Chapter I

THE PROBLEM:

HISTORICAL BACKGROUND, DEFINITION, SCOPE AND REVIEW OF RELEVANT PREVIOUS RESEARCH

(a) Historical Perspective

Ever since man entered the margins of civilization, he has tried to measure. He began by measuring physical things. At first this measurement was crude, and not very precise. It lacked precision. Gradually, over thousands of years, as our observation has become more scientific, and as we have been able to develop powerful tools of measurement, our measurement has come to a level of astonishing precision and exactness. Measuring the forces of external, physical nature has led man to understand, predict and control physical events.

But man has not been satisfied by measuring physical entities only. He has also longed to understand

his inner being. He has desired to understand the working of human personality. Not only that, he has wanted to measure psychological traits. As he knew about his inner nature more and more, he came to understand about such traits as intelligence, memory, aptitude, special ability, personality, perception etc. His flair for precision led him to the attempts of measuring such mental traits. As a result, we today come across a number of psychological tests meant to measure one or the other of innumerable psychological traits.

Intelligence testing gave an impetus to the movement of measurement of abilities. Binet, Terman, Wechsler and others contributed a great deal towards it. But as the psychologists tried to know more about the nature of intelligence, they realized that it was a very complex entity. Doubts were raised about the possibility of measuring pure, unadulerated, innate intelligence. Gradually, what was thought of as intelligence was named scholastic aptitude.

Spearman started analysing human ability and came forward with the two-factor theory. Two distinct factors entered any intellectual act, the general ability factor and the specific ability factor. But Thurstone challenged the concept of two-factors; as an alternative, he proposed the theory of specific primary mental abilities.

Guilford, Vernon and others have carried forward the trend in this direction, and have developed the group factor theory.

The statistical technique of factor analysis has given added spurt to this trend. Today psychologists are busy identifying and establishing various specific factors, special abilities, discrete and unitary traits, such as mechanical ability, numerical ability, musical ability, clerical aptitude etc. Verbal comprehension and verbal reasoning are also among such specific factors. A number of language ability tests are standardized in English and European languages. There are hardly a few standardized language ability tests in Gujarati. And whatever there are, are standardized for the high school population. There is none standardized for the college students. If a language ability test in Gujarati is standardized for the college-going student population, it could be very useful to the students, counsellors, college administrators, college teachers and others. Led by this consideration, the present investigator has undertaken this attempt of standardizing a language ability test in Gujarati for college-entrants.

(b) The Problem

The problem of the investigation reads :

Standardization of A Language Ability Test in Gujarati for College-entrants.

Terms Defined

(1) 'Standardization' with reference to the present investigation means, as defined by English and English (1958), the process of determining, presumably on the basis of empirical investigation, the exact procedures to be used in testing, the permitted variations in environmental conditions, the method of scoring etc. The same authors define 'a standardized test' as one composed of emperically selected materials. It must have definite directions for use, adequately determined norms and data on reliability and validity. It should especially be noted that it is norms, and not standards, that are required for a standardized test. Remmers, Gage and Rummel (1967) define a standardized test as one that has been given to various samples or groups under standardized conditions and for which norms have been established.

(2) 'Ability' means actual power to perform an act, physical or mental, whether or not attained by training and education. Special ability has to do with a

defined kind of task. Each special ability should, when possible, be so defined as not to overlap with other special abilities.

English and English (1958) say the following regarding the concepts of ability and aptitude:

> Ability implies that the task can be performed now, if the necessary external circumstances are present; no further training is needed. Aptitude (which formerly carried implications of innateness) has now been defined in technical writing to refer to the fact that the individual can be brought by a specified amount of training to a specified level of ability. 'Capacity' and 'capability' are loose synonyms for ability or for aptitude.

The same authors define an ability test as a test of maximum performance designed to reveal the level of present ability to function; while an aptitude test is defined as one which is designed to reveal the probable future level of ability to function after a given amount of further learning. Both are the tests of maximum performance, but in the former case, the emphasis lies upon the present level, while in the latter, upon the probable future level.

(3) 'Language' is defined by English and English (1958) as the verbal behaviour, oral or written, characteristic of an individual or society. So far as the present study is concerned, it is confined to the written aspect of language behaviour.

Language ability means ability to use language effectively and with facility as a means of communication, involving both comprehension and expression.

(4) 'Gujarati' means, so far as this test is concerned, the Gujarati language as it is used in day to day communication and as a medium of study. Gujarati is the language of the people of Gujarat. It is one of the eighteen languages recognized by the Constitution of India.

(5) 'College-entrants' mean students entering colleges in Gujarat. In Gujarat the three major universities, namely Gujarat University, Saurashtra University and South Gujarat University, are affiliating universities. Students enter the pre-university class after passing the S.S.C. examination. All these three Universities have accepted Gujarati as the medium of instruction. So, as far as this study is concerned, college-entrants mean the students who have enrolled in Arts, Science or Commerce faculties of the above-mentioned universities.

(c) Elucidation, Delimitation and Scope of the Problem

(i) The problem pertains to language ability. An ability, as defined by psychologists, involves both present proficiency as well as an aptitude indicative of future success. It is the result both of innate disposition and of experiences acquired after birth. Language ability is the ability required by a person in performing with facility, ease and mastery tasks related to language. Language ability is a complex of many related abilities. So it can be measured in behaviours involving these different component abilities. The main among these can be subdivided into abilities related to the use of vocabulary, sentence structures, spelling and comprehension.

(ii) The problem pertains to language ability in the Gujarati language. Gujarati is one of the eighteen languages recognized as official languages by the Constitution of India. It is the language spoken by the people of Gujarat State. It has a definite form, a separate script, a formal grammar and rich literature. So far as this research is concerned, the investigator has taken the functionally-used Gujarati as the basis, that is, Gujarati as used in day to day communication and in ordinary academic fields. The highly stylized,

formal, literary or archaic Gujarati is not covered, because, that is not what is meant by the word 'Gujarati' in common parlance. Even in different academic branches, the language used in teaching and in text-books is generally functional.

(iii) The problem pertains to language ability, and not to literary ability. There is a clear difference between the two. Literary ability is an ability to deal effectively with literary tasks, wherein there are components like style, rhetoric, figures of speech, knowledge and appreciation of literary works in prose and poetry, literary criticism etc. The present test does not claim to measure these traits. Instead, it is a problem related to the efficient use of language in all fields - may be they are literary, or scientific, or commercial. It is related to the effective use of Gujarati language as a means of communication and medium of study.

(iv) The problem dictates the standardization of a test measuring language ability in Gujarati. A test is a tool of measurement. It can be a separate test or a battery of related tests. It could be verbal or non-verbal; it could be an oral test or a paper-and-pencil test. The type of test accepted for this research would

depend upon many considerations, the main being effectiveness and feasibility.

(v) The test has to be standardized. Standardization has a definite meaning in the field of psychological testing. The whole standardization procedure has to be followed and requisite outcomes have to be explicitly shown. In main, standardization includes construction of test-items, arranging them properly in test-forms, the pre-tryout and try-out of the test, analysis, selection and rejection of items for the final version, final administration of the test on a large sample, developing norms and establishing reliability and validity of the test. The data collected should be tabulated, analyzed and interpreted. The problem dictates scrupulous adherence to the standardization procedure as enunciated above.

(vi) The problem states that a language ability test in Gujarati has to be standardized for the college-entrants. That means that such a test should be standardized for the pre-university class student population at the time they enter college.

In Gujarat students get admission to a college after passing the secondary school certificate examination. About 40 % to 50 % of the students who

pass the S.S.C. Examination enter college. Colleges are affiliated to one of the three major Universities in the State, viz. the Gujarat University, the South Gujarat University and the Saurashtra University. So far as the first degree course is concerned, these universities are affiliating and examining universities, while the teaching work is done by the affiliated colleges. The four years of college are divided into two stages :

1 year - Pre-university stage

3 years - Bachelor's Degree stage.

So college-entrants mean the students who are admitted in the pre-university class in one of the three major faculties - Arts, Science and Commerce.

In the foregoing paragraphs an attempt has been made to analyse the problem of this research and to state clearly its implications.

The following paragraphs deal with the usefulness and scope of such a test.

Of late Gujarati has become the medium of instruction at the college level. Whether a student joins Arts, Science or Commerce faculty, whether he studies Economics or Psychology or Biology or Accountancy, he has to listen to lectures delivered in

Gujarati, has to read books written in Gujarati and has to answer questions in Gujarati. Thus Gujarati enters as a medium of comprehension and expression, irrespective of the subject studied or the branch of knowledge pursued. In these circumstances, a student entering university must possess a minimum level of mastery in Gujarati necessary for efficient comprehension and expression.

✓ This leads to the five-fold usefulness of a language-ability test for college-entrants :

(a) Such a test could be used at the time of admission to ascertain the fact whether the students have necessary control/ mastery over Gujarati language, so as to study efficiently through that medium. Those below the norms could be rejected. So such a test could serve as a screening instrument.

(b) If differential norms of language ability in Gujarati for different faculties could be established, such a test could be used to sort out students for different faculties.

(c) Students taking a language ability test would know their own standing in this area, and could choose the appropriate courses of study. Students, comparatively weaker in Gujarati language ability, might avoid subjects

requiring high level of proficiency in Gujarati language.

(d) Counsellors might find the scores of such a test useful in their work of guiding students about college courses.

(e) Teachers at the college level could use the test as a diagnostic instrument, and locate typical errors. Such an error analysis might point and lead to useful remedial teaching in the area of Gujarati language.

Standardizing a language ability test at the college-entrance level has also some justification in itself. A student has passed the secondary school leaving examination and then he comes to enter university. He has passed the subject 'Gujarati' at the S.S.C. examination. But the marks secured at that examination reflect the distribution of the entire high-school leaving population, which is not the same as the college-entering population. All who appear at the S.S.C. examination do not pass, and all who pass do not enter college. So, if a test is intended to be useful for college admissions and choice of line at college level, then it should be standardized on the college-entering student population. Norms reflecting that population could be more useful for guiding them.

Again, the pre-university class is the delta level for higher studies. A student should know the level of his proficiency in Gujarati language, as soon as he enters college. Hence the present test is intended to be administered at the time of a student's admission to college. It could be administered by a counselling agency, or by colleges, or by a central admissions authority such as the university.

Language ability is a very wide area. But the inherent limitations of a paper-and-pencil test would not allow an investigator to resort to such tools as observation, case study, situational testing, interview etc. As a result, such components of language ability as listening comprehension and oral expression, important though they are, have to be left out of such a test. If some other investigation results in a successful standardization of tests measuring the above-mentioned abilities, it will be a very welcome supplementation to the present effort.

In order to have sufficient degree of validity and reliability, and in order to be able to assess precisely and predict reasonably, such a test has to be standardized. Standardization is a very technical process, involving a great deal of psychometric and statistical procedures. In the chapters that follow,

the procedure adopted in this investigation and the statistical findings thereof, along with the necessary theoretical discussion, is given in detail.

In the end, it will be worthwhile to point to the fact that this language ability test is supposed to be valid for the college-entering student population all over Gujarat. The sample tries to cover as representatively as possible the whole region of Gujarat. Still regional variations could have their effect on norms. It will be worthwhile to develop such norms in order to make appraisal more dependable. This could be a fruitful direction for further work.

(d) Reveiw of Previous Research in the Area

Any new research is justified to the degree it adds to the accumulated knowledge in the area of research. In a way no research is completely original and new. The most it does is to take the findings upto that date a step further, or add a new dimension to already existing knowledge. The value of research lies in what new light it throws on a problem that might have already been explored to some extent. So, in order to evaluate it, a review of previous research in the area is very helpful and illuminating.

In the U.S.A. and Europe, a great deal of research has been done in the area of verbal comprehension and verbal reasoning. Tests have been standardized in the area of verbal ability. The chief among the American tests in this area are:

(i) Thurstone's Verbal Ability Test (a part of his battery of PMA tests),

(ii) Tests No. 9 and 10 in Wechsler-Bellevue Intelligence tests,

(iii) The Verbal Reasoning, Spelling and Sentences Tests in the DAT battery (Differential Aptitude Tests),

(iv) The Verbal Aptitude Test of the GATB (General Aptitude Test Battery),

(v) Verbal Factor Test in Guilford-Zimmerman Aptitude Survey,

(vi) The Vocabulary, Language Usage, and Reading Tests of Multiple Aptitude Tests Battery prepared by Segel and Raskin, and lastly

(vii) Iowa Language Abilities Test (Intermediate).

Let us acquaint ourselves with these tests in a greater detail.

(i) Thurstone's Verbal Factor Test includes items of vocabulary, comprehension and verbal reasoning. His

vocabulary test includes items on the proper use of words, synonyms and such other abilities.

(ii) Guilford's Test Battery emphasizes 'mental' processes more than 'content'. According to him content categories are of four kinds: figural, symbolic, semantic (verbal), behavioural. Mental processes are of five kinds: memory, cognition, convergent thinking, divergent thinking and evaluation. There are six products, namely units of information, classes of units, relations between units, systems of information, transformations and implications. There are 120 combinations of these contents, products and processes. Each combination represents a type of task which can be represented in an intellectual test. For example, the common verbal comprehension tests fit into Guilford's cognition of semantic units of information. Guilford-Zimmerman Survey measures verbal factor along with other specific factors.

(iii) Differential Aptitude Tests Battery contains eight tests. Three of them are verbal reasoning, spelling and sentence tests. Here no attempt is made to isolate simple, pure, unitary abilities. Instead, the tests aim to measure complex abilities (group factors) which have a fairly direct relation to curricula and job families. Tests require 6 to 30 minutes of time.

The whole battery requires three sessions of eighty minutes each.

The intercorrelation among Verbal Reasoning, Spelling and Sentence-pattern tests are as follows :

	VR	Sp	S
VR	-		
Sp	.48	-	
Sen.	.53	.59	-

The split-half reliability indices are as follows:

VR	0.88
Sp	0.92
Sen.	0.86

The DAT does not provide total or general scores. It provides aptitude-wise scores.

Journal of Consultation Psychology (12:62, Jan-Feb.,'1948), as quoted by Mental Measurements Year book (1949), reviews the Differential Aptitude Tests as follows :

> The publication of DAT is a major psychometric event. The battery stresses the significance of 'abilities' rather than 'ability' as the basis for prediction and guidance at the secondary school level. It consists of seven parts: (1) Verbal Reasoning (2)

Numerical Ability (3) Abstract Reasoning (4) Space Relations (5) Mechanical Reasoning (6) Clerical Speed and Accuracy (7) Language Usage.

The parts, other than the clerical, are power tests rather than speed tests. Average reliabilities range from .85 to .93. Separate percentile norms are given for boys and girls from grade 8 to 12, based on national selections from 750 to 2000 cases. Profiles of percentiles and standard scores are drawn. Although there are many immediate applications for tests of this type, much research is needed on the validity of profiles for predicting various sorts of educational and vocational success.

Part (1) Verbal Reasoning (30-40 minutes) and Part (7) Language Usage (35-45 minutes) are relevant to the present study.

Bechtoldt, reviewing the DAT in the Fourth Mental Measurements Year-book (1953), says that the basic hypothesis used in the development of this battery is that the appraisal of each of several "abilities" will enable vocational and educational counsellors to form realistic judgments as to the

educational curricula and vocational choice. The norms are the best in the field of special abilities and aptitudes tests; the sample is wide and covers major geographical areas and socio-economic groups. Sex-wise norms are given. Mean, S.D. and percentile norms are given for all the seven subtests. The seventh subtest pertains to Language Usage. It includes spelling and sentences. The score distributions suggest somewhat inadequate discrimination at the lower 5 % on a few tests, but, the published results indicate an acceptable degree of discrimination. Split-half reliability coefficients range from .86 to .93. In addition estimates of the Standard Errors of measurement of these coefficients of correlation are also given. The authors properly indicate that both high reliability and relatively independent tests are necessary for differential prediction.

Berdic, reviewing the DAT in the Fourth Mental Measurements Year-book (1953), writes,

> The authors of the DAT describe this battery as a compromise "between the desire to measure 'pure' mental abilities that emerge from factor analysis and the practical necessities continually encountered by personnel and guidance workers". Several of

the tests in this battery are similar to tests of 'pure' abilities as defined by factor analysis. But the language usage test purposefully presents compounded pictures of two or more pure aptitudes.

(iv) General Aptitude Test Battery is in marked contrast to the DAT in form and function. It aims at a limited number of diversified tests which can be given to everyone and which can be linked together in various combinations to predict success in different situations. So, there will be different multiple regression equations for different courses and jobs. It includes eight paper-and-pencil tests and four apparatus tests. One of these is Verbal Aptitude test, which mainly includes vocabulary. Its General Reasoning Ability test includes Verbal Reasoning.

The test-retest reliability of Verbal Aptitude test is .86. The working time for the test is six minutes.

The correlations between DAT Verbal Reasoning, Spelling and Sentence tests and the Verbal test of GATB are as follows :

	GATB verbal
DAT verbal R	.72
spelling	.66
sentences	.75

(v) Multiple Aptitude Tests Battery includes nine tests to be completed in three hours. Three of these are vocabulary, reading and language usage tests. Differential validity for course grades prediction and concurrence is not great, yet is satisfactory.

(vi) Iowa Language Abilities Test (Intermediate) is for grade 7-10. It includes subtests on spelling, word meaning, language usage, capitalization, punctuation, grammatical forms and sentence structure. McKim, reviewing it in The Fourth Mental Measurements Year-book (1953), writes that the test covers the aspects of language usage typically taught in high school grades. The length of the total test allows for at least 50 items in each subtest except for more in the grammatical form section and the language usage section.The norms are based on a relatively small number of cases, but the care with which the present standardization seems to have been done gives promise of a strong test from the statistical point of view. Percentile scores are provided, as well as standard scores. Split-half

reliability, on the sample of 100, is, for the most of the subtests, more than .88. The lowest reliability is for the language usage subtest.

Previous Researches in the area of the Correlates of Reading, as listed by Encyclopedia of Educational Research (1969), are as under :

Intellectual correlates of reading have been extensively studies over a period of years. Intelligence, reflecting as it does to a large measure the capacity to engage in symbolic language activity, is itself a major correlate of reading. Gray (1960) has reported that, among school populations, correlations between intelligence and reading-achievement tests tend to cluster between .40 and .60. Specific aspects of intelligence may be more highly correlated with reading achievement than others. Bond and Clymer (1955) investigated the possibility of greater correlation between reading achievement and some specific aspects of intelligence than between it and others, showing that, for a normal population, verbal and reasoning subtests in the Primary Mental Abilities test of Thurstone were significantly related to reading achievement, but not the space and number subtests. Braun (1963) showed that for boys in Grade 8 there was a high positive relationship between concept-formation ability and reading

achievement when intelligence was held constant. Hilliard (1924) had shown that vocabulary-meaning and reading comprehension were highly correlated. O'Donnell (1962) secured only moderate correlations between level of comprehension and awareness of sentence structure (.44) and awareness of grammar (.46), but a high correlation between vocabulary and awareness of grammar (.90). This author inferred that good readers must possess some awareness of the basic structural relationship of words in sentences. The high positive relationship between reading success and spelling abilities has also been noted by Malmquist (1958) and Ahlstrom (1964). Substantial correlation has been found between reading and performance in other subjects involving reading by Fortna (1963). Studies of Gates (1961), Prescott (1955) and McNeil (1964) suggest that commonly reported early sex differences favouring girls in reading may be indeed largely due to environmental influences and not inherent, and even these are wiped out with the growing of age.

Turning to language ability tests in Gujarati, the investigator is in know of only two standardized tests: (i) Silent Reading (Comprehension) Test by Dr. J. A. Bhagatwala (M. S. University, Baroda), and (ii) Language Ability Test by Dr. Urvashi R. Desai (Gujarat

University, Ahmedabad). The former mainly covers one component trait of the total language ability, namely reading comprehension; while the latter is used as a criterion measure for the validation of the present test battery. A detailed description of the both follows.

(i) Language Ability Test of Dr. Urvashi Desai is meant for students ranging from Std. VIII to Std. XI in the high schools of Gujarat. Hence it offers standard-wise (grade-wise) norms. The answersheet is separate. There is a practice test to be administered prior to the administration of actual test. The oral instructions are standardized. The test-manual includes these instructions along with other things.

The test items are not divided into parts such as vocabulary, sentence patterns, synonyms, spelling etc. Instead the arrangement of items follow the spiralling omnibus system. The total of 100 items is divided into 10 parts, each containing items on synonyms, antonyms, idioms, sentence-structure etc.

The test is standardized for the high-school student population of the whole Gujarat. The sample, divided according to age, standard (grade) and sex, is as follows:

Age: Yrs.	VIII Boys	VIII Girls	IX Boys	IX Girls	X Boys	X Girls	XI Boys	XI Girls
11	51	63						
12	205	128	43	12		2		
13	317	175	157	154	49	24	2	3
14	283	164	300	246	166	170	37	31
15	138	57	233	181	286	230	214	109
16	67	28	141	70	245	156	327	169
17			69		157	56	233	122
18							166	55
19				34	76	28	82	10
Total:	1061	615	943	697	979	666	1061	499

= Total (N) : 6521

The reliability indices for all the grades (VIII to XI) are given. Here we are concerned only with grade XI, because that is about the criterion academic level and age level for this test. The present test is for the college-entrant population, while Dr. Desai's test is standardized for the school-leaver student population. There is a special difference between the two, but still they are the nearest. Below are given various reliability indices of the test for Std. XI :

Kind	N	Reliability	SE_r
1. Retest	59	.32	.116
2. Split-half (Spearman-Brown)	50	.47	.088

Validity Criteria	N	Validity r	SE_r
1. Preliminary Examination (XI)	111	.43	.05
2. S.S.C. Examination (School Leaving Examination)	110	.34	.08
3. Desai-Bhatt Group Intelligence Test	125	.37	.07

Percentile norms for the grade VIII, IX, X and XI are given. The distribution of scores ranges from 19 to 86. (Total score is 100.)

Norms for boys and girls, and urban and rural areas are given separately.

Mrs. Urvashi Desai (1970), concludes the evaluation of her study as follows :

The main problem is, whether the test is good enough for the purpose. The test is prepared with a view to measuring the pupils' aptitude for language, at the secondary school level. The whole process of its design is scientific. Its major stages - construction, standardization, evaluation - are thoroughly described

in the preceding chapters. The process of standardization began with the selection of the aspects of language skills to be measured. The selection of the behaviours to be assessed was made after thoughtful consideration of the different language skills, discussion with the experts in the field and review of the tests of languages. The test has been rigorously subjected to all possible studies concerning reliability and validity. Factorial study along with the other estimations of validity proves the test to be a good instrument for the purpose.

She suggests the following possibilities of further research in the area :

(1) Even though almost all possible studies on the test reliability and validity were made, one more, which is quite valuable, would surely lead to a better evaluation of the test. It is the estimate of predictive efficiency of the test over years. For this, the pupils tested in the present standardization may be followed up and their progress watched and compared with their PRS on the present test.

(2) The test may be tried at college level and separate norms for them may be fixed, provided that they are found to work satisfactorily.

(3) The test can be made more comprehensive with addition of the other aspects of language which have been described fully in chapter IV.

(4) The test is claimed to have potentialities for evaluating any language component if norms combining different subtests in a group on the basis of the latent roots, revealed by the Hotelling procedure adopted for the test, are developed.

(5) The present test has been conceived as one in a factorial battery. It is, therefore, recommended that stray attempts for developing measures of various aptitudes can be jointly and scientifically utilized if norms of them on a common population are developed.

(ii) Silent Reading Test of Dr. J. A. Bhagatwala is meant for high school boys and girls from Std. VIII to XI. It includes 15 tests. The tests purport to measure the following abilities:

(a) Speed of making use of Gujarati dictionary.

(b) Rate of comprehension.

(c) Range of general information.

(d) Ability to grasp meaning.

(e) Speed of reading.

(f) Ability to perceive relationship.

(g) Noting of details.

(h) Vocabulary - antonyms and synonyms.

(i) Ability for precise linguistic expression.

(j) Spelling ability.

(k) Accuracy of comprehension.

(l) Ability to grasp the central idea or thought of the material read.

The test is standardized for the geographical area of the whole of Gujarat. Try-out was done on the sample of 1000. Item-analysis was done on this sample. Final version was administered to about 5000 testees.

Item validity was computed with the help of Flanagan's biserial r. Reliability of the three groups of subtests is as follows: (For Std. XI)

		Test 1 to 5 (Speed)	Test 6 to 10 (word-meaning)	Test 11 to 15 (Comprehension)
1. Test-retest:	Boys	.73	.78	.78
	Girls	.71	.80	.82
2. Parallel forms:	Boys	.84	.68	.79
	Girls	.85	.68	.80
3. Split-half:	Boys	Between .51 to .97		
	Girls	Between .51 to .98		

Validity Indices of the test are as follows:

(For Std. XI)

		Speed	Word-meaning	Compre-hension
1. School Marks in 'Gujarati'	Boys	.30	.48	.39
	Girls	.31	.37	.44
2. Teachers' Estimate	Boys	.54	.40	.39
	Girls	.58	.50	.48

Norms for all standards and for boys and girls are developed for each sub-test. Norms are in the form of percentile ranks. Standard Errors of mean and median scores and S.Ds. are computed.

Conclusions

The conclusions that are drawn by using the data obtained in Dr. Bhagatwala's investigation are as follows :

(1) The frequency distribution of test scores is not normal. It is negatively skewed. The higher the class the greater is the skewness. The following are the reasons for negative skewness of test scores of the present investigation.

a. The aim with which the investigation was started was concerned more with differentiating pupils of very low Reading Ability from those of very

high Reading Ability rather than with preparing tests the scores of which were normally distributed.

b. In preparing the Revised Forms as well as the Final Forms of the tests particular care was not taken to select and to include only those items which gave a normal distribution of test scores, for the population tested.

c. Preparation of a graded test of Reading Ability for pupils of Classes VIII to XI was the main aim of the investigation. Again, as it was the first test of this type in Gujarati, it was feared that in trying to bring about normality of test scores their gradation for various classes might be lost or at least might not be statistically significant.

(2) The median total score is always more than the mean total score. This shows that more than 50 per cent of the pupils in any class are above the average "Total Reading Ability" for that particular class. But the results obtained for reading stories given in the beginning of test 13 in both forms of the tests are just the opposite. They show that 50 per cent of the pupils in any class read these stories with a speed which is less than the average speed of the whole class. It can,

therefore, be concluded that a majority of pupils lower down their usual speed of reading while reading the material which requires both speed and comprehension simultaneously.

(3) In some classes it is found that the average "Total Reading Ability" of boys is greater than that of girls or vice versa. But when statistically considered these sex-differences in "Total Reading Ability" of pupils of the same age and in the same class are found to have no significance either at 5 % level or at 1 % level. It can, therefore, be concluded that there are no sex-differences with regard to "Total Reading Ability" of pupils of the same age and of the same class.

(4) The inter-correlations (Table No.10) of blocks of tests (tests 1 to 5, 6 to 10 and 11 to 15) show that the tests are highly correlated with one another. This shows that the type of ability measured by these blocks of tests is the same - it is the Reading Ability of pupils. The coefficients of correlations are all positive and high. It can, therefore, be concluded that any improvement or retardation in any one aspect of "Total Reading Ability" tends to improve or retard the other two aspects of "Total Reading Ability".

(5) Tests on "Reading Comprehension" are found to be a little more difficult than the tests on "Speed of

Reading" and Word-meaning". Similarly, tests on "Word-meaning" are found to be a little easier than the tests on "Speed of Reading" and "Reading Comprehension".

Suggestions for Further Research

Both the forms of these tests are useful for further research along following lines :

(1) For finding difference in Reading Abilities of children belonging to different communities, castes or creeds; also for finding the nature and extent of that difference if it exists;

(2) For comparing Reading Abilities of children studying in different institutions; such as: (a) boys' schools, girls' schools and mixed schools, (b) schools situated in different localities of a city, (c) city schools, town schools, (d) large and small schools;

(3) For comparing Reading Abilities of children who are in the habit of going through a reading material very critically, observing even the smallest details and of discussing the material with other children with those of others who are not in such habits;

(4) For comparing Reading Abilities of children

whose parents follow different vocations or occupations;

(5) For comparing Reading Abilities of children whose parents take interest in their study with those of others whose parents do not take such interest;

(6) For finding how far Reading Ability of a pupil correlates with his general intelligence;

(7) Tables showing correlation matrices of tests are useful for doing factor analysis work for all tests of both Final Forms; these tables are also useful for doing work on giving 'weightage' to each individual test of both Final Forms.

The above-given review of previous research in the area of language ability testing points to the justification for undertaking the present research. Firstly, a test for language ability is worth constructing and standardizing, for language ability is a very important group factor that enters into academic and vocational pursuits. Secondly, American tests are naturally not useful for Gujarati students, as the language is different. Thirdly, the test standardized by Dr. Bhagatwala covers only some component abilities of the total complex that is language ability. It does not cover

sentence structure, organization of prose material, idioms, proverbs etc. Fourthly, Dr. Urvashi Desai's test is designed for high school students. There is no test of language ability for the college level students. Dr. Desai's test naturally samples language behaviour at a lower level, as it ranges from Std. VIII to Std. XI. Its language content is comparatively lower as compared to that which could be expected of a typical college-entering student. Fifthly, all who study in Std. XI do not pass the S.S.C. examination; and all who pass the S.S.C. examination do not enter college. So Dr. Desai's test-norms would not profitably apply to college-entrants. A separate test for them is surely needed. Lastly, Dr. Desai's test does not give norms for separate component abilities such as vocabulary, sentence structure, spelling, punctuation and reading comprehension. So a test that gives norms for these specific traits is in the fitness of things.

These considerations have led the present investigator to undertake the present research.

REFERENCES

1. Ahlstrom K. G., — Analysis of Three Different Aspects of Spelling Ability, Uppasala University, (Sweden), Institute of Education, 1964. (P. 46)

2. Bennet G. K., Seashore H. G., and Wesman A. G., — Differential Aptitude Tests, New York, Psychological Corporation, 1952.

3. Bhagatwala J. A., — Silent Reading Test, (Ph.D. Thesis), Baroda, M. S. University, 1968.

4. Bond G. L. and Clymer T. W., — Interrelationship of The SRA Primary Mental Abilities and Reading Ability, J. Ed. Res. 49:131-6. 1955.

5. Buros — Third Mental Measurements Year-book, 1949. (P.738) Fourth Mental Measurements Year-book, 1953. (Pp.165-166) New Jersey, The Groyhon Press.

6. Desai Urvashi, — Language Ability Test in Gujarati, (Ph.D. Thesis), Ahmedabad, Gujarat University, 1971.

7. English H. B. and English Ava C., — Comprehensive Dictionary of Psychological Terms, New York, Longman's, 1958. (Pp. 1, 287, 521, 550)

8. — Encyclopedia of Educational Research, (3rd Edition), New York, Macmillan, 1960. (Pp. 1074-1080)

9. Fortna R. O., — A Factor-analytic Study of The College Ability Tests and Sequential Tests of Educational Progress, J. Exp. Ed. 32:187-90; 1963.

REFERENCES

(Contd.)

10. Gates A. I., Sex Differences in Reading Ability, El. Sch. J. 51:431-4; 1961.

11. Greene H. A. and Balenger H. L., Iowa Language Abilities Test, New York, World Book Co., 1948.

12. Guilford J. P. and Zimmerman W. B., Guilford-Zimmerman Aptitude Survey, Beverly Hills, Scheridan Supply, 1947.

13. Hilliard G. H., Probable Types of Difficulties Underlying Low Scores in Comprehension Tests, Iowa State University, 1924. (P. 60)

14. Malmquist E., Factors Related to Reading Disabilities, Stockholm, Almquist and Wicksell, 1958. (P. 428)

15. O'Donnell R., Awareness of Grammatical Structure and Reading Comprehension, H. Sch. J. 45:184-8; 1962.

16. Prescott G. A., Sex Differences in Metropolitan Readiness Test Results, J. Ed. Res. 48:605-10; 1955.

17. Segel D. and Raskin E., Multiple Aptitude Tests, Palo Alto, California Test Bureau, 1955.

18. Thurston L. L. and Thurston T. G., Tests of Primary Mental Abilities, Chicago, Science Research Associates, 1938, 1953.

19. United States Information Service, General Aptitude Test Battery, Washington, U.S.I.S., 1958.