CHAPTER V

THE FINAL TEST AND THE SECOND ADMINISTRATION

5.1 Introduction

It is now time to put together all the findings and results so far obtained and described. It may then be possible to have a clear picture of the entire revised test battery that emerged from the present investigation so far completed especially after the 'purifying' process of item analysis. These are the tests on which the further studies, to be described now, are based. This chapter will also describe the various characteristics of the battery, to enable the readers to assess the intrinsic worth of the battery, and to establish this battery as an appropriate and efficient tool for differential, prediction. Table 15 present some descriptive characteristics of the tests, already described earlier in seperate tables.

TABLE 15

No. of Items and the Revised Time Limits of the various Tests in Revised DAT battery

Test	No. of items*	Time limit
Abstract Reasoning	50	35 minutes
Mechanical Reasoning	68	35 "
Space Relations	60	30 "
Numerical Ability	40	35 "
Clerical Speed and Accuracy-I	100	3 "
" " " " II	100	3 "
Verbal Reasoning	50	25 "
Language Usage-Spelling	100	10 "
" " Grammar	60	20 "

* the number of items is identical to those in Form L.

Scoring.-- In the earlier edition, i.e. Form A, the authors suggested the use of a scoring formula, which took into account the "correction for guessing" viz,

$$S = R - \frac{W}{K-1}, \text{ where,}$$

S = Correct Raw Score,
R = Right Score
W = Wrong Score
K = No. of alternatives.

For using this formula, Omissions (items reachedbut not answered) are considered as wrong responses. The correction for guessing is mainly devised to counteract the effect of random guessing in answering of an item. The correction is important for (1) speed tests, were due to the shortage of

1. Guilford, Psychometric Methods, p. 448.

time a person guesses (probably at random and marks more correct answers than he really knows), and (2) for those power tests where time is an important factor and where there are several unattempted items.[1] For the tests where ample time is allowed to mark answers, the 'correction for guessing' formula may not be necessary; in any case its use may not give better results than simple S = R (Right score equal to the number of right answers) formula. It may be assumed in such cases that the student had sufficient time to think and answer with full knowledge. Moreover, there are evidences to indicate that guessing is not purely random but is affected by several other intrinsic factors in the individual such as his preference for a particular number of words, his reading habits etc.[2] According to Gulliksen,[3] correction can be 'ignored' in power tests, especially when practically all items are marked by each of the students, as was in this case. Mehta[4] used only S = R formula for his timed power test of intelligence.

Probably on account of these reasons, the score of the tests of Form L, on which the present investigation is based is not corrected for guessing, but simply is the number of right answers.[5] Besides certain theoretical considerations,

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1. Guilford, Fundamental Statistics, in Psychology and Education, p. 480.
2. ibid.,
3. Gulliksen, Theory of Mental Testing, p. 246.
4. P.Mehta, A Study of Intelligence of Rajasthani Children, p. 59.
5. The Psychological Corporation, New York, Directions for Administration and Scoring and Norms: Forms L and M, p. 2-7.

this had much simplified the scoring. The present Indian revision also follows the same process. In fact, the liberal time is allowed in all tests, and the utter simplicity of the CSA items, makes the correction for guessing redundant. Even in the earlier edition-A and B the score on this test was not corrected.

Such simple scoring i.e. where the score is the number of correct answers also makes the marking of the tests easier for several users. This is an important consideration in India, as many of the teachers who are expected to use these, may not be fully conversant with the various scoring procedures. They, might be, as a consequence, liable to make errors in scoring, if a complex scoring formula, such as the one which involves the correction for guessing, is applied. It was suggested that for some more simplified process, probably a ready made table may be used for the scoring of the Indian answersheets of the DAT to reduce this possibility of not correctly following the formula (and the consequent possibility of wrong scoring).

5.2 Sample

During January 1964 a second administration of the finally prepared tests was planned. This timing was important as the scores were to be validated with the marks in various subjects in the annual examination that was held in April 1964, i.e.

three months after the testing. It is essential for the study of predictive validity of any testing instrument, that there is a lapse of time between the testing and the criterion. Doppelt and Seashore suggest that, "for the ideal validation experiment...the test should be given at the time of employment (or at the end of training) and the results hidden away until criterion ratings can be secured, say, three, six or twelve months later."[1]

At this administration was meant for the studies of reliability and validity, it was thought proper that the schools selected as sample should be typicalland representative of the common Delhi schools. It was an important consideration that the students reading in these schools are of mixed type in respect of the general intellectual level, academic performance, and the socio-economic status of their parents.

Other factors kept under view in selecting the schools were (1) that schools should be common; i.e. admission to such schools be not restricted to students of any particular class or religion, and (2) that they should be homogeneous, as far as possible, as regards the language spoken, so that the findings based on them could be transferred to an identical group. As the present revision was meant for Hindi speaking population, it was, therefore, desired that the schools should generally

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1. Doppelt and Seashore, How effective are your Tests, Test Service Bulletin no. 37, The Psychological Corporation, New York.

consist of students whose mother tongue was Hindi. It was thought that homogeneity in respect of the principal language spoken at home would extend the use of tests to areas where such groups also existed. Heterogeneity on the other hand, would limit the use of tests only to these particular schools in Delhi.

After framing the guide-lines, the investigator worked for selecting the schools. For this purpose, as for item analysis sampling, help was taken from the available records of the Delhi territory. The investigator found some statistical information regarding Delhi schools, from the records of Education Department and Statistical Division of the Delhi administration. He obtained the list of schools with their Higher Secondary pass percentage in 1961. From the Statistical Division of the Delhi administration, he obtained the age distribution of the 9th class school going population. This later information was necessary, as the students sampled had to be further stratified according to age distribution in the population.

The above considerations for selecting a random and typical sample-constituted an important step to make the tests useful for a larger group. "We do not wish our answer to be confined or restricted in the particular sample of observation made. We want to use the sample of observation to arrive at an answer to question concerning the

population."[1] As the population for the present investigation was the normal and average pupils of Delhi Higher Secondary Schools, it was considered appropriate that the study be made on an adequate sample, and the schools be selected on this basis.

It was further planned, as already mentioned, to stratify the students according to age, to bring more reliable results, which may be widely used. As Yeats observes, "stratification has two purposes. The first is to increase the accuracy of the overall population estimates. The second is to ensure that sub-division of the population which are themselves of interest, are adequately represented."[2] The age distribution of class IX, as obtained from the Statistical Division of the Delhi administration was kept as a guide for the final selection of the sample.

This issue of Rural vs. Urban schools was also considered but stratification on this basis was abandened because,

1. there is exclusive rural population in Delhi territory. What exist at the fringes of the industrialised city could at best be termed as semi-urban population. The residents of these areas are continually exposed to urban influence due to their proximity to Delhi and an efficient system of communication, and

2. seperate records were not available for population in rural or urban areas. However, a fair representation of such

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1. A.L.Edwards, Experimental Designs in Psychological Research, pp. 13-14.
2. F.Yeats, quoted in Mehta, op. cit., pp. 50-51.

semi-urban population was also aimed at.

Keeping these essentials in view, four schools were selected, two from urban area, and two from rural area, for administration of tests to the pupils of class IX.

The The schools selected[1] were:

a. Marwari Higher Secondary School.

b. Birla Higher Secondary School.

c. Govt. Higher Secondary School Katewra.

d. Govt. Higher Secondary School, Kanjhawala.

of which the last two were from the rural areas.

The average pass percentage for the two urban schools was 65%, for two rural schools 66.5%, and for all the four schools was 66%. It is clear that there is not much different from the average pass percentage of all schools under Delhi Administration, which was 63.9%, according to the governmental records. The total number of pupils who appeared in one or more tests was 251, drawn from all these 4 schools. Table 16 shows the schools and age distribution of the total number of pupils tested. It must be noted, however, that the total number of pupils mentioned therein did not take all the eight tests, though there were quite a number of common pupils (72) who appeared for all tests.

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1. In the following table, the schools will now be denoted by the corresponding letter a, b, c, d.

TABLE 16

Age Grade Distribution of Pupils in Schools in the Second Administration

Age	Schools (a)	(b)	(c) and (d)*	Total
11-12	1	--	1	2
13+	16	21	11	48
14+	42	16	29	87
15+	36	9	21	66
16+	19	3	10	32
17+	12	--	4	16
Total	126	49	76	251

* These two schools were combined as they both together represent the rural sample.

5.3 Administration

Some time before the actual testing was to be done, the writer went to each institution and discussed several problems which required cooperation of the authorities, including teachers. Such problems included, (1) the selection of a suitable testing place, where a hall was generally preferred, (2) suitable arrangements of the chairs and desks, and (3) deciding about the teachers who would help the investigator in (i) distribution of booklets and answersheets, (ii) invigilation, and (iii) collecting of copies.

The tests were given to students in groupsof about 50 each. A larger group than this was thought undesirable and unwieldy. The entire administration was spread over 2, 3 or 4 days in

different schools.

After all arrangements were finalised, the teachers, pupils and the investigator all gathered on the days fixed. The following general introductory explanation in Hindi was given to the group, before any copies were distributed.

"प्रिय विद्यार्थियो ! आज हम तुम्से कुछ दिलचस्प काम करवायेंगे, जिससे यह अनुमान लगाया जा सकेगा कि तुम लोगो की अलग अलग क्या क्षमताएं व योग्यताएं है ।

जैसा तुम जानते हो, हर व्यक्ति अलग प्रकार का होता है - प्रत्येक की शारीरिक एवं मानसिक कार्य क्षमताएं व योग्यताएं भिन्न-भिन्न होती है । यदि हम प्रत्येक की ऐसी क्षमताओं को पहिचान सकें, जिस मे वह बहुत योग्य है तो हम विद्यार्थी को उपयुक्त शिक्षा-क्रम या धंधे की सलाह दे सकेंगे, ऐसा करने से तुमको तो संतोष होगा ही, राष्ट्र का भी भला होगा ।

अब हम तुम्हे एक एक करके कुल सात परीक्षा - पुस्तिकाएं देंगे और प्रत्येक पुस्तिका के साथ एक उत्तर-पत्र । परीक्षाएं अलग अलग प्रकार की होगी और तुम्हे एक निश्चित समय मे प्रत्येक का उत्तर देना है । परीक्षाएं अधिक तर कुछ प्रश्नों या चित्रो पर आधारित है, और लगभग सभी ऐसी है जो तुम्हारे पाठयक्रमों के विषयों या अनुभवों से विशेष संबंधित नही है ।

प्रश्न का उत्तर अलग से दिये हुए उत्तर पत्र पर देना है, किस तरह के प्रश्न होंगे और उनके उत्तर किस प्रकार उत्तर पत्र पर अंकित करने है, यह तुम्हे प्रत्येक परीक्षण के पहले उदाहरणों द्वारा भली प्रकार समझा

किया जायगा । । तुम उन उदाहरणों को अच्छी तरह समझो और बिना किसी आशंका, भय या घबराहट के उत्तर दो । प्रत्येक परीक्षण का समय पूरा होने पर "बंद करो" कहा जायगा, यह सुनते ही तुरन्त पुस्तिकाएं बंद करदो और प्रश्नों - पत्र पर भी कुछ न लिखो ।

प्रश्न, या समस्याएं काफी सरल, व मनोरंजक है । दूसरे की नकल करने का प्रयत्न न करना, उससे तुम्हारा वक्त तो खराब होगा ही, यह भी हो सकता है कि दूसरों की नकल करके शायद उतना अच्छा परिणाम न ला सको जो अगर तुम अकेले करते तो लाते । क्योंकि जैसा मैंने कहा इन परीक्षणों में स्कूली अनुभवों का प्रभाव कम है और यह आवश्यक नहीं कि पढ़ने में अच्छा विद्यार्थी इन सभी योग्यताओं में भी अच्छा हो हो । वैसे तो तुममें से हरेक में कोई विशेष प्रकार की योग्यता दूसरों से अधिक मात्रा में है, इसका विश्वास रखो" ।

The following is the free English translation of the above passage:

"Dear students! I would require you today to perform some interesting tasks, which will enable me to assess the various aptitudes and abilities, which you may have in varying degrees.

It is a well known fact, and probably you are aware of it, that every individual is unique-physical or mental abilities of one are different from those of another. It would help ourselves to properly guide the pupils, about the career he or she should join or profession he or she should adopt, if we can know the varying degrees of abilities, one possesses. Such guidance will not help only yourself, but would also benefit the nation.

I would give to you, seven test-booklets in all, one by one. Each booklet will be accompanied by an answer-sheet. Each test is of different type and there is a time limit for each, within which it must be answered. Many of the tests are based on some questions or pictures; most of the tests are practically independent of your school and academic experiences.

The answer should be marked on a seperate answer-sheet; the example of the problems expected in any test, and the way of marking the correct answers on a seperate answersheet, will be explained to you before any particular test begins. Try to follow these instructions carefully and proceed on with answering the test items, in the manner explained carefully, with understanding and without any fear, embarrassment or nervousness. I will say "Stop" when the time limit for that particular test is over, and immediately you should stop doing any work and close your test booklets.

The problems or questions are simple and interesting. Do not try to copy your friend's answers; while it wastes your time, there is a possibility that you may not be able to mark your answers so well as you would if you had not copied. As I have already stated above, the tests are made in a way that the school and academic experiences have only a little or negligible effect on the performance and hence it is not necessary that a boy, good in the class, may be equally good in such test performances. Each of you have a specific ability better than the other, and your several abilities themselves differ in varying degrees. Therefore, proceeds with the tasks now presented with full confidence in yourself and without nervousness."

These general instructions were given to the group before actual administration. This brief explanation, reduced their nervousness and 'test fright'[1]. This also provided them with a general understanding of the purposes of the testing programme, and properly motivated them.

In all 251 students appeared for the tests of which about 200 appeared for each test. Some irregularly marked answersheets were straight away rejected, such as those not marked at all, or marked regularly for more than one alternative and without names. The answersheets were, then, stratified on the basis of age distribution in the general population. Table 17 shows the percentages of the distribution of pupils of class IX of Delhi Higher Secondary Schools, for various ages.

TABLE 17

Age Distribution of Class IX pupils of Delhi Higher Secondary Schools (1962)

Age	Percentage in Population	Percentage of Boys	Girls
11+	.30	.37	-
12+	3.12	2.45	4.40
13+	20.05	19.75	20.60
14+	35.00	35.12	35.25
15+	21.90	21.75	22.32
16+	12.00	12.00	11.15
17+	5.00	5.37	4.10
18+	1.80	2.00	1.35
19+	.70	.80	.60
20+	-	.12	.14

SOURCE: Records of Statistical Division of Delhi Administration.

1. This factor is quite important in India, where the testing situations are not so familiar and common.

As the sample for the present investigation consisted entirely of boys, the distribution proportion of only boys was taken into account. Incidentally, the distribution percentage of boys was identical to that of the general population (of both sexes), when the percentages were rounded to the nearest complete figure. Table 18 shows the rounded percentage of distribution of students of class IX which was taken into account for stratification.

TABLE 18

Age-wise Distribution of Pupils of Class IX Boys in Rounded Percentages

Age	Percentage in Population	Percentage of Boys	Rounded Percentage
11+	.30	.37	-
12+	3.12	2.45	3.00
13+	20.05	19.75	20.00
14+	35.00	35.12	35.00
15+	21.90	21.75	22.00
16+	12.00	12.00	12.00
17+	5.00	5.37	5.00
18+	1.80	2.00	2.00
19+	.70	.80	1.00
20+	-	.12	-
			100.00

After consideration of the desired percentage in each group, and rejection of excess answersheets at random, 170 answersheets remained. Table 19 presents the number of

answersheets that remained for each test on which further studies were based. A column in the table also shows the obtained age-wise distribution (in percentages).

TABLE 19

Final Distribution of the Sample of the Second Administration by Age for Tests

Age	MR	AR	NA	SR	LU-I	LU-II	VR	CSA	%
11-12	2	2	3	3	3	3	3	3	1.75
13+	37	37	36	36	36	36	36	36	21.20
14+	60	60	60	60	60	60	60	60	35.30
15+	35	35	35	35	35	35	35	35	20.60
16+	21	21	21	21	21	21	21	22	12.95
17+	15	15	15	15	15	15	15	14	8.20
N	170	170	170	170	170	170	170	170	100.00

Table 20 shows the number of students from each school, for each test.

TABLE 20

Number of Students from each School for each Test

Schools*	VR	AR	SR	MR	CSA	LU-I	LU-II	NA
(a)	71	74	71	74	77	72	72	71
(b)	28	26	24	26	-	26	26	24
(c)	18	15	17	15	3	19	19	17
(d)	26	25	31	25	24	27	27	31
N	143	140	143	140	101	144	144	143

* for the schools, denoted by these words, see p. 126.

The entire administration was done by the investigator himself. It was discovered afterwards that the students of 2 schools (school (b) and (c) in Table 20) had not observed the time-limit of 3 minutes for each part of the CSA. This was evident from full scores of 100 in many and high scores in most of the answersheets of these schools. Hence, these two schools were not taken into account while making the final studies on reliability and validity of CSA. Table 20 includes only the number of pupils for CSA test, from the remaining two schools, which were valid.

5.4 Distribution

Tables 1 to 8 in Appendix B, present the frequency distributions from grouped scores for various tests. The tables also present the various descriptive statistics. Table 21 shows the various statistics for each test in a summary form.

On inspection of the Table, it is evident that the distribution tends to be normal in most of the cases. The possible explanations for slightly skewed distributions may be that (i) it is not known that the distribution of aptitudes is normal, and (ii) even if we assume it is so, it may not be obtained in case of a differential battery, as the one under investigation. The sample was selected on basis of considerations, of its randomness, and representativeness. While the sample was normal, it might indicate differences as regards aptitudes,

TABLE 21

Descriptive Statistics for the Revised DAT Battery.

Test	N	No.of Items	M	Mode+	Median	S.D	Sk*	Ku*
Verbal Reasoning	170	50	23.35	23	26.50	7.25	-1.6478	3.64
Mechanical Reasoning	170	68	35.00	35	34.95	6.30	.067	2.90
Space Relations	170	60	18.21	16	18.59	3.18	1.833	5.57
Numerical Ability	170	40	19.95	16	19.70	6.85	.1931	3.90
Clerical Speed and Accuracy-II	101	100	41.16	43	45.50	8.23	-7.3082	4.13
Abstract Reasoning	170	50	21.70	16	19.85	9.15	2.6886	7.30
Language Usage-sp	170	100	59.80	61	59.82	9.00	-6.3484	4.87
Language Usage-gr	170	60	31.60	33	31.45	6.65	-2.2834	2.66

* Skewness and Kurtosis were computed from the 3rd and 4th moments of the Mean respectively.

\+ Mode has been roughly taken as the midpoind of the class interval, with largest frequency.

and it is not essential that distribution on all tests be identical. This is the essence of the differential testing. "If we have no criterion differences, we have no differential prediction...The discovery of such differences...is the proper activity of those of us who are concerned with differential prediction."[1] The distribution would be dissimilar depending upon the aptitudes of the individuals of which the sample group is composed.

Figures 1 to 8 on the following pages show the various frequency polygons from smothed frequencies. The smoothed frequencies have been worked out by the method given by Guilford.[2]

Skewness and Kurtosis.-- The significance can be estimated by the assumption that skewness less than 5 is moderate or small, and Kurtosis (alpharatio) is close to 3 in a normal distribution.[3] From this view, we find that Sk is not much in any of the tests except LU-sp and CSA, where the value slightly exceeds the maximum desirable value of 5. Alpharatio, as a measure of Kurtosis, does not deviate much in cases of LU-g, MR, NA, VR and CSA while in other cases, it appears to be slightly significant for this sample.

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1. A.G.Wesmann and G.K.Bennett, Problems of Differential Prediction, Educational and Psychological Measurement, 11:265-272 (Summer 1951).
2. J.P.Guilford, Fundamental Statistics, p. 47.
3. M.M.Blair, Elementary Statistics, pp. 168-172.

FIGURE 1. Frequency Polygon showing distribution of Scores for VERBAL REASONING Test

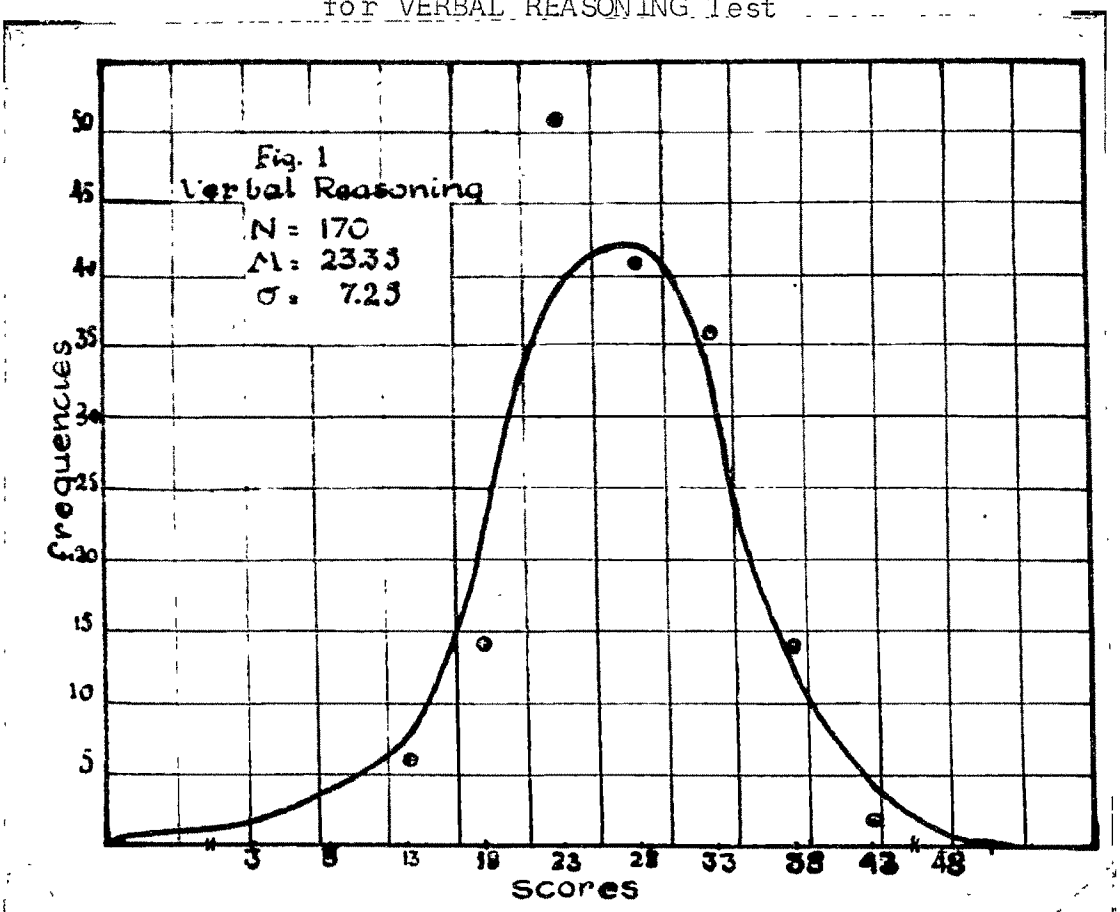


FIGURE 2. Frequency Polygon showing distribution of Scores for ABSTRACT REASONING Test

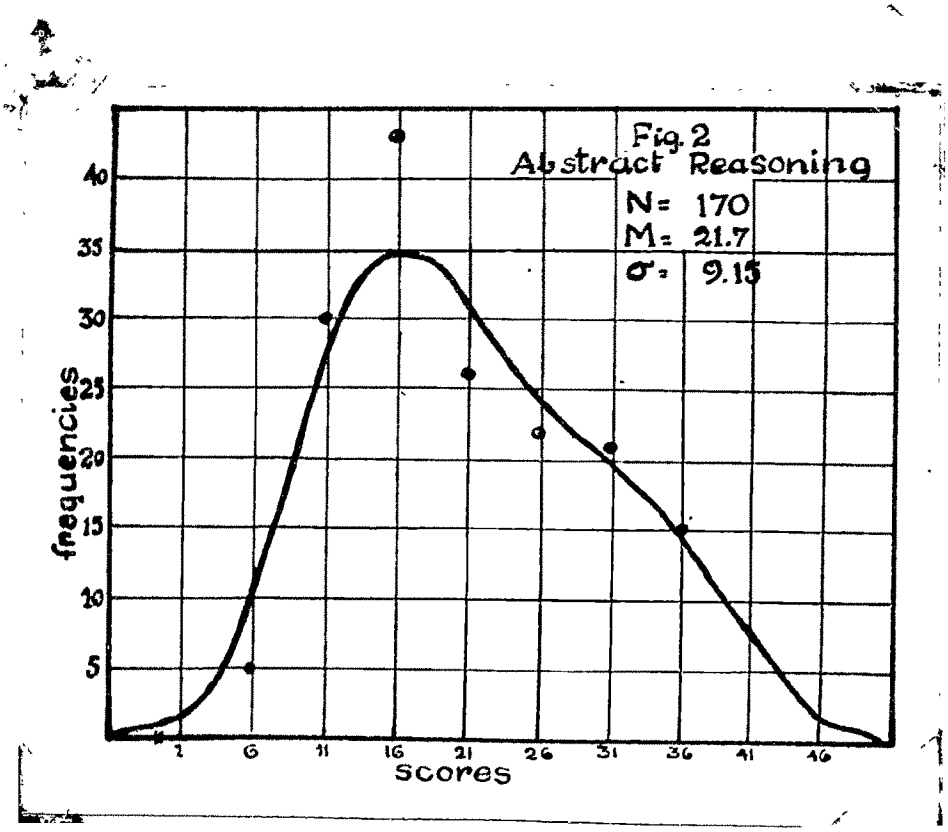


FIGURE 3. Frequency Polygon showing distribution of Scores for SPACE RELATIONS Tests

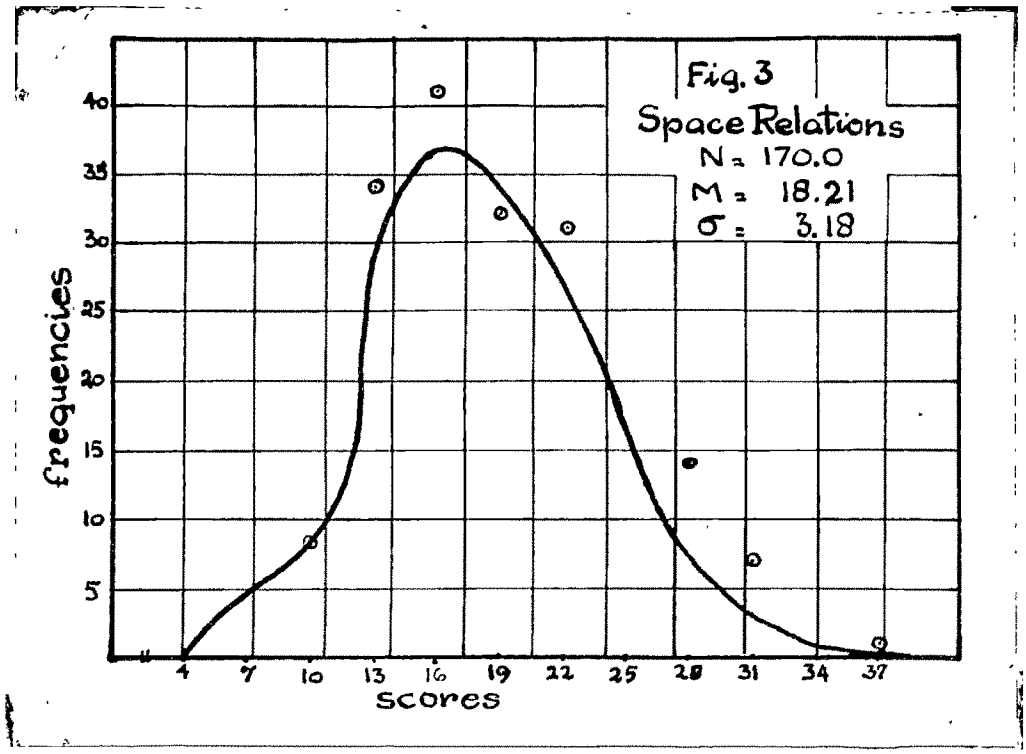


FIGURE 4. Frequency Polygon showing distribution of Scores for MECHANICAL REASONING Test

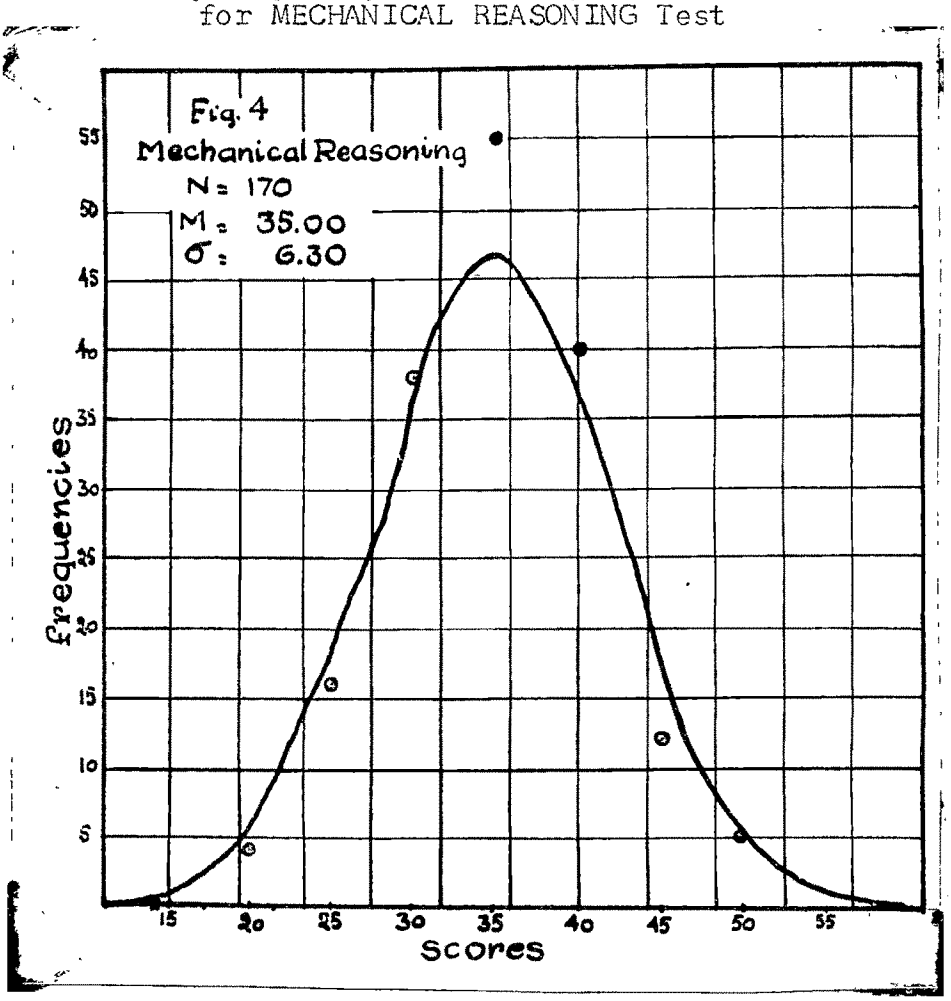


FIGURE [redacted] Frequency Polygon showing distribution of Scores for CLERICAL SPEED AND ACCURACY Test [redacted]

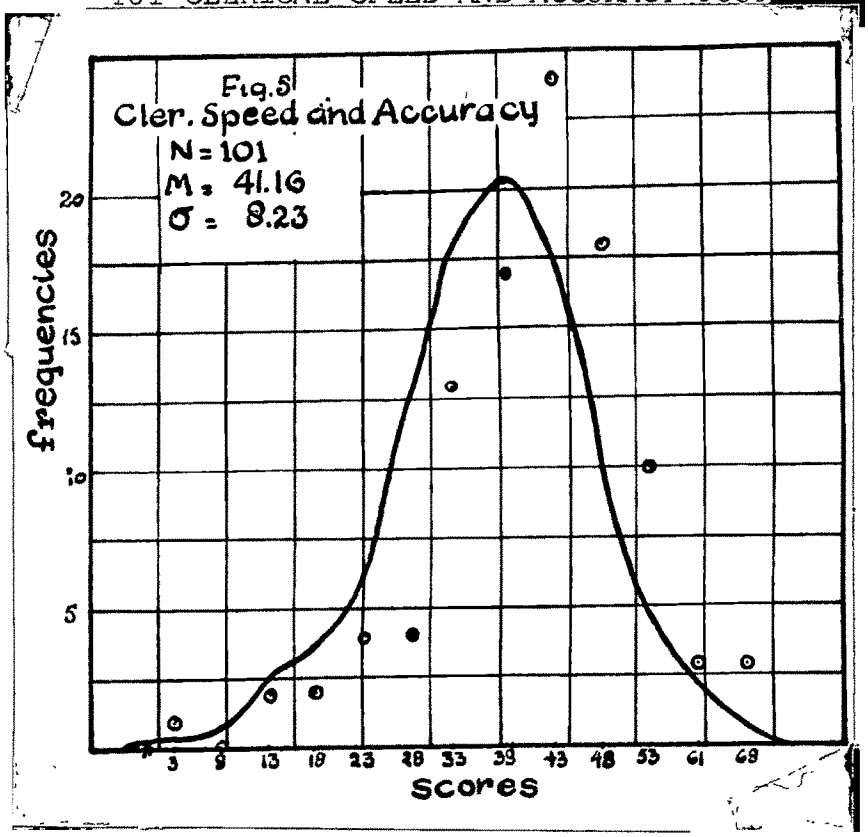


FIGURE 6. Frequency Polygon showing distribution of Scores for NUMERICAL ABILITY Test

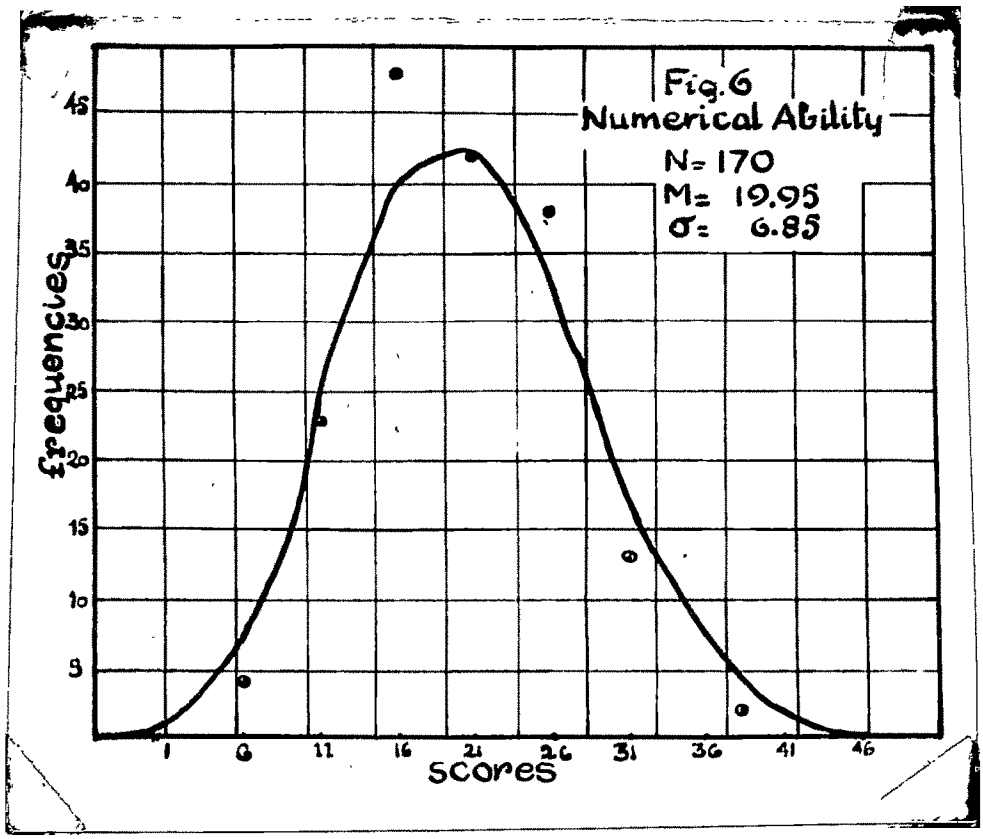


FIGURE 7. Frequency Polygon showing distribution of Sco[illegible] for LANGUAGE USAGE-SP Test

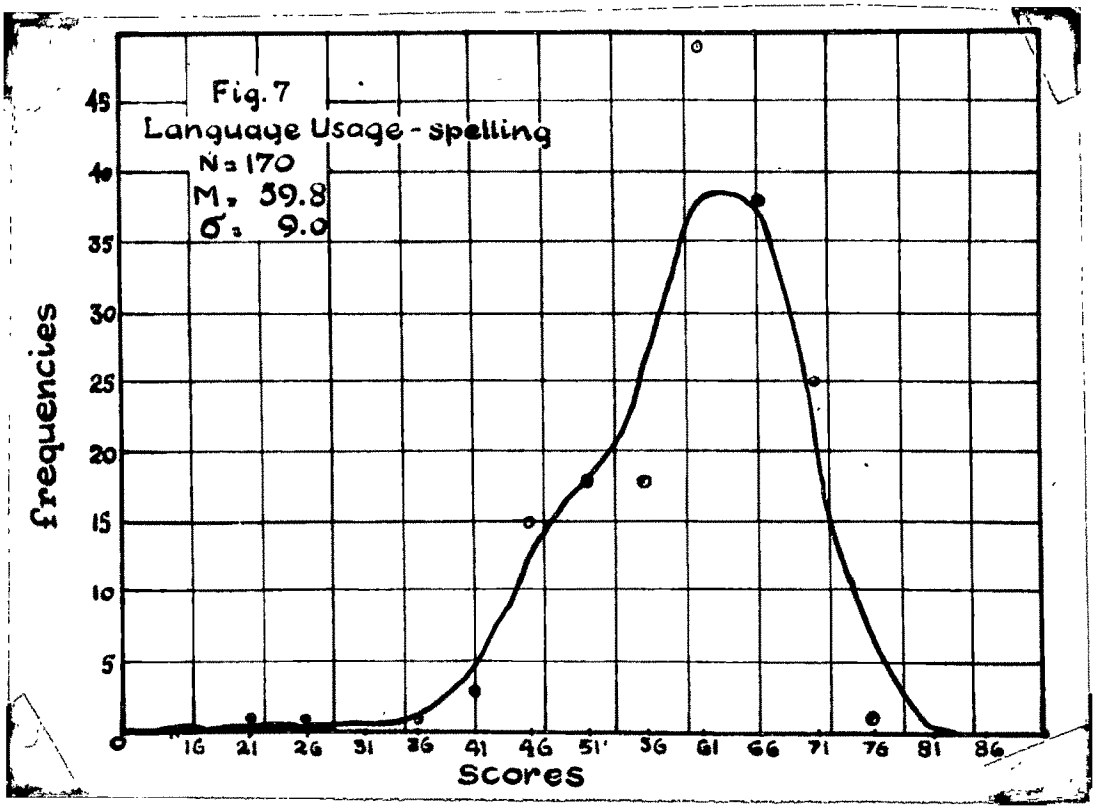
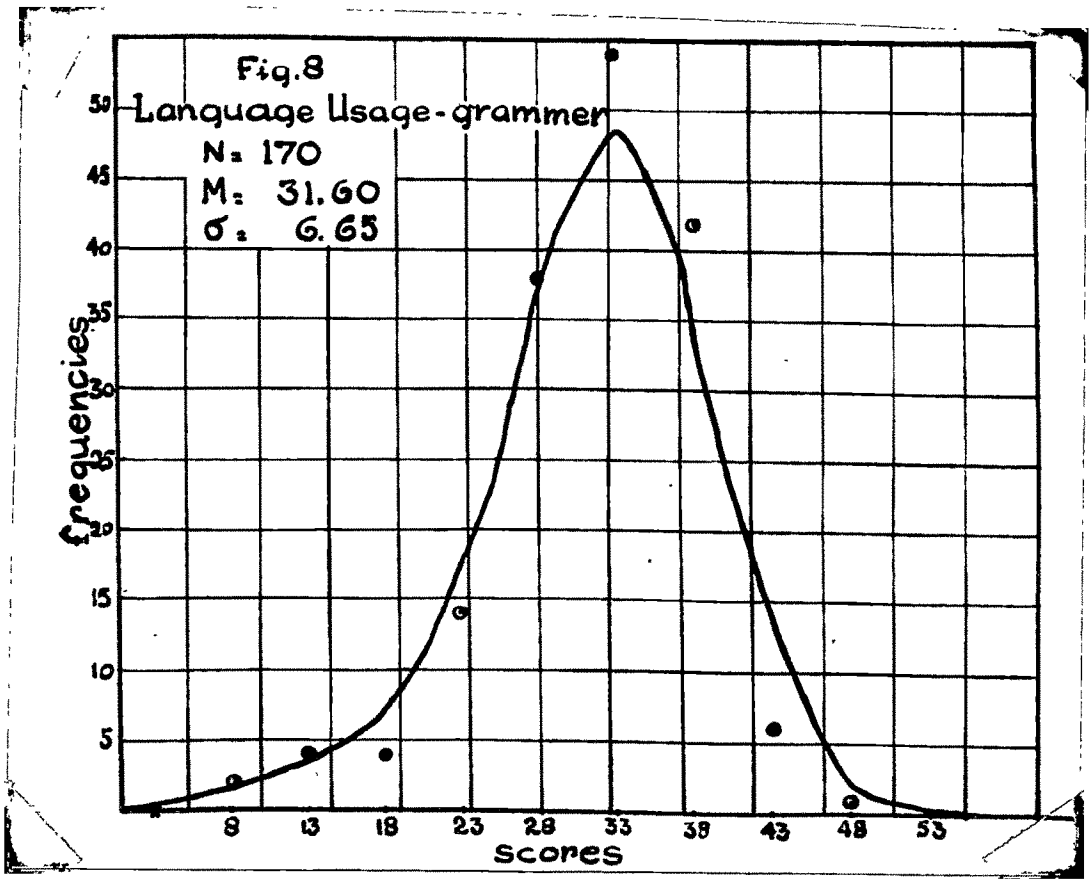


FIGURE 8. Frequency Polygon showing distribution of Scores for LANGUAGE USAGE-GR Test



5.5 Intercorrelation

In a differential test battery it is necessary to know that the tests included are not identical with each other, or in other words, do not exactly measure the same ability. If they do, it is not of much practical value to have more tests than what are essentially needed. We can infer, therefore, that lesser the inter-correlation between a pair of tests or sub tests, more independent they are for differential measurement. This quality is emphasized by all test makers.

The Intercorrelations between different Differential Aptitude Tests in the original study (for Form A, as figures for Form L were not available at the time this is being written) ranged from .06 (between MR and CSA) to .62 (between Language Usage-spelling and Language Usage-sentences). The inter-correlation between tests in the present study range from -0.19 (between LU-gr and AR) through 0 (between LU-sp and MR, NA and SR,) to 0.46 (between LU-gr and LU-sp.).

The Table 22 shows the full intercorrelation matrix. It may be noted that the only negative correlation of -0.19 between LU-gr and AR is not significant at all, but still this is an impressive figure, and indicates some unusual relationship between these two tests both of which are supposed to measure intelligence. This may be due to several reasons: it is possible that the two tests measure absolutely two different aspects of general intelligence, of which both

TABLE 22

Inter-correlations between Various Tests
(N = 72)

Tests	VR	AR	MR	NA	SR	CSA	LU-sp
AR	.16						
MR	.19	.23					
NA	.24	.33	-.12				
SR	.31	.21	.22	-.04			
CSA	.13	.01	.07	.47	-.24		
LU-sp	.21	.23	-.04	0	0	.20	
LU-gr	.45	-.19	.09	.17	-.04	.46	.22

tests are supposed to measure. The ability measured by AR is abstract, general, unlearned, while they are measured by LU-gr, is verbal and learnt. It is also possible that AR measures ability which is not yet manifested in the ordinary school life and academic environment, while LU-gr is evidently the one, which is always used and manifested in the school life. This possibility is indicated by the fact that AR has almost no significant relationship with any of the school subjects, in any of the four schools, where this test is given. This phenomenon, however, is revealing and a further investigation into this may prove interesting and probably some new light may be thrown on the nature of these tests. For our purposes, however, it may be taken for granted that two tests have little in common, and (as will be seen from the next section) the differential power of this pair is extremely great.

The intercorrelation, however, does not tell the whole story. While it indicates that to what extent the pair measures the independent traits, it tells us only slightly about the differential power of any pair of tests. It is obvious that the efficiency of the tests presupposes good reliability and the efficiency of the test per se depends on the reliability coefficient.

Various attempts have been made to assess this differential efficiency of tests by corrected inter-correlation or coefficient of alienation both of which take into consideration the (1) inter-correlation and (2) reliability. These methods, however, are not so effective, inasmuch as they do not take into consideration the fact that some of the apparent differences between tests may be due to the unreliability of tests due to chance effect.

Bennett, in his address to APA in 1947, suggested the use of finding out "differences in excess of chance proportion" originally suggested by Kelley.[1] He refers to the use of this method in evaluating the pairs of the DAT, and recommends it "highly both as a means of evaluating existing test combinations and as aid in the construction of new test batteries."[2] He has also devised a nomogram for easy computation of this "proportion of differences in excess of the chance

1. G.K.Bennett, The Evaluation of Pairs of Tests for Guidance Use, a Paper read before American Psychological Association, Detroit, 1947.
2. ibid.,

proportion." According to this method, the proportion should be minimum .25 (or 25%), "which is regarded by Segel as about the minimum degree of differentiation required for useful diagnostic tests."[1]

From the above criterion we see that all the pairs of tests in present investigation, have highly differentiating. All the percentages have been shown in Table 23.

TABLE 23

Proportion of Differences in Excess of Chance Proportion (Expressed as Percentages)

(N = 72)

Tests	VR	AR	MR	NA	SR	CSA	LU-sp
AR	41%						
MR	30	36%					
NA	46	45	39%				
SR	32	34	24	39%			
CSA	46	56	44	41	39%		
LU-sp	40	45	44	52	42	50%	
LU-gr	40	46	41	47	40	46	47%

It is evident from the Table 23 that all the percentages are much above, the minimum 25, except one (MR and SR) which is 24, but which is just about the minimum acceptable. The range is 24-52. It will be interesting to compare these figures with that of the original study where the range is 29-48 (for boys)

1. David Segel, quoted in Bennett, op. cit.

and 20-48 (for girls).[1] It is also interesting to note that the lowest percentage in both the studies (30 and 20 for boys and girls respectively for the original study and 24 in the present study) is between the tests MR and SR.

The tables and findings of the tests show the structure of the tests per se. Factor analysis was not attempted, firstly because it is not done in the original study, and secondly the DAT is not based upon a regular factorial study nor are the tests measures of pure factors (such as several other multi-factor batteries, mentioned in more details in chapter 2).

5.6 Summary

The chapter presents through various tables the characteristics of the final tests, which were prepared after the item analysis procedures described in chapter IV. The other portions of the chapter show the (i) frequency distribution and (ii) inter-correlations between various tests, which have been found to be quite comparable those in the original study.

In addition, the "Differences in excess of chance proportion" have been calculated for all possible pairs of tests. In all cases, the percentage is much above 25, which is usually considered as the minimum acceptable figure for a good differential test.

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1. Manual p. 70.