study were to,

1) Construct a silent Reading comprehension test in Marathi for the pupils of Std. X in Osmanabad district.
2) To standardise it and
3) Establish norms.
Procedure:

The procedure adopted for realising these objectives was as follows:-

(a) To select the passages in Marathi suitable for the reading comprehension of the pupils in Std. X.

(b) To construct the test items based on the selected passage, for testing knowledge, comprehension, application, analysis, synthesis and evaluation, based on the hierarchical order suggested by Fry.

(c) To administer the test for pilot tryout and selection of the items, by doing item-analysis.

(d) To collect data by carrying out final tryout.

(e) To prove that the sample was adequate and representative.

(f) To show that distribution of scores was normal by carrying out statistical analysis of the data.

(g) To determine the reliability of the test.

(h) To determine the validity of the test.

(i) To establish norms.

Sample:

The sample for administering the test was selected from the pupils studying in Std. X in Marathi medium schools, in rural and urban areas of Osmanabad district.
Description of the Test:

The whole test consists of the items based on the hierarchical objectives of reading comprehension suggested by Edward Fry.

The weightages given to the different objectives were related to those suggested by experts.

The objectives and the weightages given to them are as follows:

<table>
<thead>
<tr>
<th>Objectives</th>
<th>Weightage in percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge</td>
<td>29.41</td>
</tr>
<tr>
<td>Comprehension</td>
<td>42.35</td>
</tr>
<tr>
<td>Application</td>
<td>9.41</td>
</tr>
<tr>
<td>Analysis</td>
<td>7.05</td>
</tr>
<tr>
<td>Synthesis</td>
<td>7.05</td>
</tr>
<tr>
<td>Evaluation</td>
<td>4.70</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>

The reading material was selected from literature, history, geography, science and Mathematics.

The passages from Marathi, literature consisted of prose and poetry. Prose passages included story dialogue, information, description etc.

In all there were 9 sub-tests, consisting of 85 items in the final form of the test.
The test was administered in two stages.

i) Pilot tryout.

ii) Final tryout.

Pilot tryout and selection of items:

In pilot tryout, the test consisted of 131 items. Item analysis of the data collected in pilot tryout, was done, to determine the difficulty level and discriminating power of each item.

Out of 131 items in the pilot form, only 85 items having discrimination index .2 and above were selected.

While selecting these items, proportion of easy, medium and difficult was maintained as 17 : 51 : 17, which agrees with the distribution suggested by summer.

These selected items were arranged in descending order of difficulty value.

Final Tryout:

a) Before administering the final form of the test, to the selected sample, the time required for completion of the test was fixed as 70 minutes.

b) The final form of the test was administered to 2400 pupils, studying in Std. X of the secondary schools of this district. The test was administered strictly according to the instructions given in the manual.
c) Scoring of the test was done by using window stencils. No correction was applied for guessing. No weighing of the scores was done. The total number of correct answers was the score on the test of the individual.

After scoring some booklets were discarded, the total data of 2100 pupils (1699 boys and 401 girls) were retained for statistical analysis.

**Statistical Analysis:**

The highest score obtained on the test was 93 and the lowest was 5.

a) **Central Tendency and Variability**

The values of the Mean, the Median, the Mode and the SD were as below —

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Numerical Value</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>43.8666</td>
<td>.242</td>
</tr>
<tr>
<td>Median</td>
<td>43.641</td>
<td>.3033</td>
</tr>
<tr>
<td>Mode</td>
<td>43.1898</td>
<td>—</td>
</tr>
<tr>
<td>SD</td>
<td>11.095</td>
<td>.1719</td>
</tr>
</tbody>
</table>

These values of the mean, the median and the mode are nearly the same. It is the characteristic of the normal distribution.

**Nature of the distribution of Scores**

This was studied in three ways.
1. By computing the values of Skewness and Kurtosis which are as follows:

<table>
<thead>
<tr>
<th>Measure</th>
<th>Numerical Values</th>
<th>SE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skewness</td>
<td>0.6265</td>
<td>.3265</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>0.2656</td>
<td>.00611</td>
</tr>
</tbody>
</table>

Both these values are insignificant at 0.05 and .01 levels of significance. Hence the distribution is normal.

2. Chi-square Test

The obtained value of Chi-square is 18.0510 at df = 10. This value is also insignificant at both the levels of significance and hence it proves that the distribution is normal.

3. The expected normal probability curve was superimposed on the smoothed polygon and Histogram separately. The areas covered were nearly the same.

**Reliability**

The values of reliability coefficients obtained by different methods are as given below —

<table>
<thead>
<tr>
<th>Method</th>
<th>Reliability coefficient</th>
<th>PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Test-Test</td>
<td>.6913</td>
<td>+ 0.0249</td>
</tr>
<tr>
<td>2. Split-Half</td>
<td>.735</td>
<td>+ 0.00978</td>
</tr>
<tr>
<td>3. Simple-Approximation</td>
<td>.8374</td>
<td>--</td>
</tr>
<tr>
<td>4. K - R - 20</td>
<td>.8654</td>
<td>--</td>
</tr>
</tbody>
</table>
Thus the reliability of this test is not less than .6913.

Validity:

Two types of validity were estimated.

a) Predictive validity — This was computed by correlating the performance on this test with the S.S.C. examination marks. The obtained values of validity coefficient are as given below:

<table>
<thead>
<tr>
<th>Name of the Examination</th>
<th>Correlation with Marks in Marathi</th>
<th>PE</th>
<th>Correlation with Aggregate Marks</th>
<th>PE</th>
</tr>
</thead>
<tbody>
<tr>
<td>S.S.C. 1984</td>
<td>0.629</td>
<td>.04076</td>
<td>0.51</td>
<td>.049</td>
</tr>
</tbody>
</table>

The obtained values of validity is not much different from those of other renowned tests of reading comprehension.

Factor Validity — Factor analysis was done by Thurstone’s Centroid method. The size of the sample used for factor analysis was 600. Two significant factors, styled as below have been extracted.

<table>
<thead>
<tr>
<th>Factor</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability of general reading comprehension.</td>
<td>53.85</td>
</tr>
<tr>
<td>Ability of decoding Technical Symbols.</td>
<td>46.15</td>
</tr>
<tr>
<td></td>
<td>100.00</td>
</tr>
</tbody>
</table>
Norms

Four Types of norms were established.

a) Standard Score norms
b) Percentile norms
c) Percentile Rank norms
d) Letter Grade Norms

Findings

A) Area and Sex

It was observed, while establishing norms (Chapter IV) that there was no significant difference in the performance of the pupils from rural and urban areas and also in the performance of boys and girls. So an attempt was made to find out, whether their performance differ on particular test-items and sub-tests, and balance the whole performance. But no such evidence was available by this study.

B) Types of symbols

The three types of symbols used in the reading material of the present test were, (i) verbal (alphabets, words and sentences), (ii) map (iii) Graph. It was noticed that the performance of the pupils, on the tests using verbal symbols was better than that on the tests using map and graph symbols, and that the performance on the tests using the map symbols and the graph symbols was also found to be different i.e. the performance on the test using map symbol was better than on Graph.
C) **Prose and Poetry**

It was found that the pupils comprehend prose reading material better than the poetry reading material.

D) **Types of prose:**

The analysis of the performance of the pupils, on the story, dialogue, informative description led to the conclusion that (i) the pupils comprehend informative type reading material better than other types of reading material and (ii) the dialogue and the character story type of reading material were found to be the more difficult for comprehension.

E) **School Subjects**

The reading material used in the test belonged to three subjects areas, namely, language, social-science, and mathematics and science. From the study, it was found that,

1) the social science reading material was more easily comprehended than that belonging to other subject areas; and

2) the reading material belonging to mathematics and science area, was the most difficult of all for comprehension.

F) **Objectives of Reading Comprehension**

The performance of the pupils was analysed according to the objectives of reading comprehension, namely, knowledge, comprehension, application, analysis, synthesis
and evaluation, the results showed that,

i. the performance on the test items based on the objective 'synthesis' was the best of all.

ii. the performance on the items based on the objective evaluation was better than any of the remaining four objectives.

iii. The performance on the items based on the objectives synthesis, evaluation, knowledge and comprehension was almost the same (e.g. 59.11, 59.011, 58.87 and 58.38 respectively).

iv. The performance on the items based on any of the two remaining objectives, namely application, analysis was almost the same.

Conclusion

i- Sub-tests were framed in Marathi, for testing reading comprehension objectives, namely knowledge, comprehension, application, analysis, synthesis and evaluation of the pupils studying in Std. X of the Marathi medium schools;

ii- A reading comprehension test with 9 sub-tests was administered to a representative and adequate sample.

iii- Statistical analysis was done and the mean, the median, the mode and the SD were found out.
iv- The normality of the distribution of scores was proved by a) computing the values of skewness and kurtosis, b) Chi-square test and c) drawing graph.

v- The values of the reliability (from .6913 to .8654) and the validity (from .6913 to .8654) and the validity from (.51 to .629) were computed.

vi- Factorial analysis of the sample of 600 pupils was done and two factors were found out.

vii- Norms were established.

viii- Performance of the sample of 300 pupils was analyzed and interpreted to the finding of the analysis are:

   a) No difference was established between boys and girls or rural and urban pupils performance.

   b) The pupils were found to comprehend the reading material using verbal symbols quite satisfactorily as compared to the material using map or graph symbols.

   c) Prose reading material was found to be rather easy for comprehension than the poetry;

   d) The pupils comprehend informative type reading material more easily than the other types;

   e) Reading comprehension performance in connection with the social science was observed to be better than the language, Mathematics and science.
The performance on the test items based on the objectives of reading comprehension, was found to be in following order:

Knowledge - better (58.87)
Comprehension - quite good (58.38)
Other reading objectives - rather unsatisfactory. All the above findings, in connection with reading comprehension ability of the pupils of Std. X, lead to the general recommendation that efforts are needed for measuring and improving the reading comprehension ability of the pupils.

**Recommendations**

The following can be some of the specific recommendations —

**i.** The reading comprehension ability in Marathi, of the pupils studying in Std. X can be measured with the help of this test.

**ii.** In order to improve the reading comprehension ability in general, pupils should get enough opportunity for reading various types of material, besides the prescribed text-books.

School librarians should be enriched with various types of books and magazines suitable for the pupils (at various types of books and magazines suitable for the pupils) at various stages of education.
Pupils should be encouraged to read these books. For this, reading competitions should be held. Class teachers who are generally in charge of class library should make special efforts to see that the pupils get the books they like to read, and also to persuade them to read other books. Interest in reading should be developed.

iii. It was found that the pupils find it easy to read prose material than the poems. This is likely to lead to general dislikes for poetry. Thus it is recommended that the following types of activities may be organised to develop interest in reading poems.

The pupils should be asked to memorise poems from the text-books. Recitation competitions should be arranged. Other good poems from outside the text-books should be displayed on the general notice-board. Some of the poems may be played on the tape recorder during recess. Acquaintance with this type of material will induce them to take interest and will develop ease in reading.

iv. Within the different types of prose material, it was found that the pupils read informative type material more than the other types. Interest in reading dialogues, story, dramas, biographies, autobiographies and other informative material should be developed.
Interest is developed if curiosity is there. In order to develop curiosity, teacher should read, for example, some part of a drama loudly, in the class and stop reading at a point which breaks the link and creates curiosity in the minds of the pupils to read on their own.

Dramatization of some of the passages from these types of books, may be recommended as an activity for this purpose.

v. Development of interest in reading books related to history, geography, mathematics and science may be possible only if the pupils develop interest in studying these subjects.

Teachers should modify their methods of teaching these subjects in such a way that interest in learning these would be created in the pupils.

vi. Map and graph reading was found to be an obstacle in reading. In order to develop facility in map and graph reading, following are some of the ways —

Teachers teaching history and geography should make it a point to display map, wherever necessary. Pupils should get opportunity to read maps. Guidance reading map-reading should also be provided. While displaying teacher-made maps, teachers should take care to use internationally accepted symbols and colours, for showing different aspects.
As regards graph reading pupils should be asked to read graphs, published in newspapers, magazines etc. Information regarding temperature, rain-fall, school's S.S.C. examination results etc. should be displayed on the general notice-board, in an attractive manner.

vi. The last but not the least is the improvement in reading comprehension with regard to the objectives application, synthesis, analysis and evaluation. This is possible if pupils are asked to read with these objectives in view. Pupils should be asked to find out answers to specific questions, by reading the passage silently. In different written examinations, pupils should be asked to solve test items based on other objectives besides knowledge.

Thus it may be concluded that the present test of silent reading comprehension, can be used with confidence for educational guidance, for predicting scholastic performance, and for conducting research in the area of reading.

Suggestions for further studies

Though there are 14 accepted state languages in India, this area of research has not been sufficiently exploited so far. The following may be suggested as some of the topics on which research is much needed.

(a) Reading comprehension is a basic ability, required for scholastic achievement. Thus in order to have an idea regarding the level of comprehension, in a particular
language, it is necessary to ascertain the performance of pupils on some standardized reading comprehension test. But no such standardized tests are available in different languages and for different standards. There is need for constructing and standardizing reading comprehension tests in all the languages taught in the schools and also for all standards.

(b) Reading comprehension ability can be developed only if the pupils read the material suitable for their age and according to their vocabulary and interest. To decide about the suitability of the reading material, it is necessary to have some mathematical formulas for computing readability. Various readability formulas are available for English language. An attempt has been made to have readability formula for Gujarati and Hindi languages. An effort is needed to develop a readability formula for Marathi language.

At present text-books are prepared by experts and experienced teachers. Suitability is based on their judgements only. In addition to the subjective method, if some objective tool becomes available, the judgement regarding readability will be objective and more reliable. Research may be conducted, on 'Development of Readability formula', suitable for marathi language.
(c) The performance of the pupils on this test led to the conclusion that the pupils lack in reading comprehension ability. Reading comprehension ability has many aspects. It consists of different levels. Fry has given an hierarchical order of objectives of reading comprehension. Thus the research work is needed to find out the particular aspects, in which pupils lag behind. Hence, 'Construction of a Diagnostic Test of Reading Comprehension' is the need of the day.

(d) An understanding of the shortcomings of the pupils, in connection with reading comprehension, would help, to find out the reasons for these shortcomings and to try out remedial measures to overcome them. This would be possible only if the factors, which promote reading comprehension, are ascertained through research.

(e) Study habits include all those activities which are to be undertaken for learning through planned effort. Thus study habits involve the activities such as notes taking at the time of lectures, preparation of papers, library work such as reading books, using reference material, problem solving etc. For all these activities different types of reading like study reading, average reading and skimming are needed. Thus it is assumed that there is positive correlation between reading comprehension ability and study habits.
Investigation is needed to establish this relationship. To determine the impact of study-habits on reading comprehension is an area in which research is needed.

(f) In order to develop reading comprehension ability, pupils should get reading material in which they are interested. The need to collect the information regarding the reading interests of the pupils at different stages of development might also lead to very fruitful research in the area of reading.

Thus to summarise, it can be said that there is an immediate need to carry out research in the field of reading comprehension.

**Conclusion:**

Silent reading comprehension has profound influence on the scholastic achievement of the pupils, which in turn is most important determinant of the standard of education. Due to the absence of the standardized silent reading comprehension test in Marathi so far, the researchers could not evaluate this ability of the pupils objectively, and modify their methods of teaching, based on the objective data.

The researcher has constructed and standardized this silent reading comprehension test in Marathi, for the pupils of Std. X. Standard X is the terminal stage in education, when the pupils are expected to read silently and comprehend the material read in Marathi.
As the reliability and validity of this test are satisfactory, in the opinion of the researcher, the teachers by using this test would be able to collect objective data, regarding the silent-reading comprehension ability of the pupils and modify their methods of teaching, and thereby help the cause of improvement of the standards of education, in Maharashtra State. Moreover the teachers would be able to classify the pupils and give them proper guidance for better achievement.