CHAPTER VIII

SUMMARY AND CONCLUSIONS.

In this chapter, attempt has been made to report in brief all the information about the test necessary for the selection of the test by the user.

The Test.

The test consists of the following eight subtests:-

Serial No.	Subtest	Number of items.
1.	Synnomyms	24
2.	Antonyms	24
3.	Analogies	21
4.	Classification	24
5.	Reasoning	15
6.	Inferences	11
7.	Arithmetic Problems	18
8.	Number Series	17

Expected Abilities.

Following abilities are expected to function for solving the items in the test:-

1. Verbal ability
2. Numerical ability

3. Ability to perceive relationships

4. Ability to make judgements

5. Ability to draw inferences

6. Ability to reason

7. Ability to abstract thinking

8. Ability to solve problems

9. Ability to follow directions

10. Memory

11. Speed of response.

Theoretical Bases.

The test has been constructed by adopting the hierarchical model of Burt and Vernon.

Population.

The population consists of all the pupils knowing Marathi and studying in standards VIII to X of the secondary schools in the Marathwada Region (Aurangabad Division) of Maharashtra State. The age group of pupils is 13-17 years.

Mode of Administration.

The test is to be administered strictly according to the instructions given in the manual.

Time Limit.

The test consists of two parts. Each part consists of four subtests.

The time limit for the first part is 35 minutes. The time limit for the second part is 38 minutes.

Scoring Answer Sheets.

Scoring of tests 1 to 6 is to be done by using the windowkey.

Scoring of tests 7 and 8 is to be done by using the strip key.

No correction is to be applied for guessing while finding the total score.

No weighting of the scores is to be done.

The total number of correct answers is the score of the individual.

Norms.

The norms are standard scores with a mean 100 and SD 16.4.

Separate norms for each age group have been provided.

No separate norms for boys and girls have been provided.

The size of the sample used for establishing norms for each age group are as given below:-

Age (years)	13	14	15	16	17	Total
Size of Sample	1320	1825	2088	1484	1028	7745

Summary of Results.

1. NVTI test of Dr. Nafde has been used as criterion while validating each test item. The high and low groups were formed by using NVTI test. The difference between the performances of high and low groups on each item, selected for the final form, was significant at both .05 and .01 levels of significance.

2. The test was administered to 2760 pupils for finding the difficulty index and discrimination index of each item, for each

age group.

All the items selected in the final form have discrimination index and difficulty index more than 0.25.

The items have been arranged according to the decending order of the difficulty indices of the items, as observed in case of the pupils of the age group 15 years.

20 % of items are having difficulty indices between .25 and .40, 60 % of them are having difficulty indices between .41 and .60 and the remaining 20 % of them are having difficulty indices above .60.

3. The mean, median, mode and SD of each age group and of the whole sample are as follows:-

Age	13	14	15	16	17	Whole group.
N	1320	1825	2088	1484	1028	7745
Mean	67.824	70.335	72.180	74.132	76.060	71.987
Median	67.833	69.920	72.084	73.865	75.811	71.690
Mode	67.851	69.090	71.892	73.351	75.313	71.096
SD	15.470	15.240	16.020	15.780	15.040	15.420

The difference between the means of the consecutive age groups is significant at both 0.05 and 0.01 levels of significance.

4. The nature of the distribution is studied by computing the skewness and kurtosis. The obtained values are as below:-

Skewness

Age	13	14	15	16	17	Whole group
SK	0.1930	-0.1330	-.0.6120	0.0920	-0.3350	-0,3820

1	2	3	4	5	6	7
SE_{Sk}	0.5137	0.4446	0.4323	0.5210	0.6377	0.2218
CR	0.5304	0.2985	1.4160	0.1766	0.5253	1.7230

Kurtosis

Age	13	14	15	16	17	Whole group
Ku	0.2574	0.2701	0.2549	0.2647	0.2599	0.2621
SE_{Ku}	0.0056	0.0071	-0.0081	0.0017	0.0031	0.0009
CR	0.7266	1.803	1.3210	0.2338	0.3550	0.2828

All CRs are insignificant at 0.05 and 0.01 levels of significance.So these values indicate that distribution is normal.

Graphical representation of ~~that~~ distributions of scores in the form of polygons and histograms indicate that the distribution is almost normal.

5. The reliability of the test has been computed by the following three methods:-

a. Test-retest method

b. Split half method

c. K.R. Method

The values obtained are as given below:-

Method	N	Reliability coefficient.	PE
Test-retest	350	0.81	0.0124
Split-half method	1300	0.95	0.002261
K-R method	7745	0.84	

6. The validity coefficients of the test, computed by different methods are as follows-

	N	Validity coefficient	PE
School Marks	400	0.5552	0.02333
NVTI	220	0.8586	0.01060

7. Factor analysis was done by Cetroid method. The size of the sample was 1000. Three factors have been extracted. Their magnitudes are as given below:-

Factor	Magnitude
'g' factor	79 %
Numerical factor	13 %
Verbal factor	8 %

8. The correlation of each subtest with the whole test is more than its correlation with any other subtest.

9. The IQ of each individual in the whole sample used for standardization was computed. It is observed that the distribution of individuals according to IQ in this group almost agrees with that of the sample used for standardizing L.M. forms of Stanford-Binet revision of 1937.

10. Mean IQ of the group is 100, SD 16.11, N being 7745.

Thus the test may be treated as a fairly reliable and valid test of intelligence that can be used with confidence for the vocational and educational guidance of pupils studying in standards

VIII to X in Marathwada region.

It may also be used for classifying pupils for research purposes.