Test scores reflect ability; they do not determine ability. Test scores may suggest, but never prove. We are much safer when we make interpretations based on the actual performance of those who had similar scores than when we try to tell an examinee, "This score means that you..........."

- Lyman

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RETROSPECT AND PROSPECT

Introduction

The norms being established and reliability and validity being determined, the test of general ability is now ready for use in the State of Gujarat.

A thorough process of construction and standardization has been described in the present volume. It has been observed that the two parts: Information and Reasoning: supplement each other so as to provide very useful estimates of general ability. The test items of both the parts have passed through minute statistical scrutiny at various levels of test construction.

The test has been standardized on a large representative sample of higher secondary school going population of Gujarat State. From the data of the population tested, grade norms, age norms, percentile ranks, deviation IQs etc., have been computed. The reliability and validity of the test, estimated by most of the methods and formulae, have been found to be sufficiently high.

Behind this strenuous and expensive work, there is a ray of hope that the test will now be utilized as a very well standardized, reliable and valid measure of general ability in the higher secondary schools of the State of Gujarat.
10.1 **Observations**

The following observations have been made during the process of standardization.

(1) **Sex Differences**

Divergent views prevail about the existence of sex differences with regard to general ability. It is observed during fixation of the norms that there are no significant sex differences among the students of the higher secondary schools of Gujarat. This supports that the test is free from any typical culture. The reason for this can also be ascertained that with equality of educational opportunities, girls as well as boys from all strata of society have started taking education. Harry Ruja states:

"Biologically sex difference is a genetic difference, no significant difference in intelligence between the sexes has been demonstrated".¹

This view supports the observation made during the present study that sex seems to have no role in determining one's general mental ability.

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From the data of age-groups, it is also observed that the mean scores of age-groups 15 through 19 are very close to each other, and that there is increase in the mean scores with increase in every subsequent age-group. This result is supported by Binet's hypothesis that "intelligence increases with the age, at least till maturity".

(2) Significance of Age-Groups

The present test is developed for the students of standards XI and XII. From the data of age-wise distribution of the total population, it is observed that there is no significant difference between the mean scores of age-groups 19 and 20 years. Hence while computing PRs and IQs, one extreme age-group, viz., age-group of 20 years, has been discarded at the time of further computations. The other reason of discarding age-group 20 is that, very less number of students of that age have been found studying in standards XI and XII; and that may be due to their late entry in the school or due to detention in some standard for one or more years.

The mean scores of the age-group 20 are very near to those of age-group 19. For calculation of IQs either the norms of the age-group that is nearer i.e. of 19 years, may be tentatively used to get approximate idea of IQ or to accept the limitation of the test and avoid further calculations. In fact, such cases might be very rare.

(3) Distribution of IQs

From the study of the IQ distribution, IQ classification and normality by $X^2$ technique, it is observed that the population under testing programme is normally distributed.

(4) Reliability and Validity Estimates

One of the essential steps in the process of standardization was to establish the test reliability and validity. The following observations have been made during the process:

(1) When the interval between the test and retest is short, reliability coefficient of the test is $0.85 \pm 0.0185$ and when the interval is long the reliability co-efficient is $0.71 \pm 0.0368$. From this, it can be concluded that reliability coefficients of the test decreases with the increase in retest-time-intervals and that memory and practice play their roles in achieving the scores on retest.
(ii) The standard error of measurement for the test ranges from 2.30 to 6.18. Therefore, the score of an individual will fall within ± 2.30 to 6.18 of his true score.

(iii) The reliability coefficients, computed by various methods range from 0.71 to 0.96. The comparison of test reliability indices with some well known tests of general mental ability suggests that the present test is highly reliable.

(iv) The results of cross validation on page 288 indicates that the test bears the ability of discriminating students with respect to general ability.

(v) The inter-correlation coefficient between the scores on both the parts of the general ability test is 0.83 and 0.88 which is fairly high. It shows that both the parts have in common one fundamental function. The factorial validity study supports this viewpoint, it has scrutinized that there is one common factor in the test.

10.2 Uses of The Test

The present test may be fruitfully utilized for several purposes described as follows:
(1) Vocational Guidance and Counselling

Many a students face the problem of selecting courses for their careers. Under such circumstances, the knowledge of students' general ability would enable the teacher to advise them to think about particular careers. It has been known that certain professions need persons with superior intelligence and that persons with normal intelligence may fit in several vocations. Thus the students may be guided in choosing a career befitting their abilities.

The 'Plus Two' stage i.e. higher secondary school stage is a peculiar stages wherein guidance given to the students on the basis of their abilities will have enough scope for brightening their future.

(2) Educational Guidance

Up-to-date maintenance of students' Cumulative Record Cards is a felt need of the modern schools. The test will be useful in recording the levels of general ability in the C.R.C. Such records will be much more useful at the time of planning individual guidance for students.

(3) Guidance to Under-achievers

It is recommended that the scores on general ability test may be compared with those on achievement test to identify students whose achievement is inconsistent with
their general ability. It is hypothesized that students who score higher on general ability test than on achievement test are under-achievers. Research studies on such students may be undertaken. Individual instruction programme may be planned for them and guidance may be given to such students. The present test can help in identifying under-achievers.

(4) Classification of Students

The teacher realize difficulties in teaching students, who are widely different in their capacities to learn. The teaching method and material suitable to the average class would bore the bright and confuse the dull. To remedy this, homogeneous groups of the students may be formed wherever possible. The present test can help in classifying the students of higher secondary schools.

(5) Class-room Survey

The educator should know the educund if she wants to be effective in the class. For this purpose, she can administer the test and study all the students entrusted to her.

(6) Conducting Researches

Innovations and change have their basis in experimentation and research. Research work is now receiving impetus in
the present educational set-up. The teachers are now motivated to take up action-researches and educational projects on class-room problems. It is obligatory for the M.Ed. students to conduct small scale researches for their dissertations. During the course of research studies, many occasions arise wherein they require to form parallel groups of students. The present test can serve as a dependable tool in forming equated groups.

10.3 Precautionary Measures

(i) This being a group test, it is administered to a number of students at a time. So the rapport, between the test-administrator and test-taker, which is essential in any psychological testing may not be accomplished to the extent to which it can be obtained in an individual test. If the group is found to have been disturbed for any reason, the test results may not be considered reliable.

(ii) It is observed from the range of IQs of the total population that the spread of the middle 50% of IQs is smaller than that of extreme groups. In other words, the discrimination for the normal student is not as distinct as it is for the brighter or dull ones. Hence at the time of prediction for the normal student, it is recommended that it might be confirmed by the other psychological test or tests.
(iii) There is every possibility of inaccuracy in the birth dates given by the students. As a precautionary measure, the birth dates may be checked with the help of school records.

10.4 Suggestions for Further Research

Research on any subject has no end. The psychological test has many dimensions of research which may be undertaken as a separate study. The following suggestions may be useful to the enthusiastic in research. They are as follows:

1. To study general ability of the students studying in different streams of the higher secondary schools in the context of socio-economic status.

2. To establish part score norms of the general ability test and to study their predictive implications.

3. To initiate individual case studies of the students who show poor academic achievement but have comparatively better performance in the general ability test.
To Conclude:

in the words of Wechsler:

"Although the IQ is the best single measure of intelligence, it is neither the only nor a complete measure of it. Intelligence, like personality, is too complicated an entity to be defined by a single number. It is a function of other factors besides sheer intellectual ability. Individuals having the same IQ's may differ considerably in either their actual or potential capacity for intelligent behaviour. In the practical classification of subjects, one often has to go beyond the point of merely obtaining an accurate IQ."