

An Assessment of BRAC Pre-Primary Graduates in Formal Primary School

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**Research and Evaluation Division (RED), BRAC
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Chapter I

Introduction

In Bangladesh, generally at the age of 6⁺, children leave the homely atmosphere to start their formal education in an external environment¹. The stage where children leave home and family for the first time to enter in an unknown world of institutional education is very crucial and sensitive for the children to cope with. The formal education may be characterised by rules, regulations, and routine work, where children usually do not receive warmly atmosphere as enjoyable as the home. If the classroom environment is noticeably different from the home environment, it may cause a negative attitude of children towards school and education. This realisation initiates the concept of 'pre-school' preparation. In the developed society (U.K., USA etc.) the aim of pre-school intervention was to narrow the gap between the advantaged and disadvantaged children. Based on research findings on Pre-school programmes, it is argued that 'if carefully structured and implemented allowing contextual variability, children who had attended pre-school programmes were more likely to meet the basic requirements of schooling, and both they and their families were more likely to feel good about their progress and to have high hopes for the future' (Lazar and Darlington, 1982). Lazar and Darlington (1982) suggest that 'the early education experience may change children from passive to active learners'. Different preschool programme do have different effects. It was evident from the British and American literature that different curriculum models produce different patterns of later behaviour.

The state-owned education system of the country has not yet introduced any planned and systematic programme to deal with the matter of coping with external world for the first time movers from home to schools, especially the formal one. Having noticed the significance and the necessity of pre-primary/early childhood education and realising its absence in the country, BRAC Education Programme (BEP) has started pre-primary (PP) education programme for Bangladeshi children since 1998. The programme has begun with 40 PP schools and currently² there are 7500 schools and above. These schools are positioned in two sites: (i) in an adjacent room within the government or registered non-government primary schools (GPS/RNGPS) and (ii) in the catchment area of a GPS.

The general objectives of the pre-primary education programme are to: (i) create child-friendly education environment; (ii) motivate learners towards formal education institution and (iii) provide opportunities for IGA and further education to the local level adolescent girls. The specific objectives are to (iv) motivate and prepare children for formal primary schools; (v) reduce children's timidity and fear and prepare them to cope with formal schooling; (vi) improve the attendance in the formal schools; (viii) help pre-primary children to complete the cycle and reduce the dropout rate of govt. primary schools; and (ix) provide opportunities for IGA to the local adolescent girls by recruiting them as teachers for pre-primary schools.

It is a one-year programme including two contact hours per day and 6 week-days. Each pre-primary (PP) group is consisted of 25-30 children maintaining the girls' enrolment rate at 60% and above. After completing the pre-primary education, the children of two PP centres (maximum) are enrolled in the nearest formal primary schools. At present, the number of enrolled PP graduates in different GPS and RNGPS is 4560^{2a}.

¹ Many privately managed early education system has been introduced where children are enrolled at the age of 3⁺.

^{2, 2a} Information obtained in the first week of February 2004.

The present study is about understanding the contribution of BRAC's PP education on the preparedness of children for formal primary schooling. Based on empirical data, the study mainly made a comparative assessment of the achievement of children with pre-primary (may be called BRAC pre-primary or PP children) and without pre-primary orientation (non-pre-primary or NPP children) and their classroom performance. The study findings could be utilised to satisfy the formative purposes of further improvement of the PP programme by the concerned body. In 2003, another study³ on PP education was conducted for the similar purposes. The study sample included 52 pre-primary schools and 1040 children. The present study also included the 52 schools and children⁴ to make a follow-up study.

1. Objectives of the study

The main objective of the study was to examine whether the PP education was of assistance in facilitating children's learning in formal primary schools. The specific objectives were to-

- i. compare the performance of BEP PP children with that of NPP children who are studying in grades I and II of formal primary schools;
- ii. examine teachers' (class and head) evaluative opinion about PP education programme;
- iii. investigate the socio-economic status of the parents and
- iv. explore the community attitudes to the PP programme.

2. Methodology

2.1. Sample categories: The subjects for the present study were pupils of grade I and II, class and head teachers, teachers, parents, and SMC members.

- a. Schools: A sample of 100 primary schools, where BEP pre-primary children were studying, was selected. Among these schools, (i) 52 schools, considered in the study-2003, were reselected and (ii) 48 schools were selected randomly from a list supplied by the BEP. The schools were mainly two types: government run (GPS) and registered non-government primary schools (RNGPS). The selection of schools covered the divisions and the districts.
- b. Learner: The target sample size of children from each grade of selected schools was 20 with equal proportion of PP-NPP and boys-girl categories of children. The actual sample size of children of both the grades was 2522 (1946 of grade I + 576 of grade II) instead of 3040 (2000 of grade I and + 1040 of grade II). Children were selected at random from the classes.
- c. Teacher: The Head teachers of all 100 schools were selected for knowing their opinions. A sample of 149 (98 of grade I and 51 of grade II) class teachers was selected; only 3 teachers were of shortage than the desired sample size (152). Accidental sampling technique was used for selecting the class teachers.
- d. Parents: The sample of parents was determined based on the sample of children and interviewed mainly for SES data.
- e. SMC: members: A total of 51 SMC members were selected to know about various aspects related to BRAC's PP programme.

Utmost efforts were made to satisfy the target sample size for each of the categories. However, the study had to accept some variation in achieving the target sample sizes on some reasonable grounds: for example, pupils were absent or dropped out, the number of either PP or NPP children was less than 10 in the class register, number of girls or boys was less than 5, and so

³ The title is "The Impact of the BRAC Preschool Program on Student's Performance", by Data International (DI).

⁴ Now they are studying in grade II in formal schools.

on⁵. For 52 schools of study-2003, the sample was fixed and slightly over 50% of the target sample was drawn; no efforts were made to cover the desired sample size as the purpose was to follow-up the specific group. However, the difference between the desired and the actual sample sizes, except the children of 52 schools, was not very wide. Table 2 shows the desired and actual sample sizes of different categories of subjects used for the study.

Table 1: Categories and size of the samples

Sample category		Sample size	
		Actual	Prospected
Schools	From study-2003	52	52
	Newly selected	48	48
Students	Grade I+ Grade II	1946+576	2000+1040
Classrooms for observation	Grade I+ Grade II	196+104	200+104
Head teachers	All selected schools	100	100
Class teachers	Grade I+ Grade II	98+51	100+52
Parents	Grade I+ Grade II	1945+686	2000+1040
SMC member	Schools of study-2003	51	52

2.2. Tools and techniques for data collection

A combination of different instruments was used for collecting data from different sources. They are described below.

- Achievement Test:** Two achievement tests, one for grade I and one for grade II children, were developed and administered. The tests were developed based on the NCTB curriculum. The skills included in the test of grade I were listening, life skill, reading, writing and numeracy and the test of grade II was designed for assessing listening, speaking writing numeracy life skill, and English ability of learners. Both of the tests included both written and oral items and assessed only cognitive learning abilities of children. To get reliable data, the tests were administered individually. The test taking time was roughly between 10 - 20 minutes.
- Classroom Observation Checklist:** To investigate children's attitudinal and behavioural changes and performance in teaching-learning activities, an observation checklist was used. Two observations were made for each grade. The content of the checklist was about cultural norms (e.g., demonstrating respect to the teachers), children willingness to participate in the teaching-learning activities, obeying teachers' instruction and taking part in assessment activities. The duration of each observation was a full period (usually of 35 minutes) on any available subject.
- Interview Schedules:** Separate interview schedules for head teachers, class teachers, parents and SMC members were developed. Interviews were conducted with class teachers of each grade separately. The teachers were asked to compare PP and NPP children with regard to academic performance and some general aspects of children's behaviour. They were also asked to give their opinion about strengths and limitations of PP programme.

The interview with the head teachers and the SMC members emphasised the administrative and supervision aspects as well as opinions towards PP education programme including its strengths, weaknesses, and suggestions for further improvement. Parents were asked to supply socio-economic information as well as information and opinion regarding different aspects of PP education programme.

3. Piloting and finalisation of the tools: For using in the field, each of the tools was piloted. The achievement tests were administered on a representative group of grade I and grade II

⁵ Source: Field investigator's report and field visit at piloting stage, February 2004.

children and the interviews with a small group of class and head teachers, parents and SMC members were conducted using the preliminary developed tools. A trial of the observation checklist was made through observing teaching-learning activities in the real classroom settings. The field tests were held in Mymensingh (in Trishal) and Manikganj districts. After trialling, the instruments were revised, modified, and finalised. The piloting was done in two phases: one before selecting the field investigators and the 2nd trial was done after selecting and training of the FIs. In the later, the FIs also participated.

4. Selection of field investigators (FI) and training

Sixty-three FIs were selected for data collection. A person with a 'Bachelor degree' was primarily selected as an FI. The final selection was done through interviewing the initially selected persons. After selection, the FIs were given a three-day intensive training on the field investigation process. The training was held in the last week of February 2004. The training content included the study topic and its purposes, data collection methods and strategies, familiarising FIs with tools, piloting, and finalisation of the tools following an administration of the tools in the real field. The training sessions were conducted by the members of the Research and Evaluation Division of BRAC. After training FIs were divided into 3-member teams and six were selected as supervisors. There were 19 teams of FIs and each team was consisted of a team leader and two team members. The teams were then sent randomly to different schools situated in several sites. Each supervisor monitored at least three FI teams. The supervisors and some of the FIs had previous experience on field investigation process.

5. Strengths and weaknesses of the study

The study has some strengths as well as weaknesses, which are described below:

Strengths: The focus of the study was to compare the children's achievement. The study also explored the concerned people's (teachers', parents and SMC members) attitudes towards PP education programme. This will work as a feedback for further improvement of the programme. The achievement tests were developed based on the competencies described in the specific curriculum.

Weaknesses: In some classrooms, teachers' biased behaviour (more inclined towards PP oriented children) could not be controlled. The fieldwork was done in the beginning of the academic year (March 2004), only a limited number of classes were held in the schools. Consequently, few of the competencies could be assessed. Only cognitive and classroom behaviour of children could be assessed and compared. Application and other non-cognitive abilities of children could not be assessed.

Chapter II

Children's Performance

In this chapter, a comparative scenario of the performances of children with and without BEP pre-primary orientation is presented. The concentration is on examining the differences between the two types of children's learning achievement with respect to various education characteristics. The performances were assessed and compared by analysing the achievement test results and the frequency and quality of participation in the classroom activities.

2.1. Achievement Test

Two achievement tests were developed and administered on the selected samples of grade I and II children. Both of the tests were developed based on NCTB curriculum and they were consisted of items on Bangla, Mathematics, and Environmental Science; along with other subjects, items on English were included only in the grade II test. Both written and verbal abilities of children were tested. The tests were administered individually in order to get valid sample of pupil's learning. A realistic timeframe was maintained in administering the achievement tests. The test taking time was roughly from 10 to 20 minutes per student. The comparisons between the two types of children's (children with BEP pre-primary education: PP children; children without BEP pre-primary orientation: NPP children) performance were made mainly based on mean difference analysis.

Performance of Grade I PP and NPP Children

Achievement test for grade I was administered on 1946 grade I children of 100 schools. The test was consisted of 21 items and one (1) mark was allocated for each of the items. Thus, the lowest score for a child would be zero and the highest would be 21. The items were divided into five different learning skills, which were listening, reading, life skills, writing, and numeracy.

Achievement test scores

The achievement scores obtained by the grade I children varied from zero (0.0) to 21. Only one child in NPP group received a zero score, but the highest score 21 is acquired by 114 children; among them, more than twice (78) were PP children. The average score of the group was 14.80. Nearly half of the children (49%) received a score that was greater than the group mean score. Among them about two-third (65.3%) were PP and one-third (34.7%) were NPP children. Thus, the score distribution was positively skewed. That is the distribution was concentrated towards the higher scores [Table 2].

Table 2: Distribution of students by their achievement score

Children type		0 - 3	4 - 7	8 - 11	12 - 15	16 - 19	20-23	Total
PP children	f	2	26	108	246	414	206	1002
	%	0.2	2.6	10.8	24.6	41.3	20.6	100.0
NPP children	f	17	90	210	297	235	95	944
	%	1.8	9.5	22.2	31.5	24.9	10.1	100.0
Both children	f	19	116	318	543	649	301	1946
	%	1.0	6.0	16.3	27.9	33.4	15.5	100.0

Mean scores

The PP children of grade I differed considerably from the NPP children in terms of the individual group mean scores. The former group has a greater mean score than the later group (16.1 and 13.4 respectively). The difference was found to be statistically significant ($p < 0.001$). Again, the mean scores of PP children in different study skills were greater than NPP children's mean scores and the differences were found to be statistically significant (for listening at $p < 0.01$ and for all other skills at $p < 0.001$) [Table 3].

Table 3: Mean scores of grade I PP and NPP children by study skills and overall test

Study skills	Mean score			Level of significance
	PP children	NPP children	Both	
Listening	2.1	2.0	2.1	$p < 0.01$
Life skill	5.3	5.0	5.2	$p < 0.001$
Reading	1.2	1.0	1.0	$p < 0.001$
Writing	2.4	1.6	2.0	$p < 0.001$
Numeracy	5.0	4.1	4.6	$p < 0.001$
Overall	16.1	13.4	15.0	$p < 0.001$

Among the boys of grade I pupils, the PP children showed significantly better performance than NPP children with respect to overall test score and in the different learning areas. Listening scores of both the groups differed significantly at $p < 0.01$ and the differences of all others scores were significant at $p < 0.001$. Girls with PP education showed higher mean scores in different study skills and in the overall test than girls without PP education. The mean differences of all study skills, except the listening, and of the overall test were statistically significant ($p < 0.001$). Only in listening area, no significant difference was found between the performance of PP and NPP girls [Table 4].

Table 4: Mean scores of grade I PP and NPP boy and girls by different study skills

Study skills	Mean score of boys		Mean score of girls		Level of significance (PP boys-girls vs. NPP boys-girls)
	PP children	NPP children	PP children	NPP children	
Listening	2.1	2.0	2.1	2.0	$p < 0.01$ for PP vs. NPP boys ns for PP vs. NPP girl
Life skill	5.4	5.0	5.3	5.0	$p < 0.001$
Reading	1.2	1.0	1.2	1.0	$p < 0.001$
Writing	2.4	1.6	2.5	1.6	$p < 0.001$
Numeracy	5.1	4.3	5.0	4.0	$p < 0.001$
Overall	16.1	13.6	16.0	13.2	$p < 0.001$

Note: ns = not significant at $p < 0.05$.

Table 5: Mean scores of grade I PP and NPP students by sex

Sex	Boys	Girls	Both	Level of significance
PP children	16.1	16.0	16.1	ns
NPP children	13.6	13.2	13.4	ns
Both	14.9	14.7	14.8	ns

Note: ns = not significant at $p < 0.05$.

Gender differences were not observed within the PP and NPP children. Though boys showed greater mean scores (in the overall test) than those of girls in both of the groups (PP and NPP), the differences were not statistically significant at $p < 0.05$. [Table 5]. However, with respect to separate study skills, NPP boys showed significantly better performance in numeracy than girls did ($p < 0.01$; 4.3 and 3.9 respectively). When grade I children were grouped by boy and girl

categories only, boys mean score in numeracy was larger than that of girls (4.7 and 4.5 respectively) and the difference was statistically significant ($p < 0.01$). [See annex 1]

The difference between PP and NPP children's mean score with regard to type of schools (GPS and RNGPS) were statistically significant ($p < 0.001$) [Table 6]. In both GPS and RNGPS, PP children did significantly better in all separate study skills and in the whole test. For all skills, the differences between PP and NPP children's mean scores were statistically significant except the difference in listening performance in RNGPS.

Table 6: Mean scores of grade I PP and NPP students by school type

	PP children	NPP children	Both	Level of significance
GPS	16.21	13.4	14.8	$p < 0.001$
RNGPS	15.6	13.4	14.5	$p < 0.001$

With respect to different possible categories (e.g., sex, school type and study skills), there were statistically significant differences between the mean scores of PP and NPP children. This suggests that as a result of the PP intervention, the children, both boys and girls, were doing comparatively better in grade I of formal primary schools than those who did not have any pre-primary education background. It can be inferred that PP intervention had a facilitative impact on children's further learning in the 1st year of formal primary education.

Performance of Grade II PP and NPP Children

Achievement test for grade II was administered on 576 grade II children of 52 schools. The items of the achievement test were divided into six different learning areas: listening, speaking, writing, numeracy, life skill, and English. English included three language skills: listening, reading and writing. There were 45 items and a single mark (i.e., one) was assigned for each of the items. Thus, for the test takers, the lowest score would be zero and the highest be 45.

Achievement test score

The lowest score obtained by the grade II children was 8.00 and it was obtained by a PP children. The highest score was 45.00 and obtained by two NPP children. Slightly over half of the grade II children received a score, which was lower than the group mean score 26.4. Over half of the PP children (52.6%) received a score that was lower than the mean score. On the other hand, exactly half of the NPP children (50%) received a score which was greater than the mean score 26.4 [Table 7].

Table 7: Distribution of grade II children by their achievement score

Children type		Bellow mean score	Mean score (26.4)	Above mean score	Total
PP children	f	180	11	151	342
	%	52.6	3.2	44.2	100.0
NPP children	f	111	6	117	234
	%	47.4	2.6	50.0	100.0
Both children	f	291	17	268	576
	%	50.5	3.0	46.5	100.00

Mean scores

Among the grade II students, the NPP children showed larger mean scores in all learning skills as well as in the overall test than PP children. However, the differences, except the English, were not statistically significant [Table 8]. In English, the NPP children performed significantly better than PP children did ($p < 0.05$).

Table 8: Mean score of grade II children by separate study skill and student type

Study skill	PP children	Non-PP children	Both	Level of significance
Listening	4.1	4.2	4.1	ns
Speaking	2.5	2.6	2.6	ns
Writing	2.0	2.0	2.0	ns
Numeracy	9.7	9.9	9.7	ns
Life skills	4.1	4.2	4.1	ns
English	3.6	4.2	3.9	$p < 0.05$
Overall	25.9	27.1	26.4	ns

Note: ns = not significant at $p < 0.05$

The test results of grade II children were analysed by grouping them on the gender characteristics: boy and girls. No statistically significant differences were found between the mean scores of PP and NPP girls. In addition, the differences between the performance of PP boys and NPP boys in all separate study skills except in English, were not statistically significant (at $p < 0.05$). In English, the NPP boys performed significantly better than the PP boys did [Table 9].

Table 9: Mean scores of grade II PP and NPP boy and girls by different study skills

Study skills	Mean score of boys		Level of significance	Mean score of girls		Level of significance
	PP children	NPP children		PP children	NPP children	
Listening	4.2	4.4	ns	4.0	4.0	ns
speaking	2.6	2.8	ns	2.4	2.5	ns
Writing	1.9	2.2	ns	2.0	2.0	ns
Numeracy	10.0	10.3	ns	9.4	9.9	ns
Life skill	4.1	4.3	ns	4.0	4.0	ns
English	4.0	4.7	$p < 0.05$	3.3	3.6	ns
Overall	26.9	28.7	ns	25.2	25.4	ns

Note: ns = not significant at $p < 0.05$.

However, in general, boys performed significantly better than the girls did and in particular, the differences between the performances of PP boys and PP girls as well as NPP boys and NPP girls were statistically significant [Table 10].

Table 10: Mean scores of grade II PP and NPP students by sex

Sex	Boys	Girls	Both	Level of significance
PP children	26.9	25.2	25.9	$p < 0.05$
NPP children	28.7	25.4	27.1	$p < 0.001$
Both	27.7	25.3	26.4	$p < 0.001$
Level of sig.	ns	ns	-	

Note: ns = not significant at $p < 0.05$.

In terms of school type, NPP children in GPS showed larger mean scores than PP children. The difference was statistically significant ($p < 0.05$). However, in RNGPS, no statistically significant difference was found between the mean scores of PP and NPP children, though the former showed a larger mean than the later [Table 11].

Table 11: Mean scores of grade II PP and NPP students by school type

	PP children	NPP children	Both	Level of significance
GPS	26.4	28.0	27.0	p<0.05
RNGPS	24.6	23.3	24.1	ns
Both	25.9	27.1	-	-

Note: ns = not significant at p<0.05.

The differences between on-campus and off-campus PP children were not statically significant for separate skills as well as overall test (p<0.05). However, the mean scores of on-campus PP children were larger than those of off-campus children in all learning areas [Table12].

Table 12: Mean scores of grade II PP students by location of PP school

Location	Listening	Speaking	Writing	Numeracy	Life skill	English	Overall
On campus (OnC)	4.6	3.0	2.2	10.2	4.1	3.7	27.7
Off campus (OfC)	4.1	2.5	2.0	9.6	4.1	3.6	25.9
Both	4.1	2.5	2.0	9.7	4.1	3.6	25.9
Level of sig. (OnC - OfC)	ns	ns	ns	ns	ns	ns	ns

Note: ns = not significant at p<0.05.

2.2. Classroom Performance

Observation of classroom teaching-learning activities of grade I and Grade II were made. At least two observations were made for each grade. Each observation was done throughout the full duration of a period. A total of 300 observations were made: 196 for grade I and 104 for grade II. The observation schedule was developed to see the performance of both PP and NPP children in classroom teaching-learning process. The whole classroom activities were divided into three major areas: initiation, teaching-learning process, and assessment.

Scenario of children's participation in classroom activities

The participation were analysed by determining the percentage of classes they 'participated' and 'not participated' and identifying the percentage of classes with 'no opportunity' (or not applicable) for participation. In general, in all activities held during the classroom teaching-learning activities the participation rates of PP children was higher than that of NPP children.

Some of the activities, such as 'initial questions', 'writing', 'activities instructed by the teacher', 'home task', 'co-curricular activities' and 'lesson-end assessment' were not held in many classes (above one-fourth) of grade I and II. Thus, there was no opportunity for observing the children's performance with regard to these activities. Among these, teachers did not talk about 'home task' in most of the classes (82% of grade I and 81% of grade II). The percentage of classes 'without writing task' was higher in grade I than that of grade II (34.2% of grade I and 23.1% of grade II) whereas the classes with 'co-curricular activities' was larger in grade I than grade II (44.9% of grade I and 29.8% of grade II). [See annex 2 and annex 3]

Differences between the participation rates of PP and NPP children of both the grades

The participation rates of grade I PP children were significantly higher than NPP children in 'listening attentively to teacher instruction', 'writing', 'answering teacher questions', participation in 'teachers instructed activities', 'co-curricular activities', and 'answering lesson-end questions' [Table 13(a)].

Table 13 (a): Classroom performance of grade I PP and Non-PP children in various activities

Activities	Participation rate (%)		Level of significance
	PP children	Non-PP children	
<i>Initial activities:</i>			
1. Saluted the teachers	89.3	88.8	ns
2. Answered the initial questions	59.7	51.5	ns
<i>Teaching-learning activities:</i>			
3. Listened attentively to teacher's instruction	90.3	76.0	p<0.001
4. Participated in reading	91.3	86.2	ns
5. Participated in writing	62.2	52.6	p<0.05
6. Answered teachers questions	91.8	75.5	p<0.001
7. Participated in activities instructed by teachers	65.8	56.1	p<0.05
<i>Assessment:</i>			
8. Did home task	12.8	11.2	ns
9. Participated in co-curricular activities	41.3	28.6	p<0.001
10. Answered lesson-end questions	72.4	64.8	p<0.05

Table 13(b): Classroom performance of grade II PP and Non-PP children in various activities

Activities	Participation rate (%)		Level of significance
	PP children	Non-PP children	
<i>Initial activities:</i>			
1. Saluted the teachers	92.3	90.4	ns
2. Answered the initial questions	54.8	46.2	ns
<i>Teaching-learning activities:</i>			
3. Listened attentively to teacher's instruction	91.3	72.1	p<0.001
4. Participated in reading	89.4	79.8	p<0.05
5. Participated in writing	71.2	67.3	ns
6. Answered teachers questions	90.4	79.8	p<0.05
7. Participated in activities instructed by teachers	55.8	47.1	ns
<i>Assessment:</i>			
8. Did home task	12.5	11.5	ns
9. Participated in co-curricular activities	24.0	19.2	ns
10. Answered lesson-end questions	74.0	62.5	p<0.05

The difference between the participation rates of grade II PP and NPP children in the activities 'listening attentively to teacher instruction', 'reading', and 'answering lesson-end questions' were found to be statistically significant [Table 13(b)].

Chapter III

Socio-Economic Characteristics and Children's Achievement

Socio-economic characteristics of the selected children were investigated by interviewing the parents of the children. Efforts were made to examine the relationship between socio-economic aspects and learning performance of children. In this regard, children's mean scores were considered.

3.1. Socio-economic characteristics of grade I children

Among the grade I children, most (80%) were of between 6 and 7 years; some were over 8 years old and few were of between 4 and 5 years. However, quite a good number of NPP children (22%) were over-aged [annex 4].

Over three-quarter of the parents (76.6%) of grade I children had education up to either primary or secondary. Among them majority of the mothers (52.8%) and less than a half of the fathers (44.2%) had education up to grade V. Less than one-fourth (23.9%) of the parents did not have any school-education. PP children had larger percentage of parents with no education (25.9% mother and 25.3% father) than NPP children (21.7 mothers and 22.4 fathers). Percentage of fathers of both PP and NPP children were higher in secondary education than their mothers' percentage [annex 4].

Yearly food security status of the majority of the selected households was balanced (34.9%) or in surpluses (34.3%); over one-fifth (21.4%) of them were sometimes in deficit. Some of them (9.4%) were always in deficit [annex 4].

Majority of the mothers (62.6%) and most of the fathers (96.1%) were involved in IGAs. The main source of income for quite a large number of the families (41.5%) was selling labours and for over one-fourth of them (25.9%) was agriculture-work. A good number of the households (22.1%) were dependent on business for their earning [annex 4].

Most of the families' (both PP and NPP children) monthly income was up to four thousand taka. Majority of the households (54.6%) had zero decimal cultivable land though, over one-fourth of them (25.2% PP and 27.6% NPP children) had above 51 decimal lands [annex 4].

Most of the children (92%) were from Muslim families. The percentage of NPP non-Muslim children was larger than that of PP children. Majority of the parents (68.5%) spent up to 1 hour for their children's study and a good number of parents (29.9%) spent 2-3 hours [annex 4]

Age and children's performance

Mean scores of both PP and NPP children increased as the age increased. The difference between the mean scores belonged to different age group was statistically significant for both type of children.

Table 14: Mean score and standard deviation of grade I children by age

Age	Types of children		Level of significance
	PP children	NPP children	
4-5 years	14.5 (4.6)	11.6 (4.8)	p<0.05
6-7 years	16.0 (3.8)	13.3 (4.6)	p<0.001
8+ years	16.8 (3.3)	14.6 (4.2)	p<0.001
Level of significance	p<0.05	p<0.001	

The achieved mean score of children of age between 4-5 was 14.5 and 11.6 for PP and NPP respectively compared to 16.0 and 13.3 for those aged 6-7 years; and 16.8 for PP and 14.6 for NPP children of aged 8 years and above. Within the age group, PP children performed significantly better than NPP children [Table 14].

Parents' education and learning

The mean achievement score of both PP and NPP children of grade I increased as their parents' education level increased. The mean scores of NPP children significantly increased as their mothers and fathers education level increased ($p < 0.001$). However, the increase in mean scores of PP children with parents' education level was not statistically significant at $p = 0.5$ [Table 15 and Table 16].

Table 15: Mean score and standard deviation of grade I children by mothers' education

Education status	Types of children		Level of significance
	PP children	NPP children	
No education	16.1 (3.3)	13.3 (4.7)	$p < 0.001$
Primary	16.1 (3.7)	13.7 (4.4)	$p < 0.001$
Secondary and above	16.5 (3.8)	14.9 (4.5)	$p < 0.01$
Level of significance	ns	$p < 0.001$	

Table 16: Mean score and standard deviation of grade I children by fathers' education

Education status	Types of children		Level of significance
	PP children	NPP children	
No education status	15.6 (3.5)	13.5 (4.4)	$p < 0.001$
Primary	16.4 (3.8)	13.8 (4.2)	$p < 0.001$
Secondary and above	16.3 (3.7)	14.8 (4.5)	$p < 0.001$
Level of significance	ns	$p < 0.001$	

Children's learning achievement and parents' time for their education

Achievement level of grade I PP and NPP children varied as the time given by the parents for their study varied. Children showed larger mean scores as the times spent by the parents increased [Table 17]. Both PP and NPP children showed highest mean scores for 4⁺ hours time of their parents. The difference between the PP and NPP children's mean scores was statistically significant for their parent's time up to 3 hours; Nonetheless, the difference between the two groups was not statistically significant with parents' extended time (>3 hour). The mean scores of NPP children increased significantly along with the increase in their parents' time for their study. No statistically significant difference was found in the performances of PP children with respect to the amount of time spent by their parents for their study.

Table 17: Mean score and standard deviation of grade I children by parents' time spent for their learning

Parents' time devoted for children's study	Types of children			Level of significance
	PP children	NPP children	Both	
1 hours	15.9 (3.7)	13.1 (4.6)	14.5	$p < 0.001$
2-3 hours	16.2 (3.9)	14.1 (4.3)	15.2	$p < 0.001$
4 hours and above	17.1(3.3)	15.0 (4.1)	16.1	ns
Level of significance	ns	$p < 0.01$	$p < 0.01$	

Household economy and learning achievement

No specific significant relationship pattern could be found between learning achievement of grade I PP and NPP children and their household economy observed by yearly food security status. The differences in the mean scores of both type of children grouped by yearly food security status were not statistically significant at $p=0.05$ [Table 18].

Table 18: Mean score and standard deviation of grade I children by household's economic condition

Yearly food security status	Types of children		Level of significance
	PP children	NPP children	
Always in deficit	16.9 (3.8)	13.6 (4.7)	$p<0.001$
Sometimes in deficit	15.6 (3.9)	13.5 (4.6)	$p<0.001$
Balanced	16.0 (3.7)	13.3 (4.6)	$p<0.001$
Surplus	16.1 (3.7)	13.6 (4.5)	$p<0.001$
Level of significance	ns	ns	

However, in each group the PP children did significantly better than NPP children at $p<0.001$ [Table 18].

Main source of income and learning achievement

The variation in the HHs' main source of income could not influence PP children's performance significantly. PP children did not differ significantly with respect to main sources of income of the HHs. However, the differences in NPP children's performance with respect to HH's main income sources were statistically significant. NPP children from the families dependent on 'service' had the highest mean score (14.4) followed by the families with 'business' (14.1). Children of the HHs dependent on selling labour showed the lowest mean score (13.1%). Within the different occupational groups, the PP children performed significantly better than the NPP children did. [Table 19]

Table 19: Mean score and standard deviation of grade I children by main source of income of the family

Main sources	Types of children		Level of significance
	PP children	NPP children	
Service	16.4 (4.3)	14.4 (4.2)	$p<0.01$
Business	16.0 (3.7)	14.1 (4.5)	$p<0.001$
Agriculture work	16.5 (3.2)	13.2 (4.5)	$p<0.001$
Labour sale	15.7 (4.0)	13.1 (4.7)	$p<0.001$
Others (e.g., kabiraji)	16.0 (4.4)	13.1 (3.9)	$p<0.05$
Level of significance	ns	$p<0.05$	

Monthly income and learning achievement

Children's performance (of both PP and NPP) varied significantly according to their HH's monthly collective income. Children from the HHs with relatively higher income did significantly better than those with lower income did. The mean achievement scores of children (PP and NPP) with HH's monthly income above Tk. 2000 were higher than those of the children with HH's monthly income up to Tk. 2000 [Table 20].

Table 20: Mean score and standard deviation of grade I children by monthly income of the family

Income (Tk.)	Types of children		Level of significance
	PP children	NPP children	
2000	15.7 (3.9)	13.0 (4.8)	$p<0.001$
2001 - 4000	16.3 (3.6)	13.8 (4.5)	$p<0.001$
4001 and above	16.3 (3.5)	13.8 (4.2)	$p<0.001$
Level of significance	$p<0.05$	$p<0.05$	

Cultivable land and learning achievement

The amount of cultivable land did not show any significant influence on PP children's performance. Nonetheless, the NPP children showed significantly better performance as the land size increased. NPP children with 51 and above decimal lands showed the highest mean score (14.0) followed by the children having up to 50 decimal land. Children with no land showed the lowest mean score (13.2) [Table 21]. The differences between the performance of PP and NPP children were statistically significant

Table 21: Mean score and standard deviation of grade I children by amount of cultivable land

Land size (decimal)	Types of children		Level of significance
	PP children	NPP children	
No land	15.9 (3.9)	13.2 (4.6)	p<0.001
up to 50	16.2 (3.7)	13.4 (4.7)	p<0.001
51 and above	16.2 (3.5)	14.0 (4.5)	p<0.001
Level of significance	ns	p<0.05	

Note: ns=not significant at p=0.05.

Labour selling and learning achievement

Children's performances were significantly influenced by the household's status of labour selling. Children from the families sold no labour performed significantly better than those belonged to the families sold labour at least 100 days in one year [Table 22].

Table 22: Mean score and standard deviation of grade I children by labour selling

Labour selling (at least 100 days a year)	Types of children		Level of significance
	PP children	NPP children	
Yes	15.8 (3.9)	13.0 (4.6)	p<0.001
No	16.3 (3.6)	13.9 (4.5)	p<0.001
Level of significance	p<0.05	p<0.001	

Religious belongingness and learning achievement

The differences between the performances of Muslim and non-Muslim children were statistically significant (p<0.01). Both PP and NPP Muslim children performed significantly better than non-Muslim children. [Table 23].

Table 23: Mean score and standard deviation of grade I children by religion

Religion	Types of children		Level of significance
	PP children	NPP children	
Muslim	16.1 (3.7)	13.6 (4.5)	p<0.001
Non-Muslim	14.9 (4.0)	12.1 (5.3)	p<0.001
Level of significance	p<0.01	p<0.01	

Private tutor and learning achievement

Private tuition had a significant influence on children's performance. Children received private tuition performed significantly better than those did not received private tuition (p<0.05). The mean scores of the children who had private tutor (16.7 of PP children and 14.2 of NPP children) were higher than those without private tutor (15.9 of PP children and 13.3 of NPP children) [Table 24].

Table 24: Mean score and standard deviation of grade I children by having private tutor

Private tutor	Types of children		Level of significance
	PP children	NPP children	
Had private tutor	16.7 (3.7)	14.2 (4.5)	p<0.001
No private tutor	15.9 (3.8)	13.3 (4.6)	p<0.001
Level of significance	p<0.05	p<0.05	

HHs' physical condition and learning achievement

The difference between the performance of PP children with good housing conditions and that with poor housing conditions was not statistically significant. However, the NPP children with good housing conditions performed significantly better than those with poor housing conditions. The mean score of the former group was 14.1 and that of the later was 12.9 [Table 25].

Table 25: Mean score and standard deviation of grade I children by households' physical conditions

HHs' physical condition	Types of children		Level of significance
	PP children	NPP children	
Good condition	16.2 (3.8)	14.1 (4.4)	p<0.05
Poor condition	15.9 (3.7)	12.9 (4.7)	p<0.05
Level of significance	ns	p<0.001	

3.2. Socio-economic characteristics of grade II children

Slightly over half of the grade II children (50.2%) belonged to 6-7 years age group and the rest of the children were of 8 and above years old (49.8%). In the former age group, the percentage of PP children (52.7) was larger than that of NPP children (46.6). In the later group, the percentage of NPP children was larger than that of PP children [annex 5].

A great majority of the parents (80%) of grade II children received either primary or secondary education. Percentage of parents with primary education (53.9%) was more than double than that with secondary education (26.0%). Majority of the mothers of both PP and NPP children had primary education. Nearly one-third of the fathers of both type of children studied up to secondary level or more.

However, one-fifth of them (20%) did not receive any education. The NPP children had larger percentage of mothers (22.2%) with no education than PP children (18.8%); whereas PP children had larger percentage of fathers (23%) with no education than NPP children (16%).[annex 5].

Majority of the mothers (63%) were involved in IGA and over one-third (37%) of them were not involved in any income generating activities. Most of the fathers (96.1%) were involved in IGA and very few of them (3.9%) did not have any job to do [annex 5].

Yearly food security status of the majority of the households (66.9%) of grade II children was balanced or in surplus; in this category the percentage of PP children HHs (68.8%) was larger than that of NPP children HHs (65.2%). Another one-third of the HHs was sometimes or always in deficit throughout the last one year: in this category, percentage of HHs with NPP children (31.9%) was larger than that with PP children (34.9%).[annex 5].

Nearly half of the families (48.9%) of PP children earned mainly through labour selling; a large number of the NPP children's families (41.3%) were engaged in the same job as well. Nearly one-fourth of the both PP and NPP children's families were engaged in agricultural work. Service and business were the main sources of income for more NPP children's families than that of PP children [annex 5].

A large number of both type families (45%) had a monthly income up to Tk. 2000; over one-third of the families had monthly income between Tk. 2001 to Tk. 4000. The number of NPP children's families with monthly income of Tk. 4000 and above was larger than that of PP children [annex 5].

Majority of the both types of families had no land (59.3% PP children and 56.9% NPP children). Some of the HHs had a cultivable land between 1-50 decimal. Nearly one-fourth of both type of the HHs had over 50 decimal cultivable lands [annex 5].

Most of the children of grade II (93.7%) belonged to Muslim families. The percentage of PP children was higher than that of NPP children. [annex 5].

Majority of the parents (67.4% of PP children and 65.8% of NPP children) spent up to one hour a day for their children's study. Nearly one-third of the parents (31.9%) obviously spent 2-3 hours with their children; very few of them spent 4 hours and above a day [annex 5].

Age and children's performance

Performances of grade II PP and NPP children were oppositely related to their ages. Children (both PP and NPP) belonged to the smaller age group (6-7 years) did show significantly better performance than those belonged to relatively upper age group (8+ years). The differences between the performances of PP and NPP children belonged to each of the age groups were not statistically significant [Table 26].

Table 26: Mean score and standard deviation of grade II children by age

Age	Types of children		Level of significance
	PP children	NPP children	
6-7 years	26.2 (8.4)	28.0 (9.5)	ns
8+ years	25.6 (7.7)	26.4 (9.0)	ns
Level of significance	p<0.05	p<0.001	

Parents' education and learning

The performances of both grade II PP and NPP children significantly varied with their parents' (father and mother) education level. Children's performance and mother's education did not show any definite pattern of relationship. Children having parents with at least secondary education showed highest mean scores. The performance of NPP children showed positive significant relationship with fathers' education level. Their mean scores increased as the fathers education level increased. [Table 27 and Table 28].

Table 27: Mean score and standard deviation of grade II children by mothers' education

Age	Types of children		Level of significance
	PP children	NPP children	
No education	28.5 (8.2)	27.4 (8.0)	ns
Primary	26.5 (8.2)	26.9 (8.9)	ns
Secondary and above	29.5 (8.8)	33.2 (9.9)	ns
	p<0.001	p<0.01	

Table 28: Mean score and standard deviation of grade II children by fathers' education

Age	Types of children		Level of significance
	PP children	NPP children	
No education	27.5 (8.4)	24.8 (9.3)	ns
Primary	27.0 (8.0)	26.7 (9.1)	ns
Secondary and above	27.5 (8.7)	31.4 (9.7)	p<0.05
Level of significance	p<0.01	p<0.001	

Parents' time and children's performance

Parents' day-to-day time did not show significant influence on PP children's performance. The NPP children having more parents' time performed significantly better than those having less

help form their parents. Children who had received 4⁺ hours parents' time showed the largest mean score, oppositely, the lowest mean score was shown by the children received up to 1 hour [Table 29].

Table 29: Mean score and standard deviation of grade II children by parents' time spent for their learning

Hours given for children's study	Types of children		Level of significance
	PP children	NPP children	
1 hours	25.7 (7.9)	25.2 (8.8)	ns
2-3 hours	26.1 (8.5)	30.7 (8.8)	p<0.001
4 hours and above	32.0 (7.3)	38.0 (7.0)	ns
Level of significance	ns	p<0.001	

Household economy and learning achievement

The yearly food security status of the households of both PP and NPP children did not show significant influence on children's performance. When children were grouped based on yearly food security status of the HHs, no statistically significant differences were found between the performances of PP and NPP children of grade II [Table 30].

Table 30: Mean score and standard deviation of grade II children by fathers' education

Yearly food security status	Types of children		Level of significance
	PP children	NPP children	
Always in deficit	25.8 (9.4)	26.3 (8.0)	ns
Sometimes in deficit	24.9 (8.3)	25.8 (8.9)	ns
Balanced	25.5 (7.7)	27.8 (9.0)	ns
Surplus	27.2 (7.9)	28.1 (10.1)	ns
Level of significance	ns	ns	

Monthly income and learning achievement

The monthly income of the households had a significant positive influence on the performance of grade II PP children. Among the defined income groups, children from the families with monthly income of Tk. 4000 and above showed the largest mean score (28.3) and the lowest mean score (25.0) was obtained by children belonged to the HHs with monthly income up to Tk. 2000. However, the HH's monthly income did not show statistically significant influence on NPP children's performance [Table 31].

Table 31: Mean score and standard deviation of grade II children by monthly income of the family

Income (Tk.)	Types of children		Level of significance
	PP children	NPP children	
2000	25.0 (7.9)	26.5 (8.6)	ns
2001 - 4000	26.2 (8.2)	26.8 (8.9)	ns
4001 and above	28.3 (8.0)	29.2 (10.6)	ns
Level of significance	p<0.05	ns	

Main source of income and learning achievement

The main source of HH's income significantly influenced the NPP children's performance. NPP children belonged to the HHs engaged in self-employed occupation, e.g., 'kabaraji' showed the highest mean score (33.8). Among the designated occupation, NPP children belonged to the 'service' dependent HHs showed the largest mean score (32.2) followed by the families with 'business' as main occupation. The NPP children belonged to the families dependent on 'agriculture work' received the lowest mean score (24.2). However, the variation in the HHs' main source of income could not influence PP children's performance significantly [Table 32].

Table 32: Mean score and standard deviation of grade II children by main source of income of the family

Main sources	Types of children		Level of significance
	PP children	NPP children	
Service	28.0 (8.5)	32.2 (9.2)	ns
Business	27.6 (8.6)	29.3 (8.6)	ns
Agriculture work	26.2 (7.5)	24.2 (10.0)	ns
Labour sale	24.9 (8.1)	26.0 (8.2)	ns
Others (e.g., kabiraji.)	26.3 (7.4)	33.8 (12.7)	ns
Level of significance	ns	p<0.001	

Cultivable land and learning achievement

The amount of cultivable land of the HHs did not show any influence children's achievement. No statistically significant differences were found between the children's groups (of both PP and NPP) with respect to cultivable land sizes of the households [Table 33]. The differences between the performance of PP and NPP children belonged to the HHs without land were statistically significant. No statistically significant differences were found between the performances of the two types of children (PP and NPP) belonged to the families having any cultivable land.

Table 33: Mean score and standard deviation of grade II children by cultivable land size

Land size (decimal)	Types of children		Level of significance
	PP children	NPP children	
No land	25.3 (8.0)	27.9 (8.9)	p<0.05
1 - 50	26.5 (8.2)	26.3 (9.0)	ns
51 and above	26.9 (8.1)	26.3 (10.3)	ns
Level of significance	ns	ns	

Labour selling and learning achievement

Children's performances were significantly influenced by the household's status of labour selling. Children from the families sold no labour performed significantly better (PP children: 27.5 and NPP children: 29.5) than those belonged to the families sold labour at least 100 days in one year [Table 34].

Table 34: Mean score and standard deviation of grade II children by labour selling

Labour selling (at least 100 days a year)	Types of children		Level of significance
	PP children	NPP children	
Yes	24.9 (8.1)	25.1 (8.1)	ns
No	27.5 (7.9)	29.5 (9.9)	ns
Level of significance	p<0.01	p<0.001	

Religious belongingness and learning achievement

The differences between the performances of Muslim and non-Muslim PP children were statistically significant (p<0.01). The Muslim PP children performed significantly better than non-Muslim PP children [Table 35]. However, the performances of NPP Muslim and non-Muslim children were not significantly different.

Table 35: Mean score and standard deviation of grade II children by religion

Religion	Types of children		Level of significance
	PP children	NPP children	
Muslim	26.2 (8.0)	27.1 (9.0)	ns
Non-Muslim	21.0 (8.2)	27.7 (11.3)	p<0.05
Level of significance	p<0.01	ns	

Private tutor and learning achievement

Private tuition had a significant influence on grade II children's performance. Children received private tuition performed significantly better than those did not received private tuition ($p < 0.05$). The mean scores of the children who had private tutor (PP children: 27.5 and NPP children: 29.1) were higher than those without private tutor (PP children: 25.5 and NPP children: 26.0) [Table 36].

Table 36: Mean score and standard deviation of grade II children by having private tutor

Private tutor	Types of children		Level of significance
	PP children	NPP children	
Had private tutor	27.5 (8.0)	29.1 (8.9)	ns
No private tutor	25.5 (8.1)	26.0 (9.2)	ns
Level of significance	$p < 0.05$	$p < 0.05$	

Households' physical condition and learning achievement

The difference between the performance of children (both PP and NPP) with good housing conditions and that with poor housing conditions was not statistically significant. Furthermore, the PP and NPP children's performance were not significantly different [Table 37].

Table 37: Mean score and standard deviation of grade II children by households' physical conditions

HHs' physical condition	Types of children		Level of significance
	PP children	NPP children	
Good condition	26.5 (8.2)	28.4 (9.9)	ns
Poor condition	25.4 (8.0)	26.2 (8.6)	ns
Level of significance	ns	ns	

3.3. SES of Grade II children in the Study-2003

The report of the study-2003 provides the socio-economic characteristics of grade II children (the then grade I children) in terms of yearly income, condition of the houses, parents' education qualification, sanitary condition, source of drinking water etc. The profile shows that the households of non-BRAC (termed as NPP in the present study) children had higher average annual income than BRAC (termed as PP in the present study) children's HHs; the non-BRAC children had a higher percentage of mothers and a lower percentage of fathers with no education than BRAC children had; the percentage of BRAC children with good conditioned houses was larger than that of non-BRAC children. If we compare these characteristics with the sample of PP and NPP children of grade II, selected for the present study, there appears a similar situation. Thus, the similarities of the two groups (of the study-2003 and the present study) may lessen the risk of possible selectivity bias which would have been provoked due to the selection of almost the half size sample (as considered in the present study) of the previous study-2003.

Chapter IV

Views on Children's Academic, Social, and Attitudinal Characteristics

Children's behavioural aspects were analysed based on the views of class teachers and members of school management committees. Class teachers of grade I and grade II were asked to compare the behavioural aspects of PP and NPP children. The behaviours investigated were about academic, social, personal, and attitudinal aspects. The first section of this chapter presents a scenario on children's social and attitudinal characteristics based on class teachers' opinion. The final section presents the attitudes towards PP education provided by the different categories of respondents.

3.1. Class teachers' evaluative opinion about PP children

Differences in overall behaviours and problems encountered in teaching-learning

Most of the class teachers (89.8% of grade I and 88.2% of grade II) observed that PP children of both grades differed from NPP children in terms of academic and non-academic (behaviours, attitudes etc.) performance. Majority of the teachers (56.8% grade I and 57.8% grade II) believed that the differences were 'moderate'; more than one-fourth of them (27.3% I and 24.4% II) identified the differences as significant.

Majority of the grade I teachers (59.2%) faced problems to teach both PP and NPP children together. As the PP children enrolled with a satisfactory prior knowledge on many contents (e.g., reading, counting, speaking, willingness to participate etc.), teachers had to pay out less time for PP oriented children and spend more time for NPP children's learning. This caused indiscipline and uncontrolled situation in the classroom. However, majority of the grade II teachers (60.8%) did not face any problem in teaching both type children together.

Behavioural aspects of PP and Non-PP children

With regard to most of the selected behaviours, more than half of the teachers thought that PP children were 'reasonably good'. The most mentioned behaviours as 'reasonably good' were 'regular and timely presence in class', 'participation in class activities', 'following teachers' instruction', 'participation in games and co-curricular activities' (nearly 70% and above). The least mentioned behaviours were examination results (31%) and cleanliness (38.7%).

Table 38: Percentage of teachers' opinion about reasonably good behaviours of grade I and II PP and NPP children

Behavioural aspects	Grade I (%)		Level of significance	Grade II (%)		Level of significance
	PP children	NPP children		PP children	NPP children	
1. Examination score	22.4	6.1	ns	47.1	17.6	ns
2. Classroom performance	62.2	12.2	ns	60.8	23.5	ns
3. Obey school rules	53.1	24.5	ns	66.7	47.1	ns
4. Maintain class discipline	44.9	19.4	ns	56.9	33.3	ns
5. Regular presence in class	68.4	30.6	p<0.001	72.5	29.4	p<0.05
6. Timely presence in class	69.4	40.8	ns	70.6	52.9	ns
7. Cleanliness	37.8	26.5	ns	41.2	29.4	ns
8. Maintain tidiness	44.9	18.4	p<0.001	39.2	19.6	ns
9. Participation in class activities	71.4	28.6	p<0.001	68.6	37.3	ns
10. Completion of home task	46.9	18.4	ns	54.9	43.1	ns
11. Get prepared for class	56.1	19.4	p<0.05	49.0	27.5	ns
12. Obey teachers instruction	72.4	58.2	ns	82.4	64.7	ns
13. behaviour with the peers	50.0	30.6	ns	31.4	52.9	ns
14. participation in games and co-curricular activities	67.3	31.6	ns	68.6	27.5	ns

The behaviours identified for PP children as 'moderately good' by majority of the teachers were, maintaining cleanliness, tidiness, and class discipline (40.8% - 57.7%).

The differences between the class teachers' opinion about grade I PP and NPP children's behaviours were statistically significant with respect to 'regular presence', 'maintaining tidiness', 'participating in class activities' and 'taking preparation for class lessons'. The difference of teachers' opinion on all selected behaviours, except 'regular presence' ($p < 0.05$), of grade II PP and NPP children were not found to be statistically significant [Table 38].

Class teachers in general, seemed positive about the behaviour and activities of PP children than NPP children. Teachers perceived that in the beginning of the course, there was a sharp difference between the two groups with respect to various behaviour though, gradually the gap decreases leaving the NPP children's behaviour (and other activities) improved being influenced by the PP children⁶.

3.2. Opinion about PP education programme

All of the selected head teachers, class teachers, parents, and SMC members were interviewed on different issues about pre-primary education to explore their attitudes towards PP education programme in general.

Necessity of pre-primary education

Almost all of the class teachers (100% of grade I and 98% of grade II) as well as the head teachers stated that before starting education in formal primary schools, all children are required to be experienced with pre-primary education system. They thought that pre-primary orientation would help children to cope with teaching-learning process and other institutional activities, which are (in formal schools) very different from homely atmosphere. Moreover, children come with some primary knowledge and skills about some areas of the study syllabuses. This facilitates the teaching-learning activities in the classrooms of formal schools.

Advantages due to pre-primary education

The head teachers of the selected schools identified a number of advantages about the academic behaviour of PP background children. Over half of the head teachers (53%) stated that the PP education helped children to acquire some additional learning competencies before starting formal education. In consequence, class teachers feel comfortable in teaching PP oriented children (36%). Moreover, the PP children are more smart and fluent in speaking and presenting themselves (14%); they are relatively better aware of schools rules and tend to obey the rules (11%).

Problems due to PP schools

Most of the class teachers (97%) as well as the SMC members (85.7%) did not see any problem due to the establishment of PP schools on their primary school campus. However, only two of the class teachers talked about some problems.

Improvement of PP education programme

The head and the class teachers as well as the SMC members believed that the BRAC's pre-primary education would require more improvement. The respondents mentioned wide varieties of suggestions for improving the PP education programme. The mostly mentioned are: recruiting

⁶ Source: Field visit and general discussion during interview with head and class teachers in school offices.

competent teachers having at least SSC education; increasing teachers' salaries; providing training to the teachers; arranging regular monthly meeting with parents; emphasis should be given on maths and English within the PP curriculum; more concentration needs to be given on improving writing skill of the PP children. The SMC members suggested a number of points to improve the PP education programme: improving seating arrangement (instead of floor to use chair-table for the children) by providing chair-table and furniture in the classrooms; increasing teachers' salary; recruiting competent teachers; maintaining communication with parents.

Quality of classroom teaching-learning process used in formal schools

A large number of SMC members (42.9%) informed that the teaching-learning methods followed in PP schools were 'satisfactory'; about one-fourth (26.5%) of them thought that the methods were 'more or less satisfactory'; a good number (20.4%) of them ranked the used teaching methods as 'very satisfactory'.

Quality of classroom teaching-learning in the PP school

More than half (53.3%) of the SMC members informed that the teaching-learning methods followed in the PP schools were 'satisfactory'. A large number (43.3%) of them ranked the teaching-learning methods as 'very satisfactory' whereas very few (3.3%) of them regarded the teaching-learning method as 'moderately satisfactory'. None ranked the methods as weak/poor.

Majority of the parents (approx. 60%) stated that the teaching-learning methods used in the PP schools were 'satisfactory'; about one-third of the parents ranked the methods as 'very satisfactory'. Some of the parents regarded the teaching methods as 'moderately satisfactory'. None of the parents ranked the methods as weak/poor. [Annex 6].

Visits to PP schools

Majority of the head teachers (66.5%) did not made any visit to PP schools from January to February 2004. However, a good number of the rests (21%) made one or two visits within the first two months of this year.

Responsibility to PP schools

Over one-fourth of the SMC members (28.6%) did not mention any responsibility to PP schools. Nearly one-fourth of the members (24.5%) identified 'monitoring whether the school runs properly' as one of the responsibility to PP education. Some other responsibilities mentioned by a number of SMC members were 'visiting and taking care of the schools' (16.3%); 'monitoring whether the teaching-learning activities held regularly' (14.3%) and ensuring children's regular attendance' (14.3%).

Chapter V

Discussion and Conclusion

The principal question of the study was whether the BEP pre-primary (PP) education had any significant influence on pupils' learning when they were in formal primary schools after the intervention period. Two groups of children were selected: (i) grade I children- had completed BEP PP education just 2/3 months before the commencement of the study; (ii) grade II children- had completed BEP PP education 14-15 months before the commencement of the study. This group also spent one year in formal primary schools to complete grade I education and studied in grade II for two months before administering the study-test (achievement test).

The performance of grade I PP children differed significantly than that of the NPP (did not have BRAC's PP education) children when they were assessed by using an achievement test. The achievement test scores were analyzed and compared from different possible standpoints that included overall performance, sex, and school types (GPS and RNGPS). In each case, performances in terms of separate and overall study skills were observed. In each of the categories, the PP children performed significantly better than the NPP children did. Nonetheless, within the PP or NPP groups there were no difference between the girls and boys' performance. The study further reveals that the participation rates of PP children in classroom teaching-learning activities were higher than those of NPP children. For some activities, the PP children's participation rates were significantly higher than that of PP children.

The better performance of grade I PP children over NPP children suggests that the pre-primary intervention may had significant and positive influence on pupils' learning and it sustained up to the beginning of grade I in formal primary schools' learning practices. However, we should remember that this group had just ended the pre-primary education. Thus, time-duration could be a factor, which needs to be considered when inference such as the above is made based on test/classroom performance.

For grade II children, the study paints an opposite scenario to grade I children. The PP children of grade II did not differ from their counterparts i.e., the NPP children in terms of performance in the achievement test. When the achievement test scores were analysed with respect to overall and separate study skills, sex, and school types, both the PP and the NPP children performed almost closely with slight but non-significant difference (NPP children received relatively higher mean score) in all areas except English. Again, in English NPP children (only boys) performed significantly better than the PP children did.

It should be mentioned that the performance of the same group of grade II children (both PP and NPP) were assessed when they were in grade I under the study-2003. The study also compared the learning achievement of 'BRAC preschool'⁷ and 'non preschool'⁸ children. The study showed that the BRAC preschool children received higher mean scores than non-BRAC/non-preschool children in different and overall study skills. The differences were statistically significant⁹. The selected children had less than four months experience in grade I of formal school during the test administering time under study-2003. The situation is similar for grade I children considered for the present study.

⁷ The group is considered as PP children in the current study.

⁸ The group is termed as NPP children in the current study report.

⁹ BRAC, 2003, *The Impact of the BRAC Preschool Program on Student's Performance*, Data International, Dhaka,

With respect to classroom participation, the rates of PP children's participation were significantly higher than that of NPP children in half of the observed teaching-learning activities. In the rest half of the activities, the participation was non-significant. The participation of the same PP children (i.e., BRAC preschool children) was appeared to be better than the NPP children (i.e., the non-BRAC children) in all designated classroom activities in the study-2003.

Both PP and NPP children of grade I had more or less similar socio-economic scenario except one or two aspects. Most of the NPP children were within the defined age group (6-7 years); a good number of NPP children were over aged (e.g., 8 years). PP children had larger percentage of parents with no education than NPP children. The study analyzed the effect of a number of socio-economic factors (12) on students' performance. The influence of many socio-economic factors (e.g., fathers' education, mothers' education, parents' care, food security status, source of income, cultivable land, and household's condition) were not significant for PP children. Nonetheless, all of the factors influenced NPP children's performance significantly.

The socio-economic characteristics of grade II PP and NPP children were more or less closer. With respect to some of the factors, PP children had a difference with the NPP children. For example, the percentage of PP children's mothers with education was higher than that of NPP children; more mothers of PP children had been involved in IGA than that of NPP children; more PP children's HHs had balanced /surplus in food security status in the last one years than that of NPP children and more PP children's HHs' monthly income was between Tk. 2002 - Tk. 4000 than NPP children. A number of socio-economic factors¹⁰ (to name, age, parents' education - both father and mother, parents' care, main source of income, household's monthly income, 100 days labour selling, religious affiliation, provision for private tutor) significantly influenced either PP or NPP or both types of children's performance. Only HHs economy and cultivable land size did not influence children's learning. Age is positively related to grade I PP and NPP children but negatively related to grade II PP and NPP children.

It is evident that, in general, both the class and head teachers, SMC members expressed positive view about the overall performance and behavioural aspects of PP children. According to the teachers, children with BRAC PP education were more active and responsive in academic and other non-academic behaviours. Their views about PP children are consistent with the performance (e.g., achievement test, classroom performance) of grade I PP children though, contradictory to some extent to the performance of grade II PP children. They found PP education as a necessity for children before starting formal primary schooling. It may imply that both institutional and community attitudes towards BRAC PP education were positive. The teachers' perception about the benefit of PP education is somewhat remote- concentration is more on the temporary effect of the programme on children's learning. For example, both the class and head teachers expressed that the PP education is beneficial as the children learn many things in the pre-primary stages. In consequence, the class teachers feel comfortable or ease to teach the PP children.

The contrasting scenario of grade I and grade II PP children can be explained by making certain assumptions: (i) when the children were studying at the PP schools, the programme due to its nature was able to maintain the equal share of teaching-learning and educational opportunities for each child. In consequence, other factors (e.g., socio-economic, gender) were not able to significantly affect grade I PP children's performance; (ii) The effect of the BEP PP education was still functioning for the group (i.e. grade I PP children) who had shorter duration of

¹⁰ Among the factors which are considered for the study.

disengagement with PP education. Thus, children's prior knowledge and skills had facilitated their learning in grade I of formal school and their performance was significantly better in the achievement test than NPP children were.

Although PP education experience worked for grade I children quite significantly but its influence was appeared non-significant for grade II children. This may be explained in two contending ways. First, may be the pre-primary experience was inadequately/not stimulating the group (e.g., grade II PP children) as they had been disconnected with the education programme for over a year. In other words, the effect of PP intervention may be lessened as the time increases. Moreover, the children's engagement with the prevailing usual practices in formal primary schools (which is more teacher-centred than PP education) may be facilitative for declining in to ineffective learning. Including methodological difference, many other factors may be responsible for weakening the impact. On the other hand, it can be argued that the NPP children had been taken care-off largely by the teachers to bring uniformity (equivalent to PP children) in the class as a whole. Which actually may strengthen the NPP children's learning practices though they did not have any pre-primary orientation. As a result, both the groups performed with no difference. Further research will be needed to find out the actual role of PP programme on children's learning.

The foregoing discussion suggests to consider the importance of revisiting the aim/purposes as well as the model/curriculum of the pre-primary education, which is now being implemented by the BRAC Education Programme. Different curriculum models have different effect on children and on relevant clientele groups. The BEP's PP curriculum is intended mainly for preparing children for formal schooling obviously by creating children-friendly education environment. It further includes specific objectives like, developing children's listening, reading, writing, and speaking skills; increasing enrolment and attendance rates and so on. Thus, it can be assumed (as pedagogy of PP education was not analysed) that in order to achieve the stated aims and objectives, helping children to gain more knowledge, develop skills and similar practices were more emphasised in the PP teaching-learning activities. Following Froebelian¹¹ philosophy, literature suggests that the aim of nursery/early childhood education is not so much to implant the knowledge and the habits, but to aid and supplement the 'natural growth' of the normal child. It is argued that the curriculum of preschool children should include more activity and experience rather than knowledge and facts to be acquired or stored. The aim of the teachers will be primarily to assist the 'spontaneous unfolding of the child's natural qualities by allowing their freedom, happiness, and individuality which are more important than going through a few pages of word making/spelling book'. Children are not to be submitted to teacher-initiated instruction only. The teaching-learning process thus needs to include activities, which facilitate the development of child's inborn ability and provide less weight on imparting of an ordered body of knowledge (Drummond, 1990 in Entwistle, 1990). Sylva et al (1980) suggest that older children (5+ years) achieve their highest level when they are in the company of adults and younger (4+ years) children's activity is enhanced when they are in a peer pair. She further suggests for art, constructional activities, and structured tasks to be included in the curriculum to set children 'to act at their intellectual best'.

Research evidence show that the effectiveness of a pre-primary programme depends largely on the 'parental involvement' with the programme. The links between educational performance,

¹¹ F. Froebel (philosopher and educator) rejected the idea of orthodox/conventional schooling- where children's inner qualities can be destroyed through teachers' instruction and physical constraints, and introduced the concept of garden for young children - where children's abilities would flower.

potential of children and parents' interests in their children's progress, future education and employment (e.g., Douglas, 1964 in Entwistle) are well-documented in the western literature (Entwistle, 1990). Research evidence from Britain and the USA suggests that the effectiveness of pre-school provision for children's educational achievement depends profoundly on positive responses at home. It was found that children who gained most from pre-schooling were those whose mothers had been most closely involved with their own children. It should be noted that 'parental involvement is a complex and multi-faceted notion and may operate differently at different stages.' Thus, the effectiveness of pre-school requires examining the context of the family and the home and identifying parents' role. It is argued that parents simply 'being there' is not effective for pre-primary participants' long-term learning. The notion of positive interactions between children and family where parents are identified as 'educator' takes into account the motivation and cognitive development of children (Berrueta-clement, 1985 in Entwistle, 1990). The implication is that to explain the effectiveness of pre-school education, it is necessary to analyse the social context of the family and school process along with the characteristics of the programme and the target children during and a later stage of the intervention (Woodhead, 1985 in Entwistle, 1990).

Based on the study findings it may be concluded that by and large, the pre-primary education had a positive effects on pupils' learning during the intervention and the influence sustains for short duration in a later stage after the intervention- i.e., after the children being enrolled (in grade I) in the formal primary schools. However, as the time increased between the intervention and post-intervention period, the educational influence on children seemed get deteriorated. Obviously part of the declination may be attributed to the dominated traditional teaching-learning practices in formal primary schools. If we re-examine the objectives of the pre-primary education programme, we will be able to notice that the findings on the comparative performance of PP and NPP children of grade I and grade II are consistent with the main objectives as mentioned earlier. That is, the programme was able to achieve the objectives iv, v, and ix listed on the first page of the introduction chapter. However, the objectives related to dropout and primary cycle completion are yet to be achieved. It can be further inferred that the programme has gained the acceptance of the clientele groups (at both institutional/school and community level). It indicates that the pre-primary programme has some positive impact on the groups to whom it is applied as well as on the relevant people (e.g, teacher, parents). Thus, measures should be taken for a sustainable pre-primary programme.

Points to ponder

1. The programme may be more strengthened by bringing positive change to the curriculum and the pedagogy based on longitudinal research, considering a single or a combination of different models, which are proved effective in a similar situation like Bangladesh.
2. Teachers who are more competent need to be recruited for pre-primary schools. A set of recruitment criteria may be identified. The teachers must be given training on interactive teaching-learning approach, child psychology, preparation, and or use of effective teaching aids, material, and strategies and so on.
3. Refreshers course for the pre-primary teachers may be continually enhanced.
4. Parental involvement need to be maintained more meaningfully: simply parents 'being there' (as passive) will not be helpful. Identifying parents' role as an 'educator', the professionals/ teachers and the parents may work together. If necessary, parents may be trained through monthly meeting or arranging workshops.

5. 'Academic supervision' by the competent personnel may be extended up to the formal primary schools. The formal schoolteachers may be provided training on modern interactive teaching approach and may be motivated to use effective teaching in the classrooms. This would create a similar classroom environment for the PP children and help other children to receive a congenial teaching-learning environment as well. In this way, quality of primary education may be scaled up.
6. The formal school head and class teachers may be involved extensively so that they can know more about PP education and visit PP classroom frequently.
7. SMC members, especially who are educated, need to be motivated to involve themselves more with PP education programme. In other words, all of them need to be extensively aware of the pre-primary programme.
8. PP teachers' salary may be a matter of consideration as all types of respondents (head teacher, class teacher, SMC members) suggested for an increased salary.

Research agenda

The findings of one study may throw some lights on the prospected measures but for definite steps to be taken extended study need to be conducted. Due to the limited scope of the present study, other possible issues/aspects of the pre-primary education could not be included. Thus, it is recommended that more comprehensive study looking at both quantitative and qualitative aspects, complex nature of the learning context need to be conducted. Some research areas may be: opinion of pre-primary teachers, comparison of classroom culture of pre-primary and formal schools, how the pre-primary education could contribute to ensuring the quality in formal primary schools.

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Annexes

Annex 1

Mean scores of grade I PP and NPP boy and girls by different study skills

Study skills	PP children		Level of significance	NPP children		Level of significance	Both PP & NPP		Level of significance
	boys	girls		boys	girls		boys	girls	
Listening	2.1	2.1	ns	2.0	2.0	ns	2.1	2.0	ns
Life skill	5.4	5.3	ns	5.0	5.0	ns	5.2	5.2	ns
Reading	1.2	1.2	ns	1.0	1.0	ns	1.0	1.0	ns
Writing	2.4	2.5	ns	1.6	1.6	ns	2.0	2.0	ns
Numeracy	5.1	5.0	ns	4.3	4.0	p<0.001	4.7	4.5	p<0.001
Overall	16.1	16.0	ns	13.6	13.2	ns	14.9	14.7	ns

Annex 2

Classroom performance of grade I PP and Non-PP children in various activities

Activities	Participation rate of PP children (%)				Participation rate of NPP children (%)			
	Yes	No	NA	Total	Yes	No	NA	Total
<i>Initial activities:</i>								
1. Saluted the teachers	89.3	9.2	1.5	100.0	88.8	7.7	3.6	100.0
2. Answered the initial questions	59.7	1.5	38.8	100.0	51.5	8.7	39.8	100.0
<i>Teaching-learning activities:</i>								
3. Listened attentively to teacher's instruction	90.3	9.7	0.0	100.0	76.0	21.9	2.0	100.0
4. Participated in reading	91.3	3.1	5.6	100.0	86.2	5.6	8.2	100.0
5. Participated in writing	62.2	3.6	34.2	100.0	52.6	10.7	36.7	100.0
6. Answered teachers questions	91.8	1.0	7.1	100.0	75.5	14.3	10.2	100.0
7. Participated in activities instructed by teachers	65.8	1.5	32.7	100.0	56.1	8.7	35.2	100.0
<i>Assessment:</i>								
8. Did home task	12.8	5.1	82.1	100.0	11.2	6.6	82.1	100.0
9. Participated in co-curricular activities	41.3	3.6	55.1	100.0	28.6	13.8	57.7	100.0
10. Answered lesson-end questions	72.4	2.0	25.5	100.0	64.8	7.1	28.1	100.0

Annex 3

Classroom performance of grade II PP and Non-PP children in various activities

Activities	Participation rate of PP children (%)				Participation rate of NPP children (%)			
	Yes	No	NA	Total	Yes	No	NA	Total
<i>Initial activities:</i>								
1. Saluted the teachers	92.3	3.8	3.8	100.0	90.4	5.8	3.8	100.0
2. Answered the initial questions	54.8	1.9	43.3	100.0	46.2	9.6	44.2	100.0
<i>Teaching-learning activities:</i>								
3. Listened attentively to teacher's instruction	91.3	7.7	1.0	100.0	72.1	26.9	1.0	100.0
4. Participated in reading	89.4	1.9	8.7	100.0	79.8	11.5	8.7	100.0
5. Participated in writing	71.2	5.8	23.1	100.0	67.3	8.7	24.0	100.0
6. Answered teachers questions	90.4	3.8	5.8	100.0	79.8	11.5	8.7	100.0
7. Participated in activities instructed by teachers	55.8	4.8	39.4	100.0	47.1	9.6	43.3	100.0
<i>Assessment:</i>								
8. Did home task	12.5	6.7	80.8	100.0	11.5	7.7	80.8	100.0
9. Participated in co-curricular activities	24.0	5.8	70.2	100.0	19.2	10.6	70.2	100.0
10. Answered lesson-end questions	74.0	0.0	26.0	100.0	62.5	11.5	26.0	100.0

Annex 4

Percentage distribution of grade I children by their socio-economic characteristics

Socio-economic characteristics		Children type		
		PP children	NPP children	Both
Age	4-5 years	4.4	7.2	5.8
	6-7 years	84.6	70.7	77.9
	8+ years	11.0	22.0	16.3
Mother's Education	No education	25.9	21.7	23.9
	Primary	52.7	52.0	52.8
	Secondary+	21.4	26.3	23.8
Father's Education	No education	25.3	22.4	23.9
	Primary	42.8	45.6	44.2
	Secondary+	31.9	32.0	31.9
Yearly food security status	Always in deficit	8.0	10.8	9.4
	Sometimes in deficit	21.7	21.1	21.4
	Balanced	35.4	34.5	34.9
	Surplus	34.9	33.6	34.3
Mother in IGA	Yes	63.5	61.6	62.6
	No	36.5	38.4	37.4
Father in IGA	Yes	95.8	96.4	96.1
	No	4.2	3.6	3.9
Main source of income	Service	7.8	9.2	8.5
	Business	22.4	21.6	22.1
	Agriculture-work	25.8	26.0	25.9
	Labour sale	41.9	41.1	41.5
	Others (kabiraji)	2.1	2.1	2.1
Yearly labour sale- at least 100 days	Yes	51.5	49.0	50.3
	No	48.5	51.0	49.7
Monthly income (Tk.)	2000	42.4	43.8	43.1
	2001 - 4000	41.2	39.9	40.6
	4001	16.4	16.3	16.3
Land size	0 decimal	55.7	53.3	54.6
	1-50 decimal	19.1	19.1	19.1
	51+ decimal	25.2	27.6	26.3
Religion	Muslim	92.5	91.6	92.0
	Non-Muslim	7.5	8.4	8.0
Time spent by parents for children's study	1 hours	67.9	69.1	68.5
	2-3 hours	30.7	29.1	29.9
	4+ hours	1.4	1.8	1.6

Annex 5

Percentage distribution of grade II children by their socio-economic characteristics

Socio-economic characteristics		Children type		
		PP children	NPP children	Both
Age	6-7 years	52.7	46.6	50.2
	8+ years	47.3	53.4	49.8
Mother's Education	No education	18.8	22.2	20.3
	Primary	62.3	58.9	60.8
	Secondary+	18.8	19.0	18.9
Father's Education	No education	23.0	16.1	20.1
	Primary	46.4	47.7	47.0
	Secondary+	30.5	36.2	33.0
Mother in IGA	Yes	66.2	58.6	63.0
	No	33.8	41.4	37.0
Father in IGA	Yes	96.7	95.2	96.1
	No	3.3	4.8	3.9
Yearly food security status	Always in deficit	8.9	10.7	9.6
	Sometimes in deficit	23.0	24.2	23.5
	Balanced	34.3	31.7	33.2
	Surplus	33.8	33.5	33.7
Main source of income	Service	7.2	11.4	8.9
	Business	16.8	23.1	19.4
	Agri-work	25.9	22.1	24.3
	Labour sale	48.9	41.3	45.8
	Others	1.2	2.1	1.6
Yearly labour sale- at least 100 days	Yes	59.5	51.4	56.2
	No	40.5	48.6	43.8
Monthly income (Tk.)	2000	44.7	45.6	45.0
	2001 – 4000	41.2	33.1	37.9
	4001	14.1	21.4	17.1
Land size	0 decimal	59.3	56.9	58.3
	1-50 decimal	16.3	19.9	17.8
	51+ decimal	24.4	23.1	23.9
Religion	Muslim	95.3	91.5	93.7
	Non-Muslim	4.7	8.5	6.3
Hours spent by parents for children's study	1 hours	67.4	65.8	66.8
	2-3 hours	31.4	32.7	31.9
	4+ hours	1.2	1.4	1.3

Annex 6

Parents' (of grade I and II children) evaluation about teaching-learning in pre-primary education

Opinion	Grade I		Grade II	
	Number	percentage	Number	percentage
Very good	367	34.1	138	31.4
Good	635	59.0	265	60.4
Moderate	71	6.6	34	7.7
Unpleasant	3	0.3	1	0.2
Very unpleasant	-	-	1	0.2
Total	1076	100.0	439	100.0

Annex 7

Conditions of the houses of grade II PP and NPP children

Conditions	Children type (f)		Total
	PP	NPP	
Good	158	102	260
Poor	185	129	314
Total	343	231	574