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Introduction

The importance and significance of the study have been discussed in detail in the introductory part of the present report. An attempt has been made to develop a general ability test to measure general ability and to take up studies on the role of general ability in relation to reading readiness. On discussing theoretical perspective of general ability and reviewing the related literature, it was decided to develop a general ability test.

A thorough process of construction and standardization of the test has been described in chapter V. It has been observed that the test containing two parts supplementing each other provides a very useful estimate of general ability.

The main objective of the present study was to investigate into the role of general ability in relation to reading readiness of the pre-primary school children. For that study, ANOVA technique employing 2x2x3 factorial design was used to observe the impact on general ability on different components of reading readiness and on reading readiness as a whole.
During the long process of standardization and statistical computations, the investigator made some unique observations and drew conclusions which have been reported hereafter.

The title of the present study shows the need to measure general ability and reading readiness of the children. Therefore, it was the first and foremost task for the investigator to search for the tools for measuring both the variables. After reviewing the tests developed in these areas, the investigator decided to develop an individual non-verbal general ability test for the children of pre-school age. For measuring reading readiness of the children, a test developed by Umrajwala has been used. The entire work has been divided into two main parts with a view to studying the role of general ability in relation to reading readiness.

(i) Development of the test of general ability, and
(ii) Studies on the role of general ability in relation to reading readiness.

7.1 Development of the Test

It was essential to develop a test for measuring general ability. Hence, in the beginning it was necessary to define very clearly the concept of general ability by
reviewing the tests developed in India and Abroad. After taking detailed theoretical perspective of general ability, the concept of Flanagan was accepted and based on that, a new test individual and non-verbal in form was developed and standardized on a sufficiently representative sample. The reliability coefficients by different techniques and validity indices have been established.

The grade-norms, percentile norms and Deviation IQs have been computed to help the user to interpret the test scores.

Behind this strenuous and expensive work, there is a ray of hope that the test can be used independently as a very well standardized, reliable and valid tool to measure general ability of the children of classes K.G.-I, K.G.-II and I in the Gujarat State. It will also be useful for conducting further researches in the field of pre-primary education.

7.2 Observations, Conclusions and Suggestions during the Test Construction

Certain observations were made during the process of test-development and some conclusion were drawn from the computations of test results. A few of the suggestions also have been made for meaningful uses of the test. Such of the observations, conclusions and suggestions are stated hereafter.
(1) **Sex-Differences**

Divergent views prevail about the existence of sex differences with regards to general ability.

As Harry Ruja writes:

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

It was observed during the fixation of the norms that there are no significant sex differences among the children of the classes K.G.-I, K.G.-II and Std. I of Gujarat State. The view of Harry Ruja supports the observation made during the present study that sex seems to have no role in determining one's general ability.

(2) **Significance of Age-groups**

The present test is developed for the children of pre-primary and primary children (standard first only). It is traced from the data of age-wise distribution of total population that there are significant differences between the mean scores of age group 3 and 4, 4 and 5 and 5 and 6. Hence while computing PRs and IQs, age-groups

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3, 4, 5 and 6 have been considered and age group 7 has been discarded due to very less number of children in that group. The mean of the age group increases with the increase in age groups from 3 to 6. This result is supported by Binet's hypothesis that "Intelligence increases with the age, at least till maturity."²

(3) **IQ Distribution**

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

(4) **Reliability Estimate**

The reliability coefficients established by different methods range between .87 and .97. All these coefficients are high enough to judge that the test is highly reliable and can stand well with the other tests of intelligence.

(5) **Validity Studies**

One of the essential steps in the process of standardization was to establish the validity indices of the test by different methods. The test was validated

with due care and caution. The validity indices .58 to .93 were estimated by different methods. The result of cross validity in chapter V, Section 5.3 (5) indicates that the test bears the ability of discriminating children with respect to general ability. The inter-correlation coefficients between the scores of Part I and Part II with that of the whole tests are .93 and .90 respectively, which are fairly high. That shows that both the parts have in them one fundamental function. The factorial validity study also supports this view by scrutinizing one common factor in the test.

(6) **Existence of one Common Factor in the Test**

From the factorial validation by Thurstone's Centroid formula, it is observed that there exists one common factor in the present test.

(7) **Suggestions on the basis of the Test**

The present test can be used by the pre-primary school teachers, administrator, teacher educators in the pre-primary teachers colleges, counsellors and researchers for different purposes. Some of the uses of the test of general ability are as follows:

(i) **Homogeneous grouping of children**

The teachers find it difficult to teach the children, who have different capacities of learning. It is likely to
happen that the contents of teaching which are useful to one type of children may not prove useful to the other type of children. If the teacher forms homogeneous groups of children according to their levels of general ability, varied situations can be handled by him properly. Thus, the present test can be helpful in classifying the children.

(ii) Knowledge about children

It is essential for the teacher to know children, to make his teaching effective and fruitful. The present test can be helpful in knowing the children.

(iii) Identifying the under-achievers

It is necessary to study the children whose achievement is below their level of ability. The children who score higher on general ability test than their academic achievement are the under-achievers. The teacher should try to know such children and individual instruction programme could be arranged for them. The present test will be helpful in this work.

(iv) Conducting Researches

To bring in new ideas in education, experimentation and research are necessary. The teachers can conduct small scale researches to solve their teaching problems. The present test will be an useful tool for them.
7.3 Findings on the role of general ability in relation to Reading Readiness

The important part of the present study was to investigate into the role of general ability in reading readiness with reference to different levels, area and sex.

The statistical methods like ANOVA, critical ratios and correlation techniques have been used to study the reading readiness of the kindergarten children in the context of general ability.

A sample of 400 children was taken for the study. The IQs obtained from general ability test and the scores of different components of reading readiness were matched with each other. Hypotheses were formulated for the study and the results were given statistical treatment.

Findings

The following are the findings on the basis of correlation matrix and of the studies on the role of general ability in relation to reading readiness.

7.3 (1) The role of general ability in different Components of Reading Readiness

The coefficients of correlation of general ability with the components of reading readiness, viz., (1) word meaning, (2) visual discrimination, (3) sentence meaning,
(4) copying, (5) auditory discrimination and (6) total scores of reading readiness are .71, .88, .76, .73, .81 and .83 respectively. Which are significant at 0.01 level of confidence. It means that the general ability and reading readiness along with every components of reading readiness are significantly and positively correlated.

7.3 (ii) The area variable

The area variable affects the achievement of the children of K.G. I and II in some of the components of reading readiness as well as in the total of all the components of reading readiness.

As per the findings of the present study, the children of K.G. I and II differ significantly in word-meaning and visual discrimination, while the children of K.G. I only differ in their achievement of total scores in all the components of reading readiness. In all these case the children of urban area show higher achievement in word-meaning, visual discrimination and in total of all the components of reading-readiness.

When compared on the basis of area-differences, the children of both the K.G. classes do not differ significantly in their achievement in sentence-meaning, copying skill and auditory discrimination while the children of K.G. II only do not differ in their achievement of total scores in all the components of reading readiness.
7.3 (iii) **General Ability Variable**

The general ability affects the achievement of the children of classes K.G. I and K.G. II in all the components of reading readiness as well as in their overall scores of reading readiness. It means that the children who fall under different levels of general ability vary significantly in their achievement in reading readiness and even in every separate component of reading readiness. As per the findings, the children who belong to above average level of general ability show higher achievement in reading readiness than those who belong to average and below average levels of general ability.

7.3 (iv) **Sex Variable**

The sex variable, as an independent factor, is not found as an influencing force in the total achievement of all the components of reading readiness taken together. However, the sex variable has been found affecting the achievement in auditory discrimination of children of K.G. I & II, whereas it has been found affecting the achievement in copying-skill of the children of K.G. II. In all the cases noted here regarding the components of auditory discrimination and copying skill, the boys show higher achievement than the girls.
7.3 (v) The Interaction between IQ and Area (IxA) Variables, between IQ and Sex (I x S) variables, between Area and Sex (A x S) Variables, and among IQ, Area and Sex (I x A x S) Variables

There is no interaction effect between IQ and area variables, between IQ and sex variables, between area and sex variables and among IQ, area and sex variable influencing achievement of children of K.G. I and K.G. II in every component of reading readiness as well as in the total components of reading readiness.

7.4 Suggestions

After drawing useful conclusions, certain suggestions have been offered keeping in view the administrators, teachers, parents and research workers.

The suggestions are as follows:

(1) The administrators should keep in view the levels of general ability of the children, while planning and executing any programme for the development reading in the children.

(2) The teacher should be aware of the level of general mental ability of the children during their communication in class-rooms.
(3) The teacher should be conversant with the correlates of reading readiness of the children so as to provide effective learning experiences to the children.

(4) The parents have an equal responsibility of co-operating with the educators by providing required information about their children. They can help in developing reading skills of children by providing good environment. Ambitious parents may help in the cause of remedial and developmental programmes for their children in relation to general ability of their children.

(5) Some more ambitious research workers may undertake related studies on the subjects mentioned below:

1. A study of the factors affecting reading readiness of the children of KG classes.


3. A study on reading readiness of the pre-primary school children in relation to socio-economic status.

4. To take case studies of the poor-readers having better levels of general ability.
5. To establish part-score norms of the General Ability Test to study predictive implications.

In the age of mass education, it is becoming increasingly difficult to individualize instruction. Therefore, it is more necessary for the good of nation to think in terms of implementing innovative methods and techniques of teaching-learning process on the basis of the results of the research studies like the present one. A planned programme for the infants of pre-primary education and the importance of awareness of general mental ability of children on the part of the teachers and parents is indispensable. The research workers may undertake studies on the other correlates of reading or of reading readiness for the benefit of all concerned with the education of children.