

**DEVELOPMENT OF STANDARDIZED
ACHIEVEMENT TESTS
FOR BRAC NFPE SCHOOLS**

(FOR GRADE III)

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EXECUTIVE SUMMARY

Measurement of learners' achievement in schools continues to be a great concern to educational administrators, teachers and guardians. Learner's status in the school, his/her future endeavors and many other personal attributes depend on achievements in school examinations. Though examination is a crucial factor in the formal education system it is not presently seen as an important element in BRAC's NFPE programme. Learners once admitted to the NFPE school are expected to complete the three year course unless one is dropped or moved out. Teachers rate their learners regularly in the class and provide remedial measures should it be necessary. This is the common approach in the nonformal system but it does not provide indicators that accurately measure students' cognitive performance and skills. After completion of NFPE schooling, most of the learners are expected to enter into the government primary schools either in grade IV or V depending on the result of some sort of admission test. As BRAC's NFPE programme includes quality inputs, the standard of output, ie., the learners' achievements are expected to be of high quality. That is why, it is all the more necessary that the NFPE graduates should be evaluated in reference to particular achievement criteria ie., test scores, so that necessary measures can be taken and changes required are incorporated in the programme for ensuring the quality set for it.

Considering these factors, a study for assessing learners' achievement at the end of grade III was proposed to be undertaken. The purpose of this study was to develop a standardized test on the basis of BRAC's NFPE curricula and teaching learning materials and develop a norm as a frame of reference to assess the learners' level of achievement.

A team of six Test Item Developers reviewed the whole NFPE curricula and educational materials of grade III and developed the test items on the basis of conventional methods of test preparation. They prepared a large (about 200) number multiple choice test items on each of the four subjects, namely, Bangla, Social Science, Mathematics and English. The items were then examined by the research team and after necessary modification, the draft test booklet consisting of about 100 items in each subject was prepared. This draft tests were then administered to about 200 learners for pre-testing and item analysis. Thus items having difficulty between 30 and 70 were selected for the final test battery provided the item's discrimination index and item-total correlation was .40 and above. In this way 30 items were retained in each of Bangla, Social Science and Mathematics sub-tests and 25 items were retained in the English sub-test.

The content and concurrent validity of the test battery was maintained by using the systematic approach. The trained Test Item Developers and the study team as a whole took special care for maintaining content validity through their considered judgement. The concurrent validity of the test battery was measured by correlating the sub-tests between and among themselves. The coefficient of correlations among the sub-tests were found to be high and significant.

The reliability of this achievement test battery was measured in two different ways: (a) by using Cronbach's 'alfa' coefficients and (b) coefficient of equivalence between the odd and even number items (split half) of the same test. In this case the reliability of the sub-tests and the whole test battery ranged between .85 and .94, and the Cronbach's Alfa value for the whole battery was .5962. These statistics show that the instrument is a reliable device so long it is used within its own limit.

Finally, a distribution of norms was developed for both boys and girls in each subject. The norm was based on the normal curve segmented into four different slots indicating different level of achievement 'A' through 'D'. Thus a learner's score falling in the range of A indicates 'Excellent' performance; score falling in the range of B indicates 'Good' performance; similarly C indicates 'Average' and D indicates 'Poor' performance. A test result sheet has also been developed for the use in future.

The NFPE achievement test battery is not meant for daily classroom use. It is a standardized instrument to measure a learner's achievement for the purpose of final grading or awarding certificates. It may be used for the purpose of research or evaluation of NFPE programmes of similar nature.

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I. INTRODUCTION

1.1 General

1.1.1 Measurement of learners' achievement in schools continues to be a great concern to the educational administrators, teachers and guardians. Learner's status in the school, his/her future endeavors and many other personal attributes depend on classroom achievement or the performance in examination. School examination plays a vital role in the behaviour pattern of a student, such as, a student becomes more serious as the examination approaches. From the very beginning of the school life teachers as well as parents in our country drive the students towards securing very high marks as the goal of pursuing education. As a result, examinations assume highest priority in our formal education system. But measurement of learners' achievement in the non-formal schools or in the literacy centres receive comparatively less attention. The planners, organizers as well as the donors of non-formal education programmes have so far given less attention to this aspect. It is widely believed that there are great variations in the performance of learners of non-formal education programmes run by GO/NGOs.

1.1.2 It is also assumed that learners greatly vary in their intellectual ability, aptitude and performance; even among the schools administered by a particular organization. It is, therefore, essential that the schools should have necessary tools to measure their educational performance to the optimum level of accuracy. This knowledge of achievement not only provides the progress of the learner, it also indicates the efficiency of the teaching-learning processes of teachers, quality and relevance of the curricula and the textbooks used by the schools.

1.1.3 BRAC is conducting nonformal primary education programme (NFPE) since 1985. It has vastly expanded the programme in recent years. However, their NFPE programme does not yet have any summative form of examination or testing scheme as such. Learners once admitted to the schools are expected to complete the three-year course with success unless one is dropped out. Teachers usually rate their learners continuously and provide any remedial measure should it be necessary in the classroom. No learner is left behind irrespective of his/her progress in the class.

1.1.4 In the absence of any terminal examination, BRAC non-formal education programme faces difficulty to interpret the educational ability of their graduates. Moreover, there is no scope of comparison of the NFPE graduates with those of the formal schools in terms of their educational attainment unless they pass a standard terminal examination. However, NFPE learners achieve variety of competencies expected to be comparable to grade three of formal primary schools. Therefore, after completion of three year course NFPE graduates are allowed to enter into the main stream of primary schools in grade IV or V depending upon the success in the admission test taken by the authority of primary schools. Such a trend of mainstreaming of nonformal students in primary schools is a recent development. This is why, it is all the more necessary that the NFPE graduates maintain at least a comparable standard of achievement in the NFPE schools.

1.1.5 Considering these factors, a study for assessing NFPE learners' achievement at the end of grade III was proposed to be undertaken. The purpose of this study was to develop a standardized achievement test on the basis of BRAC's NFPE curricula, teaching-learning materials used in grade III of the

NFPE schools. The study was undertaken by a team of researchers of Bangladesh Forum for Educational Development (BAFED) in association with two Research and Evaluation Division (RED) staff of BRAC.

1.2 The Objective

1.2.1 In view of the importance of a standardized achievement test battery for the children of nonformal primary schools, the project identified the following specific objectives:

- (a) To develop a paper-pencil multiple choice achievement test battery for the NFPE school students completing grade III or passed out from NFPE schools.
- (b) To prepare the test battery consisting of four school subjects i.e., Bangla, Social Science, Mathematics and English to be administered either individually or in group.
- (c) To prepare the test battery entirely on the basis of the curricula and teaching-learning materials of NFPE schools.
- (d) To standardize the test battery on a representative sample of BRAC NFPE learners.
- (e) To prepare score norms for boys and girls separately.
- (f) To develop a users manual for the test battery.

1.3. The Rationale for Achievement Test Battery

1.3.1 A test battery enables a teacher to assess learners' achievement of essential learning outcomes. Also this may help a user of the test to assess the attainment of a learner of a particular school as well as of schools in a region. Thus the test will provide an opportunity to examine the learners' performance and performance of the facilitator indirectly. Teachers as well as the

administrators try to assess their learners' classroom performance through some form of achievement test or conventional examinations. But these tests do not meet technical criteria of test development. Results obtained through these examinations can not be used for comparison with learners of other schools.

1.3.2 In the absence of any standardized achievement test, knowledge of the learner in a school can not be systematically studied and compared. Clear understanding about the nature and magnitude of the mental acquisition of children is essential for overall evaluation of teaching-learning environment and processes. The present rating method of the NFPE school is not sound for assessing the performance of the learners. In order to have a clear knowledge/understanding of learners' achievement in a particular school or among the schools a standardized achievement test is essential.

1.3.3 The NFPE achievement test battery will help the teachers as well as the programme personnel to assess the achievement of the children resulting from the teaching-learning process in NFPE schools. A single score obtained by a learner in the teacher made test do not provide any meaningful description of the learner's actual achievement. A score from a standardized test enables the user to examine that score in a broader perspective in relation to the peer group spread over the country. The NFPE achievement test, being a standardized battery, has developed norms of two groups separately for boys and girls.

1.3.4 The programme personnel sometime feel the need for comparing the learners and learning schools in terms of the student performance. It is hoped that this achievement test battery will allow comparison of learners within as well as among the schools. However, this does not mean that the

conventional testing system within the school should be replaced by this battery of test. This battery may be utilized by the researchers, programme administrators or the persons interested in the qualitative assessment of education in BRAC NFPE schools. However, it may also be remembered that this NFPE achievement test battery is a first attempt in the system of nonformal primary education. The usefulness and quality of the test in future will depend on two factors: (a) if the test battery is updated with changes in curriculum and (b) if it is administered carefully.

II. METHODOLOGY AND FINDINGS

2.1.1 The purpose of this study was to develop a standardized achievement test battery for the learners of NFPE schools completing grade III in BRAC schools. The test battery includes four sub-tests in four subject areas, eg., Bangla, Social Science, Mathematics and English. All the four sub-tests were based on the curricula and contents of the text materials in the NFPE schools in grade III.

2.2 Development of NFPE Achievement Test Battery

2.2.1 Prior to the development of test battery, a team of six test item developers were recruited. Out of this group (one male and five female) two were BRAC NFPE school teachers and the other four were recruited as test item developers having sufficient background in educational research and or experience in test construction. The reason for involving BRAC teachers were threefold: (i) BRAC teachers have experience of teaching in nonformal schools; (ii) their qualification, orientation and teaching processes are quite different from usual formal primary teachers; and (iii) BRAC teachers' firsthand knowledge of the NFPE learners. In addition, one research staff from BRAC was also associated full time with the study team.

2.2.2 Initially the team reviewed the whole NFPE curriculum and visited one NFPE school at Norshingdi, 50 Km. South of Dhaka. The purpose of this review was to be acquainted with the nature and environment of NFPE schools, their curriculum and teaching-learning materials and processes. The test developers were given three days training on test construction and preparation of test items. During this training period they were acquainted with different theoretical aspects of test construction and were involved in exercise of writing test items. Training was provided by experts from Institute of Education and

Research (IER), Dhaka University and the research team of the study.

2.2.3 After the training, the item developers were asked to write multiple choice type questions with four options on each of the four subjects such as, Bangla, Social Science, Mathematics and English. Subjects were assigned to the item developers on the basis of their specialization and proficiency in the subject areas. Two persons were asked to write test items on each subject independently. Approximately 200 test items were developed on each subject and each item were written on a 4" by 6" index card with the right answer on the reverse side. This helped the research team to choose from among a large number of test items. The questions/items developed were then examined by the research team along with the test developers. Items were read aloud, comments on every item were sought from the team members and necessary modifications were made. The first draft of the achievement test included all the items accepted. In the process, 85 items were selected for Bangla, 99 for Social Science, 98 for Mathematics and 93 for English sub-tests. The whole exercise of training and developing test items was completed within one month.

2.2.4 All the items of the first draft of the achievement test battery were again reviewed and edited by the research team for necessary modifications and qualitative improvement of test items prior to their printing in subjectwise booklets. Each booklet consisted of a half page instruction to the learners regarding their use. Separate answer sheet for the sub-tests was developed. The draft test for each subject was then produced and termed as pre-test booklet.

2.3 Pre-testing the Draft instrument

2.3.1 The final draft test booklets were then administered to about 200 learners of Grade III, who were just completing their courses, from seven

NFPE schools purposively selected from Dhaka city, Narshingdi and Jamalpur districts. For pre-testing purpose, the NFPE schools were selected on the basis of their accessibility and availability of learners who met the criteria (such as, they were almost at the end of their syllabi and courses by that time). Two Field Assistants (FA) were recruited and properly trained for a day for administering the test among the learners. The FAs, occasionally with one research team member, went to the selected schools with prior information and administered the four sub-tests in four consecutive days to all the learners present at the time of testing. The sub-tests were given in this order, Bangla, Social Science, Mathematics and English. Sufficient time was allocated so that students could finish answering the tests. In most of the cases the completion time ranged between 90 and 150 minutes. Some of the students who could not read some portion of the test or failed to understand certain items were assisted by the test administrators or the teacher.

2.4 Item Analysis

2.4.1 After administering the test all the answer sheets of the achievement tests were collected and edited. However, no answer sheet was rejected for not answering some items which might seem too difficult to some learners. The edited answer sheets were then fed into the computer for item analysis. For this purpose, the 'ITEMAN Version 3.50' (Copyright by Assessment Systems Corporation, 1993) was used. With the help of this programme; difficulty level, discrimination index and biserial correlation of each item of the respective sub-test were determined. Items in each sub-test falling between the difficulty level of 30 and 70 were selected for the final test provided their discrimination and correlation indices were 0.40 and above. In order to keep the number of test items fixed at 25 (in case of English) or 30 (in cases of Bangla, Social Science and Mathematics) two measures were taken: (a) number of test items from

chapters over represented was reduced on the basis of their relative merit, (b) from among the items representing the same content, one was accepted following the same principle. The number of test items in each sub-test pre-test and final test is shown in Table I. Selected items of the test battery are given in Appendix II.

Table 1

Number of Test Items in the Pre-test Forms
and the Form of Final Test

| Name of Sub-test | Items in Pre-test | Items in Final Test |
|------------------|-------------------|---------------------|
| Bangla | 85 | 32* |
| Social Science | 99 | 30 |
| Mathematics | 98 | 30 |
| English | 93 | 25 |
| Whole Test | 375 | 117 |

* The first two items are practice items hence will not be scored.

2.5 Validity of the Test Battery

2.5.1 Validity is commonly regarded as the essential quality of any psychological test. It refers to measure what it intends to measure. The NFPE achievement test developed to measure knowledge acquired by the learners on four different subjects (Bangla, Social Science, Mathematics and English). The measure of validity of this test is known as content validity. The trained test item developers and the study team as a whole took special care for maintaining content validity through their considered judgement.

2.5.2 To determine the concurrent validity it was decided to correlate the test score with the day-to-day achievement scores of learners in the NFPE

schools. But it was found difficult because of the teacher's approach of rating in the class. No consolidated score on any subject was available to compare the learner's performance with the present NFPE achievement test battery.

2.5.3 However, in the absence of consolidated score of classroom performance of the learners the correlation among the sub-tests were computed to determine the validity of the test battery. This is another way of determining validity which is known as concurrent validity. The result of this correlation measures are shown in Table 2. The coefficient of correlations among the sub-tests as indicated in the Table 2 represent a very good relationship between and among themselves. The result provides the fact that, though it is possible to use any sub-test independently, the whole test is more effective than its component parts if any one sub-test or more are used separately. However, considering the content and concurrent validity of the NFPE achievement test battery, it may be mentioned that the instrument will be able to measure the learners knowledge in the indicated subjects with significant level of satisfaction.

Table 2

Correlation Matrix Between the NFPE Achievement Sub-Tests

(N = 522)

| Subjects | Bangla | Sos. Sc. | Mathemat | English | All Tests |
|-----------|--------|----------|----------|---------|-----------|
| Bangla | 1.0000 | .6482 * | .4836 * | .5026 * | .8133 * |
| Sos. Sc. | | 1.0000 | .4478 * | .4498 * | .7820 * |
| Mathemat. | | | 1.0000 | .4551 * | .7606 * |
| English | | | | 1.0000 | .7686 * |
| All Tests | | | | | 1.0000 |

* Significant at .001 level.

2.6 Reliability of the Test Battery

2.6.1 The term 'reliability' is used to describe one of the most significant properties of a set of test scores, that is, how consistent or error free the test scores are. Test scores that are highly reliable are also accurate, reproducible and generalizable in other testing occasions. The reliability of present achievement test battery has been measured in two different ways: (a) by using Cronbach's 'alfa' coefficients and (b) coefficient of equivalence between the odd and even numbered items (split half) of the same test. Table 3 provides the correlation coefficients of the sub-tests and Cronbach's 'alfa' coefficient of the whole test battery. The result of these indices are shown in Table 3. In this table both the split-half and the whole test reliability coefficients were measured by using the Spearman Product Moment formula. Results indicate that all the sub-tests as well as the whole test are highly significant in terms of their reliability.

Table 3

Correlation Indices of the Sub-tests and the
Achievement Test as a Whole

| Sub-Test | Split half 'r' | 'r' for the whole test | Cronbach's 'alfa' value |
|----------------|----------------|------------------------|-------------------------|
| Bangla | .7416 * | .8516 | -- |
| Social Science | .6826 * | .8114 | -- |
| Mathematics | .7511 * | .8579 | -- |
| English | .7120 * | .8318 | -- |
| Whole Test | .8940 * | .9440 | .5962 |

* Significant at .001 level.

2.7 Standard Error of the Measurement

2.7.1 Besides the mean, standard deviation and coefficient of correlations standard error of the whole test battery was also measured. Standard error of any measurement can provide an indication of the absolute accuracy of the test scores utilizing the observed score scales. These values are shown in Table 4.

Table 4

The Mean, Standard Deviation and Standard Error of the NFPE Achievement Test Battery

| Subject | Items | Boys Mean | Girls Mean | Both Mean | Standard Error |
|--------------------|-------|------------------|------------------|------------------|----------------|
| Bangla | 30 | 18.56 (5.14) | 18.85 (5.07) | 18.77 (5.08) | 1.96 |
| Soc. Science | 30 | 17.88 (4.92) | 18.49 (4.57) | 18.31 (4.68) | 2.03 |
| Mathematics | 30 | 18.93 (5.49) | 18.67 (5.83) | 18.75 (5.73) | 2.16 |
| English | 25 | 12.87 (5.54) | 13.30 (5.61) | 13.17 (5.58) | 2.29 |
| Whole Test Battery | 115 | 67.97 (16.04) | 69.25 (16.74) | 68.87 (16.53) | 3.91 |

NB.: The Standard Deviations are shown in parentheses.

2.8 The Norms

2.8.1 Any isolated test score is of little or no value. To have a social or practical utility, the score must have some sort of frame of reference for the interpretation of individual raw scores. In this section, the norm is described as the deviation of a single score of any subject from the mean of the normative

group population. The 'Score Norms' are summarized in Table 5 on a four point scale or 'Grades' (viz. A, B, C and D). The norms are shown in terms of the scores and gender of the students.

2.8.2 The NFPE achievement test norms were derived from a large number of student sample ($N = 522$), taken from 12 districts (one district was dropped for the reason of inaccessibility at the time of survey), three from each of the former four Divisions, Dhaka, Chittagong, Rajshahi and Khulna. Within each district there were several thanas where NFPE schools just completed the third year course. The districts and thanas were selected on the basis of their location geographically spread over the whole country. Out of these thanas one was selected randomly and within that thana only two NFPE schools were chosen for administering the final test. The test was administered to all of the learners who were present in the schools at that time. Thus the total number of schools were 22 and the learners tested were 522.

Table 5

Distribution of Score Norms Among the Learners
According to the Subject and Gender

Sub-Test: Bangla

| Description | Grade | Boys | Girls |
|--------------------|-------|------------|------------|
| Excellent | A | 25 & above | 25 & above |
| Good | B | 20 - 24 | 20 - 24 |
| Average | C | 15 - 19 | 15 - 19 |
| Poor | D | 14 & less | 14 & less |
| Mean | | 19 | 19 |
| Standard Deviation | | 5 | 5 |

Table 5 (continued)

Sub-Test: Social Science

| Description | Grade | Boys | Girls |
|--------------------|-------|------------|-----------|
| Excellent | A | 24 & above | 24 & less |
| Good | B | 19 - 23 | 19 - 23 |
| Average | C | 14 - 18 | 14 - 18 |
| Poor | D | 13 & less | 13 & less |
| Mean | | 18 | 18 |
| Standard Deviation | | 5 | 5 |

Sub-Test: Mathematics

| Description | Grade | Boys | Girls |
|--------------------|-------|------------|------------|
| Excellent | A | 25 & above | 26 & above |
| Good | B | 20 - 24 | 20 - 25 |
| Average | C | 15 - 19 | 14 - 19 |
| Poor | D | 14 & less | 13 & less |
| Mean | | 19 | 19 |
| Standard Deviation | | 5 | 6 |

Sub-Test: English

| Description | Grade | Boys | Girls |
|--------------------|-------|------------|------------|
| Excellent | A | 20 & above | 20 & above |
| Good | B | 14 - 19 | 14 - 19 |
| Average | C | 8 - 13 | 8 - 13 |
| Poor | D | 7 & less | 7 & less |
| Mean | | 13 | 13 |
| Standard Deviation | | 6 | 6 |

Table 5 (continued)

Whole Test Battery (four subjects)

| Description | Grade | Boys | Girls |
|--------------------|-------|------------|------------|
| Excellent | A | 85 & above | 87 & above |
| Good | B | 69 - 84 | 70 - 86 |
| Average | C | 53 - 68 | 53 - 69 |
| Poor | D | 52 & less | 52 & less |
| Mean | | 68 | 69 |
| Standard Deviation | | 16 | 17 |

2.8.3 The norms of the NFPE achievement test scores were developed in the form of normal distribution and assigned 'Grades' in respect of the learner's position in the distribution. Thus a learner obtaining a score 'greater than the Mean plus one SD' was placed in 'Grade A'; similarly, a score 'greater than the Mean up to plus one SD' was placed in 'Grade B'; 'less than the Mean down to minus one SD' was 'Grade C' and 'Less than Mean minus one SD' was 'Grade D'. Details of the score norms and their distribution by Grades and gender are given in Table 5 in the previous pages.

2.9 Interpretation of Norms

2.9.1 Interpretation of an learner's NFPE achievement test score is quite simple. There are four sub-tests in the whole test, such as, Bangla, Social Science, Mathematics and English. Thus five set of raw scores (four for the sub-tests and one for the whole test) will be obtained. In order to find out the achievement level of the learner through the test battery the following steps may be followed:

Step 1: Administer the NFPE achievement test battery either individually or in a group following the instruction in the Test Manual. On completion of the test, sub-test scores will be available directly from the answer sheets by using the Test Key. For example when the learner's score set as $22-26-20-12=80$, it means that the learner obtained 22 in Bangla, 26 in Social Science, 20 in Mathematics, 12 in English and 80 in total. Put these scores into the Result Sheet (see page 19).

Step 2: Now go to Table 5 and check these scores with the corresponding subject and gender boxes. So in Bangla if the raw score 22 falls in the range of 'Grade B'; indication is that the boy or the girl is 'Good' in Bangla. Similarly, if the score 26 in Social Science falls in the range of 'Grade A', the learner is 'Excellent' in Social Science; if the raw score is 20 in Mathematics, the learner is placed in 'Grade B'; finally, if the score 12 in English falls in the range of 'Grade C', the learner is 'Average' in English.

Step 3: Now enter these Grades in the Result Sheet and interpret the grades in descriptive terms like Excellent, Good, Average or Poor. Using the test achievement of learners completing third year NFPE course, the result can be compared and studied across the country.

III DISCUSSION

3.1 The rapid expansion of non-formal education programme for out-of-school children in recent years is a unique phenomenon in Bangladesh. As such, there are many variations in the approach of this programme pursued by different NGOs. However, one of the common feature of the NGO NFPE programmes is absence of any terminal examination in the NFPE schools. Children's achievements are tested by the class teacher every week on the basis of certain criteria mostly memorization of learning contents. Most of the learners are expected to pass in the class test; remedial measures are taken for those who do not.

3.2 The system works well for the teachers as well as for the children in a particular school. However, there is no mechanism to assess the performance of groups of learners or make comparison within the NFPE system. This raises the question of quality of education provided by the NFPE schools. But assessment of quality of education in the NFPE school is not a simple task. It requires several things to be taken into consideration, such as, quantification of achievement among the learners and reviewing qualitative aspects of the system. The purpose of this study was to develop only an instrument that can quantify the learners achievement, a step towards the assessment of quality of education, with certain precision.

3.3 The NFPE achievement test on four subjects have been developed and standardized for the purpose of learner assessment. This test is not meant for daily classroom use. It is a standardized instrument to measure a learner(s) knowledge in the respective subject area whenever it is necessary to compare learner(s) performance with other individual/group in NFPE schools across the country. The test may also be useful for assessment of teachers indirectly in

different schools. Researchers should find this test to be a useful tool for their various quantitative and qualitative assessment of NFPE graduates. As it is applicable to most of the standardized tests, the present test also does not provide answers to all questions related to assessment of achievement of the learners.

3.4 The other limitations of this instrument are: (a) it is useful until the present BRAC NFPE curricula is in use, (if the curricula or the teaching-learning materials are changed, the instrument will need further revision); (b) this achievement test will not be able to measure learners writing and spoken ability in the classroom. However, since the test examines the acquisition of curricular contents and the ability of memorization, comprehension, analysis and applicability it may be assumed that the high achievers in this test will also show better performance in their writing and spoken ability. To ensure the assessment of these abilities, one may introduce separately a few writing and spoken components with this achievement test.

NFPE ACHIEVEMENT TEST RESULT SHEET
Grade Points

Name of the Learner:

School with Address:

Class:

Date:

| Subject | Raw Score | Grade |
|----------------|-----------|-------|
| Bangla | 22 | B |
| Social Science | 26 | A |
| Mathematics | 20 | B |
| English | 12 | C |
| Whole Test | 80 | B |

A - Excellent, B - Good, C - Average and D - Poor

Comments on the learner's performance

The performance of the learner is in general good, but s/he did poorly in English. More effort in English is needed.

Date:

Signature of the Teacher

RECOMMENDATIONS

The following recommendations are made by the study team:

1. The NFPE achievement test has been standardized for the completers of grade III of the BRAC NFPE schools, The learners who are at the end of third year course or have completed the course should take ^{the} test.
2. Any sub-test of the test battery may be used either independently or in combination provided the conditions for the target group remains the same.
3. The secrecy of the test must be maintained, ie., the test or any part of it should not be handed over to any teacher or supervisor unless it is ensured that s/he will not expose it to the others concerned.
4. The test should be used by a trained person and the scores along with its interpretation has to be considered with due attention to usual limitation of this kind of test battery.
5. The test may be used as a diagnostic tool for determining the strong and weak learner in the class provided the learner has completed 50% of the course. However, in this case a separate score norm need to be developed for the purpose.
6. The test battery has to be revised along with the revision of present curricula or change of any reading or learning materials of grade III.

APPENDIX

Table 1
Distribution of Indices of the Pre-test Items
of the Bangla Sub-test

| Item No. | Difficulty | Disc. Index | Biser. Corr. | Selected |
|----------|------------|-------------|--------------|----------|
| 1. | 69 | .24 | .25 | |
| 2. | 79 | .18 | .13 | |
| 3. | 37 | -.13 | -.15 | |
| 4. | 65 | .42 | .37 | |
| 5. | 70 | .43 | .48 | Yes |
| 6. | 74 | .43 | .51 | |
| 7. | 75 | .34 | .38 | |
| 8. | 85 | .29 | .53 | |
| 9. | 65 | .56 | .58 | Yes |
| 10. | 74 | .45 | .52 | |
| 11. | 63 | .15 | .13 | |
| 12. | 64 | .32 | .40 | |
| 13. | 74 | .59 | .72 | |
| 14. | 52 | .44 | .49 | Yes |
| 15. | 57 | .26 | .22 | |
| 16. | 65 | .41 | .44 | Yes |
| 17. | 88 | .31 | .67 | |
| 18. | 72 | .50 | .57 | |
| 19. | 64 | .70 | .76 | Yes |
| 20. | 33 | .20 | .14 | |
| 21. | 72 | .31 | .36 | |
| 22. | 74 | .37 | .43 | |
| 23. | 57 | .47 | .39 | Yes |
| 24. | 22 | .08 | .07 | |
| 25. | 83 | .31 | .56 | |
| 26. | 50 | .48 | .43 | Yes |
| 27. | 72 | .47 | .59 | |

Table 1 (continued)

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 28. | 32 | .49 | .49 | |
| 29. | 81 | .50 | .81 | |
| 30. | 40 | .54 | .47 | Yes |
| 31. | 81 | .46 | .74 | |
| 32. | 41 | .65 | .63 | Yes |
| 33. | 66 | .51 | .54 | |
| 34. | 21 | .10 | .04 | |
| 35. | 70 | .64 | .69 | Yes |
| 36. | 70 | .45 | .54 | Yes |
| 37. | 60 | .57 | .59 | Yes |
| 38. | 65 | .48 | .49 | Yes |
| 39. | 60 | .47 | .50 | |
| 40. | 61 | .29 | .28 | |
| 41. | 74 | .41 | .45 | |
| 42. | 24 | .27 | .31 | |
| 43. | 76 | .60 | .73 | |
| 44. | 63 | .56 | .58 | Yes |
| 45. | 75 | .55 | .71 | |
| 46. | 27 | .46 | .46 | |
| 47. | 66 | .66 | .68 | Yes |
| 48. | 43 | .48 | .52 | |
| 49. | 66 | .42 | .46 | Yes |
| 50. | 76 | .43 | .63 | |
| 51. | 63 | .47 | .51 | Yes |
| 52. | 64 | .44 | .41 | Yes |
| 53. | 65 | .40 | .49 | |
| 54. | 74 | .62 | .72 | |

Table 2

Distribution of Different Indices of the Pre-test
of Social Science Sub-test

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 1. | 95 | .13 | .68 | |
| 2. | 68 | .03 | .07 | |
| 3. | 67 | .49 | .50 | Yes |
| 4. | 56 | .26 | .21 | |
| 5. | 82 | .27 | .41 | |
| 6. | 88 | .13 | .47 | |
| 7. | 07 | .48 | .60 | Yes |
| 8. | 65 | .29 | .21 | |
| 9. | 79 | .29 | .41 | |
| 10. | 77 | .19 | .36 | |
| 11. | 65 | .18 | .12 | |
| 12. | 55 | .48 | .44 | Yes |
| 13. | 94 | .15 | .79 | |
| 14. | 82 | .32 | .45 | |
| 15. | 84 | .26 | .49 | |
| 16. | 83 | .08 | .17 | |
| 17. | 85 | .40 | .70 | |
| 18. | 55 | .33 | .27 | |
| 19. | 34 | .17 | .16 | |
| 20. | 89 | .25 | .59 | |
| 21. | 87 | .19 | .44 | |
| 22. | 88 | .15 | .35 | |
| 23. | 64 | .28 | .33 | |
| 24. | 65 | .68 | .70 | Yes |
| 25. | 53 | .52 | .47 | Yes |
| 26. | 82 | .34 | .42 | |
| 27. | 53 | .76 | .74 | |

Table 2 (continued)

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 28 | 66 | .62 | .67 | Yes |
| 29. | 52 | .48 | .43 | Yes |
| 30. | 58 | .55 | .56 | Yes |
| 31. | 71 | .46 | .55 | |
| 32. | 41 | .30 | .23 | |
| 33. | 64 | .39 | .43 | Yes |
| 34. | 45 | .57 | .44 | Yes |
| 35. | 67 | .68 | .71 | Yes |
| 36. | 49 | .57 | .42 | Yes |
| 37. | 51 | .50 | .46 | |
| 38. | 65 | .39 | .41 | |
| 39. | 39 | .43 | .35 | Yes |
| 40. | 80 | .19 | .35 | |
| 41. | 80 | .19 | .19 | |
| 42. | 51 | .35 | .36 | |
| 43. | 74 | .20 | .29 | |
| 44. | 10 | -.08 | -.23 | |
| 45 | 47 | .28 | .23 | |
| 46. | 87 | .32 | .69 | |
| 47. | 51 | .04 | -.00 | |
| 48. | 87 | .32 | .74 | |
| 49. | 40 | .28 | .21 | |
| 50. | 85 | .30 | .59 | |
| 51. | 70 | .55 | .62 | Yes |
| 52. | 46 | .34 | .29 | |
| 53. | 62 | .66 | .56 | Yes |
| 54. | 72 | .47 | .57 | |

Table 2

Distribution of Different Indices of the Pre-test
of Social Science Sub-test

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 1. | 95 | .13 | .68 | |
| 2. | 68 | .03 | .07 | |
| 3. | 67 | .49 | .50 | Yes |
| 4. | 56 | .26 | .21 | |
| 5. | 82 | .27 | .41 | |
| 6. | 88 | .13 | .47 | |
| 7. | 07 | .48 | .60 | Yes |
| 8. | 65 | .29 | .21 | |
| 9. | 79 | .29 | .41 | |
| 10. | 77 | .19 | .36 | |
| 11. | 65 | .18 | .12 | |
| 12. | 55 | .48 | .44 | Yes |
| 13. | 94 | .15 | .79 | |
| 14. | 82 | .32 | .45 | |
| 15. | 84 | .26 | .49 | |
| 16. | 83 | .08 | .17 | |
| 17. | 85 | .40 | .70 | |
| 18. | 55 | .33 | .27 | |
| 19. | 34 | .17 | .16 | |
| 20. | 89 | .25 | .59 | |
| 21. | 87 | .19 | .44 | |
| 22. | 88 | .15 | .35 | |
| 23. | 64 | .28 | .33 | |
| 24. | 65 | .68 | .70 | Yes |
| 25. | 53 | .52 | .47 | Yes |
| 26. | 82 | .34 | .42 | |
| 27. | 53 | .76 | .74 | |

Table 2 (continued)

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 28 | 66 | .62 | .67 | Yes |
| 29. | 52 | .48 | .43 | Yes |
| 30. | 58 | .55 | .56 | Yes |
| 31. | 71 | .46 | .55 | |
| 32. | 41 | .30 | .23 | |
| 33. | 64 | .39 | .43 | Yes |
| 34. | 45 | .57 | .44 | Yes |
| 35. | 67 | .68 | .71 | Yes |
| 36. | 49 | .57 | .42 | Yes |
| 37. | 51 | .50 | .46 | |
| 38. | 65 | .39 | .41 | |
| 39. | 39 | .43 | .35 | Yes |
| 40. | 80 | .19 | .35 | |
| 41. | 80 | .19 | .19 | |
| 42. | 51 | .35 | .36 | |
| 43. | 74 | .20 | .29 | |
| 44. | 10 | -.08 | -.23 | |
| 45 | 47 | .28 | .23 | |
| 46. | 87 | .32 | .69 | |
| 47. | 51 | .04 | -.00 | |
| 48. | 87 | .32 | .74 | |
| 49. | 40 | .28 | .21 | |
| 50. | 85 | .30 | .59 | |
| 51. | 70 | .55 | .62 | Yes |
| 52. | 46 | .34 | .29 | |
| 53. | 62 | .66 | .56 | Yes |
| 54. | 72 | .47 | .57 | |

Table 3

Distribution of Different Indices of the Pre-test
of Mathematics Sub-test

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 1. | 84 | .30 | .45 | |
| 2. | 10 | -.20 | -.40 | |
| 3. | 71 | .41 | .46 | |
| 4. | 42 | .08 | -.01 | |
| 5. | 72 | .24 | .22 | |
| 6. | 66 | .31 | .30 | |
| 7. | 70 | .63 | .62 | Yes |
| 8. | 89 | .27 | .53 | |
| 9. | 77 | .25 | .25 | |
| 10. | 74 | .54 | .66 | |
| 11. | 79 | .45 | .53 | |
| 12. | 87 | .39 | .65 | |
| 13. | 86 | .43 | .66 | |
| 14. | 69 | .48 | .48 | Yes |
| 15. | 55 | .75 | .65 | Yes |
| 16. | 67 | .50 | .50 | Yes |
| 17. | 72 | .50 | .50 | |
| 18. | 67 | .45 | .40 | |
| 19. | 72 | .54 | .56 | |
| 20. | 69 | .52 | .55 | Yes |
| 21. | 69 | .68 | .67 | |
| 22. | 65 | .72 | .66 | |
| 23. | 70 | .27 | .18 | |
| 24. | 68 | .43 | .41 | Yes |
| 25. | 63 | .61 | .56 | |
| 26. | 66 | .61 | .63 | |
| 27. | 64 | .61 | .60 | |

Table 3 (continued)

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 28. | 53 | .61 | .51 | Yes |
| 29. | 78 | .47 | .54 | |
| 30. | 78 | .52 | .65 | |
| 31. | 73 | .32 | .38 | |
| 32. | 70 | .48 | .54 | Yes |
| 33. | 75 | .32 | .39 | |
| 34. | 71 | .45 | .50 | |
| 35. | 62 | .38 | .37 | |
| 36. | 65 | .66 | .64 | Yes |
| 37. | 45 | .54 | .54 | Yes |
| 38. | 59 | .48 | .44 | Yes |
| 39. | 68 | .38 | .32 | |
| 40. | 67 | .48 | .46 | |
| 41. | 58 | .73 | .63 | Yes |
| 42. | 37 | .38 | .30 | |
| 43. | 22 | .14 | .25 | |
| 44. | 43 | .66 | .64 | Yes |
| 45. | 67 | .55 | .52 | |
| 46. | 65 | .63 | .66 | Yes |
| 47. | 44 | .52 | .48 | Yes |
| 48. | 41 | .86 | .84 | Yes |
| 49. | 51 | .68 | .61 | |
| 50. | 50 | .38 | .38 | |
| 51. | 62 | .70 | .62 | Yes |
| 52. | 31 | .58 | .66 | |
| 53. | 40 | .33 | .38 | |
| 54. | 27 | .15 | .12 | |

Table 3

Distribution of Different Indices of the Pre-test
of Mathematics Sub-test

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 1. | 84 | .30 | .45 | |
| 2. | 10 | -.20 | -.40 | |
| 3. | 71 | .41 | .46 | |
| 4. | 42 | .08 | -.01 | |
| 5. | 72 | .24 | .22 | |
| 6. | 66 | .31 | .30 | |
| 7. | 70 | .63 | .62 | Yes |
| 8. | 89 | .27 | .53 | |
| 9. | 77 | .25 | .25 | |
| 10. | 74 | .54 | .66 | |
| 11. | 79 | .45 | .53 | |
| 12. | 87 | .39 | .65 | |
| 13. | 86 | .43 | .66 | |
| 14. | 69 | .48 | .48 | Yes |
| 15. | 55 | .75 | .65 | Yes |
| 16. | 67 | .50 | .50 | Yes |
| 17. | 72 | .50 | .50 | |
| 18. | 67 | .45 | .40 | |
| 19. | 72 | .54 | .56 | |
| 20. | 69 | .52 | .55 | Yes |
| 21. | 69 | .68 | .67 | |
| 22. | 65 | .72 | .66 | |
| 23. | 70 | .27 | .18 | |
| 24. | 68 | .43 | .41 | Yes |
| 25. | 63 | .61 | .56 | |
| 26. | 66 | .61 | .63 | |
| 27. | 64 | .61 | .60 | |

Table 3 (continued)

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 28. | 53 | .61 | .51 | Yes |
| 29. | 78 | .47 | .54 | |
| 30. | 78 | .52 | .65 | |
| 31. | 73 | .32 | .38 | |
| 32. | 70 | .48 | .54 | Yes |
| 33. | 75 | .32 | .39 | |
| 34. | 71 | .45 | .50 | |
| 35. | 62 | .38 | .37 | |
| 36. | 65 | .66 | .64 | Yes |
| 37. | 45 | .54 | .54 | Yes |
| 38. | 59 | .48 | .44 | Yes |
| 39. | 68 | .38 | .32 | |
| 40. | 67 | .48 | .46 | |
| 41. | 58 | .73 | .63 | Yes |
| 42. | 37 | .38 | .30 | |
| 43. | 22 | .14 | .25 | |
| 44. | 43 | .66 | .64 | Yes |
| 45. | 67 | .55 | .52 | |
| 46. | 65 | .63 | .66 | Yes |
| 47. | 44 | .52 | .48 | Yes |
| 48. | 41 | .86 | .84 | Yes |
| 49. | 51 | .68 | .61 | |
| 50. | 50 | .38 | .38 | |
| 51. | 62 | .70 | .62 | Yes |
| 52. | 31 | .58 | .66 | |
| 53. | 40 | .33 | .38 | |
| 54. | 27 | .15 | .12 | |

Table 4

Distribution of Different Indices of the Pre-test
of English Sub-test

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 1. | 86 | -.12 | -.22 | |
| 2. | 90 | .25 | .53 | |
| 3. | 88 | .17 | .34 | |
| 4. | 89 | .25 | .45 | |
| 5. | 51 | .06 | .11 | |
| 6. | 74 | .25 | .32 | |
| 7. | 52 | -.05 | -.09 | |
| 8. | 83 | .30 | .47 | |
| 9. | 88 | .17 | .36 | |
| 10. | 64 | .59 | .59 | |
| 11. | 61 | .49 | .53 | |
| 12. | 69 | .38 | .41 | |
| 13. | 28 | .37 | .49 | |
| 14. | 87 | .28 | .52 | |
| 15. | 76 | .23 | .32 | |
| 16. | 69 | .31 | .37 | |
| 17. | 67 | .40 | .44 | |
| 18. | 63 | .35 | .36 | |
| 19. | 54 | .35 | .36 | |
| 20. | 57 | .63 | .57 | |
| 21. | 22 | .17 | .10 | |
| 22. | 63 | .59 | .62 | Yes |
| 23. | 57 | .42 | .43 | Yes |
| 24. | 78 | .07 | .17 | |
| 25. | 73 | .40 | .50 | |
| 26. | 63 | .33 | .39 | |
| 27. | 59 | .65 | .72 | Yes |

Table 4 (continued)

| Item No. | Difficulty | Disc. Index | Biser Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 28. | 76 | .40 | .50 | |
| 29. | 81 | .30 | .40 | |
| 30. | 60 | .37 | .42 | |
| 31. | 76 | .46 | .55 | |
| 32. | 58 | .28 | .27 | |
| 33. | 54 | .55 | .50 | Yes |
| 34. | 77 | .36 | .46 | |
| 35. | 93 | .19 | .54 | |
| 36. | 59 | .39 | .41 | |
| 37. | 69 | .44 | .47 | |
| 38. | 44 | .63 | .62 | Yes |
| 39. | 71 | .14 | .20 | |
| 40. | 86 | .10 | .20 | |
| 41. | 61 | .48 | .51 | Yes |
| 42. | 82 | .30 | .44 | |
| 43. | 41 | -.18 | -.25 | |
| 44. | 81 | .32 | .41 | |
| 45. | 83 | .36 | .55 | |
| 46. | 81 | .27 | .36 | |
| 47. | 88 | .36 | .73 | |
| 48. | 82 | .47 | .72 | |
| 49. | 52 | .41 | .43 | Yes |
| 50. | 72 | .59 | .64 | |
| 51. | 47 | .71 | .68 | Yes |
| 52. | 63 | .59 | .61 | |
| 53. | 69 | .64 | .71 | |
| 54. | 46 | .65 | .64 | Yes |

Table 4 (continued)

| Item No. | Difficulty | Disc. Index | Biser-Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 55. | 46 | .72 | .69 | |
| 56. | 49 | .47 | .49 | |
| 57. | 55 | .74 | .67 | |
| 58. | 47 | .78 | .75 | |
| 59. | 64 | .72 | .77 | Yes |
| 60. | 51 | .85 | .84 | Yes |
| 61. | 55 | .71 | .73 | |
| 62. | 36 | .39 | .42 | |
| 63. | 55 | .76 | .73 | Yes |
| 64. | 43 | .29 | .31 | |
| 65. | 53 | .78 | .71 | |
| 66. | 65 | .70 | .71 | |
| 67. | 47 | .82 | .76 | |
| 68. | 33 | .42 | .30 | |
| 69. | 55 | .71 | .67 | Yes |
| 70. | 51 | .54 | .50 | Yes |
| 71. | 55 | .58 | .61 | |
| 72. | 56 | .65 | .58 | Yes |
| 73. | 58 | .82 | .79 | |
| 74. | 44 | .72 | .70 | Yes |
| 75. | 50 | .65 | .62 | |
| 76. | 55 | .81 | .80 | Yes |
| 77. | 44 | .45 | .51 | Yes |
| 78. | 51 | .74 | .73 | |
| 79. | 41 | .22 | .26 | |
| 80. | 38 | .55 | .56 | Yes |
| 81. | 40 | .73 | .73 | Yes |

Table 4 (continued)

| Item No. | Difficulty | Disc. Index | Bisc. Corr. | Selected |
|----------|------------|-------------|-------------|----------|
| 82. | 41 | .63 | .62 | |
| 83. | 41 | .38 | .42 | |
| 84. | 57 | .82 | .68 | |
| 85. | 47 | .60 | .56 | Yes |
| 86. | 43 | .53 | .59 | Yes |
| 87. | 41 | .54 | .53 | Yes |
| 88. | 22 | .04 | -.05 | |
| 89. | 38 | .35 | .40 | |
| 90. | 41 | .40 | .46 | Yes |
| 91. | 21 | -.17 | -.31 | |
| 92. | 24 | .37 | .56 | |
| 93. | 33 | .49 | .55 | Yes |