NEW HORIZONS FOR PRIMARY SCHOOLS

REPORT ON THE FORMATIVE EVALUATION 2004

Submitted in response to:

Contract No.
532-C-00-03-00060-00

October 2004

Submitted to:

USAID/Kingston
2 Haining Road
Kingston, Jamaica

Submitted by:

Juárez and Associates, Inc.

Home Office
12139 National Boulevard
Los Angeles, CA 90064
(310) 478-0826
(310) 478-1863 (fax)
juarezassociates.com

Project Implementation Unit
Caenwood Complex
37 Arnold Road
(876) 967-5192
(876) 967-5192 (fax)
nhorizons@cwjamaica.com

In Collaboration with
IDEAS, Ltd.
bruce@datapro-sa.com

Table of Contents

List of Tables

Executive Summary

A. Introduction

This document summarizes the results of the 2004 formative evaluation of the New Horizons for Primary Schools (NHP) Project in Jamaica. NHP is a five-year[1] effort to improve the Mathematics and Language arts of Jamaican primary school students, who because of poverty or other factors have had little success in school. The project is a partnership between the Jamaican Ministry of Education, Youth and Culture, USAID, and the NHP technical assistance contractor, Juárez and Associates.

The formative evaluation is conducted yearly near the end of the school year. It is designed to inform the implementation of NHP interventions and thereby permit NHP staff to target interventions in critical areas of the program. The formative evaluation process also serves to measure project results from an established baseline, which will contribute to the measurement of final project results. In 2001, 2002, 2003, and 2004 the formative evaluation had the additional purpose of building the capacity of Jamaican Education professionals in systematic qualitative data collection and the integration and interpretation of qualitative and quantitative data.

B. Evaluation Methodology

A team of Jamaican education professionals carried out the data collection for the evaluation. They employed a multi-method design, consisting of inventories, checklists, classroom observation forms, and focused interviews, to measure the conditions in place for effective learning in NHP classrooms. A stratified sample of 18 schools, or 25% of the 72 NHP schools served as the data source for the evaluation. Observational data were complemented by the results of the Grade Three Diagnostic Tests and the Grade Six Achievement Test (GSAT) results in Language Arts and Mathematics for 2004. Evaluators were trained in workshops dealing with qualitative data collection and data reduction, analysis and interpretation. The evaluation took place in May of 2004.

Interventions targeted three areas. These are: improved quality of teaching; increased student attendance; improved system support; improved management of schools. All the interventions in these areas, it was theorized, would result in increased literacy and numeracy among students in the target schools.

C. Principal Findings

NHP has been successful in improving the quality of teaching as measured by a composite index defined for the project. This index has shown a small but steady increase over all the years of the project. However, the results of two of the four sub-measures, namely the decline in the percent of Grade 3 students meeting the requirement in Language Arts, and the persistent lack of

[1] The original five-year contact was from 1998 through 2003, and in 2003, a two-year extension was signed with USAID/Jamaica

increase in the percent of student-initiated interactions in the classroom have limited the amount of increase that can be expected from this index.

NHP has also been successful in changing classroom environments so that they are organized to facilitate learning. Classroom environments improved each year in NHP schools. Children's work was displayed to a greater extent, teachers were positive when interacting with students, and in many classrooms, there was an improvement in the organization of space.

Increases have been seen in the average daily percent of enrolled students who attend classes, and in the percent of teachers who reported using strategies to improve attendance.

In the area of system support, the NHP has successfully provided support in the areas of school visits by NHP personnel, professional development of teachers, the implementation of School Development Plans, and supported increases community involvement. All most all schools report having resource teachers and also having a high percent of teachers who have attended training workshops. The use of computers and JSAS for school administration has shown a dramatic increase. However, schools are beginning to report not being able to use the computer because of needed repairs.

There has been qualified success of NHP in improving student performance. The results have fluctuated, and the steady increase anticipated over each year has not been seen. While results have improved over the baseline in mathematics for girls and boys in Grade 3 and for girls and boys in Grade 6, the boys have shown greater improvements than girls in the GSAT Language Arts. It could be that the gap in the initial starting point between boys and girls in Language Arts performance necessitated the small-group strategies that are proving so difficult for teacher to implement consistently.

For the mathematics results, the targeted increased were met up to 2003 for girls and up to 2002 for boys. In 2004, both NHP boys and girls registered increases of 12.7% over the baseline position. The percent of boys in the targeted category in 2004 was triple the percent in 1998, while the percent of girls in the same category in 2004, was almost twice the percent of girls in the same category in 1998. This improvement for females has been greater that the system as a whole. Similar results were seen in 2004 in the changes from the 1998 baseline in GSAT mean scores that were higher for NHP girls and boys in relation to the matched comparison group.

For Language Arts, the results were different for boys and girls. While girls decreased over the baseline (47.5%, 1998; 39.6%, 2004), boys showed a positive increase of 7.5% (17.3%, 1998; 24.8%, 2004). It should be noted through that boys were starting at a different position than were the girls, so much so that in 2004, the NHP boys are still behind the 1998 position of the girls. The decline in the percent of girls in the targeted category is less than the system as a whole, and the decline in the mean score on the GSAT for NHP girls is also less than the decline in the mean score for the comparison group. The increase in the percent of NHP boys in the targeted category is slightly ahead of the system as a whole, and the increase in the mean score on the GSAT over baseline for NHP boys is 1% more than the similar increase in the mean for the boys in the comparison group.

D. Implications

- Improving Language Arts performance has proved challenging, especially for girls. Because of the gap in the performance between boys and girls, teachers may need to use small group instruction so that students may sometimes work on their own and so pay more attention to the needs of all students.

- There are implications for training, and classroom visits, in devising strategies for continued training so that desired results such as the improved use of materials, the use of collaborative learning, and student-initiated interactions can be sustained. The increased use of the participatory, child-centered methodologies, espoused by NHP and the new primary curriculum suggests that achieving sustained behavior change in schools and classrooms is a long-term endeavor.

- The use of the NHP associates seemed to have a positive effect in 2004, as seen in the increased use of materials especially in mathematics, and in the reported increase in visibility and assistance, and increased use of technology.

- The decline of language arts performance both in NHP and non-NHP schools over four consecutive years is cause for grave concern. NHP might explore these tends at the training activities with teachers and principals. If funds are available, NHP might conduct a special study in both project and non-project schools with a decline and without a decline to determine the cause of the problem. Such a study might be conducted in collaboration with the Evaluation, and Student Assessment Units of the Ministry.

- There are indications that the use of computers is being limited by the inability to repair them. While some initiatives have started in this area, more needs to be done to plan with schools for the maintenance and replacement, if necessary, of needed equipment. This may also have implications for other equipment that are being distributed to schools.

- The similarity of test performance between NHP students and students in matched comparison schools suggest that targeted efforts in NHP schools and similar schools, may require greater investment to make significant change. NHP performance in relation to the comparison group should be monitored closely over the remaining life of the project. One reason for the closeness of the results that have been seen may be that other projects and similar initiatives may have been started system-wide. For example, a School Development Plan is now required of all schools.

- Although the administrative infrastructure for improvement in learning appears to be in place and is an important achievement of the NHP project, it is not yet focused sufficiently on supporting all the NHP objectives. More attention needs to be paid to the evaluation and the reporting aspects of the use of the School Development Plans.

I. INTRODUCTION

This document describes the results of the sixth year of formative evaluation of the New Horizons for Primary Schools (NHP) Project, after the initial five year project was extended for two years. The evaluation exercise is carried out near the end of the Jamaican school year (May-June) to provide a barometer of the progress of the project on a series of school and classroom indicators.

When it was designed in 1998/99, the formative evaluation had two purposes. First, the formative evaluation results inform the implementation of NHP interventions and permit NHP staff to target interventions in critical areas of the program. The results complement those of ongoing assessments of the implementation process undertaken informally through school visits, feedback on professional development efforts and periodic communication with school administrators and teachers. Second, the formative evaluation process serves to measure project results from an established baseline. As it provides systematic monitoring of performance over time, formative evaluation contributes to the measurement of final project results. Baseline indicators and projections of change over time derived from the 1999 formative evaluation are found in Appendix A of this report.

Since 2001, the formative evaluation had an additional purpose, that of involving local staff in carrying out this exercise. In order to respond to the capacity building interests of the Ministry of Education, workshops on evaluation methodology were held for technicians in the Ministry of Education, members of local teachers' colleges, and New Horizon Project personnel. The workshops dealt with observation and interview techniques to measure progress toward NHP objectives. In 2001, Dr. Ray Chesterfield and Dr. Kjell Enge, international consultants who are experienced education evaluators carried out an additional workshop on data analysis and results of the evaluation. In 2004, José Ferrel, trained the data collectors and entered the data for analysis.

A. Background

The primary objective of New Horizons for Primary Schools (NHP) is to enhance the performance of selected Jamaican primary school students in numeracy and literacy. The focus of the technical assistance component of the project is on those children who, because of poverty and a lack of other enabling conditions, have had little academic success in school. Seventy-two schools were selected for the project on a number of criteria including low academic performance of students in the target areas.

During the first five years, 1998 through 2003, the project employed a holistic approach that included ten interrelated interventions that were developed and used in order to accomplish the desired increased academic success. However, for the last two years 2003 – 2005, a smaller number of interventions are being emphasized. These include the Educational Technology intervention that was attempted in the latter part of the first five years. In addition more persons have been hired to monitor and assist schools to implement the targeted instructional and management strategies. These persons visit schools on a regular basis. Systems, such as computerized administrative and student tracking systems, are also being updated. These systems are to assist schools in

monitoring their own performance. The results of such individual school monitoring can be aggregated to examine project performance.

Thus, the expected products of the contractor's work are changes in schools and classrooms that result in individual students having greater academic success in primary school. These expected results are being measured through the indicators for the USAID strategic objective, the intermediate results, and other objectives.

Until the internal systems are fully operational, however, monitoring is being carried out as part of the formative evaluation effort designed to provide feedback to program technicians implementing the interventions. As one part of the formative evaluation requires in-depth data collection, a representative sample of NHP schools is selected each year for evaluation purposes.

Many of the indicators for monitoring performance are complex concepts that require the combination of qualitative and quantitative methods to measure accurately. The following pages discuss the procedures used to collect data on NHP indicators. Subsequent chapters present the findings of the formative evaluation, in terms of change from the baseline data, and provide conclusions and implications drawn from these findings.

B. Methodology

1. Indicators

The indicators are taken largely from the U. S. literature on school/classroom effectiveness and on the growing body of international literature on classroom interaction and educational quality. Three levels of indicators were used. The first relates to student performance in terms of mastering the curriculum. This is the measure of the strategic objective: Increased literacy and numeracy among targeted Jamaican Youth. The second consists of indicators of the quality of teaching that includes teacher performance, as this is one factor that is generally associated with greater quality in terms of students' academic performance. The third are the indicators of system support or enabling factors such as efficient school management, professional development opportunities for teachers, and parent participation in the education of their children, that must be in place to improve the performance of individual children.

The description of indicators is shown below in table 1:

Table 1: Definitions and units of measure for Strategic Objective and Intermediate Results

Strategic Objective/ Intermediate Results	**Definition**	**Unit of measure**
SO4: Increased Literacy & Numeracy among Jamaican Youth	Percentage of students (disaggregated by gender) meeting the near mastery criterion in Grade 6 of New Horizon Schools	Number of Grade 6 NHP students with scores of 50% and greater on the national Grade Six Achievement Test divided by all Grade 6 NHP students.

Strategic Objective/ Intermediate Results	Definition	Unit of measure
IR4.1: Improved quality of Teaching	Composite of the following three areas:	
	1) Content knowledge of students	a) Percent of students at or above "near mastery" on the Grade Three Diagnostic Test -Language, b) Percent of students at or above "near mastery on the Grade Three diagnostic Test -Mathematics.
	2) Classroom learning environment	Score on the "Classroom Environment scale" aggregated across classrooms.
	3) Teaching for learning	Percent of child-initiated interactions aggregated across classrooms.
IR4.2: Increased Student Attendance	Average daily attendance by gender	Number of enrolled students attending class on a given day divided by all students on roll, averaged over 190 days.
IR4.3 Improved Management of Schools	The average number of schools implementing School Development Plan activities in literacy & numeracy.	A weighted average where: Schools implementing both are weighted 1; schools with only one area are weighted 0.5, and schools not implementing any are weighted 0.

2. Design

The basic design is one that uses on-site observation of classrooms, teacher interviews and prinipal interviews supported by data collection instruments such as inventories, checklists, classroom observation forms, and interview schedules/questionnaires. These were employed to measure the conditions in place for effective learning. This design allows for the measurement of the impact of the interventions implemented to improve learning, especially among students who have had limited success in school. Evaluation efforts focused on both females and males. This is important not only to ensure that initiatives are equitable but also to identify initiatives and strategies that are successful regardless of gender.

Study Sample: In 2004, for the on-site observations and interviews, a stratified sample of 25% of project schools was drawn from the universe of 72 schools. Schools were stratified by size (small, medium, or large) and type (primary or all age) then randomly selected within strata. As the focus of the project is a "ground-up" approach that begins with needs identified by participating schools, those schools that had been most involved in NHP activities during the year were over-sampled. The final sample consists of 18 schools and 37 classrooms for intensive data collection and analysis.

The focus of the field data collection was on third grade. The purpose of the formative evaluation was to obtain in-depth, systematic data, in a limited amount of time. Thus, it concentrated on one grade as an indicator of general progress. Third grade was chosen, because there are test scores available that allow greater diagnostic ability and permit the monitoring of change in the cohort of third graders serving as the baseline over the life of

the project. This is important because both the1998 and 1999 NAP scores suggest that NHP children fall behind principally between third and sixth grade.

In the first two years of the evaluation, first, second, fourth, fifth and sixth grade classrooms were also observed. The data from these classrooms showed the same general patterns as those for the sample as a whole. This suggests that for monitoring purposes, third grade results can be used as a general indicator of progress.

Data for the measure of the strategic objective was obtained from all students in the Grade 6 of the New Horizon Schools, and other comparison schools.

Comparison Sample: A midterm evaluation of NHP conducted in June/July 2002, suggested that for comparison on the overall results of student achievement, a comparison sample of schools similar to the NHP schools should be drawn. The evaluators argued that this would provide a fairer measure of NHP progress than comparing NHP to all non-NHP schools. In order to comply with this request the formative evaluation team created a retrospective comparison group. Each of the 72 NHP schools were matched by size and by 1998 GSAT performance to a similar school in the same geographical area. The mean GSAT test results for each year for this group of schools were then compared to NHP schools.

Instruments: Instruments used during the on-site observations included classroom maps, materials inventories, classroom observation forms, classroom environment assessments, and interviews guides for use with teachers, students and school principals.

a) Classroom maps were employed to identify children and to examine the context in which they interact with teachers.

b) Materials inventories measured both the presence and use of all materials at different times during math and language arts lessons. Observational sweeps were made at three points in time during each academic context. At each sweep, the number of books and ancillary materials available and in use, were counted.

c) Classroom interaction was measured through a teacher-student interaction protocol. This instrument focused on teachers' interactions with individual students and the nature of those interactions in different academic classroom activities. In order to ensure consistency and control for contemporaneous events that might influence behavior patterns, the form was used for ten minutes at six different times during the instructional day in the classroom that was beign observed. Three observations took place during mathematics lessons and three during language arts. Thus, a behavioral sample of 30 minutes for each of the target content areas was created. Researchers used the classroom environment instrument to rate the appropriateness of the classrooms for child-centered learning.

d) Teachers' perceptions of the interventions, as well as their mastery of and commitment to the new approaches implemented under NHP, were tapped by a teacher interview schedule. Similarly, changes in the school management planning and systems were measured through an interview with the principal. Students were queried about activities in the home and involvement of parents in the children's reading.

Fieldwork Procedures: A schedule of school visits was developed with the field workers, and NHP staff contacted the principals and informed them of the visits. One of the backstop personnel for the institutional contractor assisted in scheduling and supervising the fieldwork. Fieldworkers synchronized observations through training exercises during the workshop. This training included exercises with the instruments using videotapes of classroom interaction in schools to ensure consistency in observations and interviewing. Parallel observations were conducted with the instruments until an inter-observer agreement coefficient of above 0 .76 was reached for all observational instruments.

Procedural guides and operational definitions were attached to specific instruments as references to ensure consistency in field procedures during the investigation. Following each day of fieldwork, the coordinator gathered the instruments from the teams and the backstop personnel monitored the quality of the data collection and entered the information into SPSS spreadsheets. Eighteen schools were visited and complete sets of data were collected from 37 classrooms.

Data Analysis: The principal unit of analysis was the classroom. As the interventions are focused largely on improving teaching, it is changes in classroom-level environments and behaviors that affect student learning. Data analysis consisted of calculating the absolute and relative frequencies of each behavioral indicator and making comparisons across the three evaluation years. Differences by types of schools were also examined. Special indices were created to measure complex issues such as teaching quality. Where appropriate, statistics such as chi-square and correlations were used to examine relationships among the sample.

C. Assumptions

The ongoing formative evaluation is based on several assumptions. First, the school and the class are the key units of analysis in planning and intervening to improve the quality of learning. Second, the school is a social system and the interaction of all of the elements within a school has an influence on student learning beyond that provided individually by inputs to the school. This is not to suggest that the uniqueness of each school makes aggregate measurement impossible, but rather that accurate measurement of the impact of schooling is a complex undertaking requiring the integration of a variety of data collection approaches.

II. FINDINGS

A. Improved Quality of Teaching

Was there improvement in the quality of teaching? As noted in Table 1: The quality of Teaching was measured through an index made up of three generally accepted standards for determining teacher performance: content knowledge of students; environment for student learning; and teaching for student learning. There has been improvement in the overall index each year of project implementation up to 2004, except for 2003 as shown in table 2. However, the overall change has been small. It has gone from .43 in 1999 to .52 in 2004.

Table 2: Index of the quality of teaching by year

	1999	2000	2001	2002	2003	2004
Index	0.43	0.44	0.48	0.52	0.47	0.52
Maximum = 1						

1. Content knowledge of students

This was defined and measured as the percentage of NHP children reaching near mastery and mastery in the subject area over all NHP children taking the third grade diagnostic tests was used as the measure of content knowledge. One constraint was the availability of data in each year for all the schools.

a) Mathematics -Third Grade

There has been substantial improvement in the percent of third grade students who are at near mastery or better in mathematics from the 1998 baseline to 2004 (Table 5). This is highest for girls (+14.4%) than for boys (9.8%). However, the increase has not been consistent from year to year and initial increases were followed by declines.

Table 3 shows the change in the percentage of children reaching near mastery of the third grade mathematics curriculum, as measured on the diagnostic test for that subject. Changes in student performance in NHP schools are compared to all primary level schools not participating in the NHP program. Both yearly change and total change from the baseline are provided. As can be seen, there is a moderate overall change (+6.2% for girls and +3.2% for boys) in the NHP schools from 1998 to 2004. In 2003 & 2004, the NHP girls experienced a slight decline in comparison to a 3.4% increase in 2003 for the non-NHP population, whereas NHP boys were experienced a decline in 2003 but a slight increase in 2004.

Lower near mastery levels may be the result of greater numbers of the third grade population reaching mastery. This is shown both by the percentage of children in the mastery category in subsequent years and by the total percentage of children in the mastery and near mastery categories. Ideally, all children will be in the mastery category. Table 4 shows an increase for both NHP and non-NHP schools over the baseline position. However as shown in table 4, while the percent of boys in the mastery category in 2004

has almost tripled (2.6 times), boys are just slightly above the percent of girls in this category in 1998.

Table 3: Change in Near Mastery on Third Grade Diagnostic Mathematics Test in NHP and non-NHP Schools by Gender and Year

Year	Third Grade Female				Third Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	37.9		43.0		28.8		33.8	
1999	45.1	+7.2	45.0	+2.0	37.0	+8.2	38.5	+4.7
2000	38.0	-7.1	43.0	-2.0	29.0	-8.0	35.0	-3.5
2001	41.8	+3.8	41.0	-2.0	34.8	+5.8	36.5	+1.5
2002	48.1	+6.3	45.2	+4.2	37.1	+2.2	40.5	+4.0
2003	47.4	-0.7	48.6	+3.4	31.2	-5.9	40.0	-0.5
2004	44.1	-3.3	n/a		32.0	+0.8	n/a	
Change from Baseline		+6.2				+3.2		

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

Table 4: Change in Mastery on Third Grade Diagnostic Mathematic Test in NHP and non-NHP Schools by Gender and Year

Year	Third Grade Female				Third Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	9.3		12.7		4.1		7.9	
1999	19.4	+10.1	28.0	+15.3	11.8	+7.7	19.5	+11.6
2000	18.0	-1.4	24.0	-4.0	9.0	-2.8	15.0	-4.5
2001	21.9	+3.9	35.3	+11.3	11.4	+2.4	25.3	+10.3
2002	17.2	-4.7	28.7	-6.6	8.9	-2.5	19.7	-5.6
2003	10.3	-6.9	19.3	-9.4	6.0	-2.9	15.0	-4.7
2004	17.6	+7.3	n/a		10.7	+4.7		
Change from Baseline		+8.3				+6.6		

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

Table 5: Change in Mastery and Near Mastery on Third Grade Diagnostic Mathematics Test in NHP and non-NHP Schools by Gender and Year

Year	Third Grade Female				Third Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	47.2		55.7		32.9		41.5	
1999	64.5	+17.3	73.0	+17.3	48.8	+15.9	58.0	+16.5
2000	56.0	-8.5	67.0	-6.0	38.0	-10.8	50.0	-8.0
2001	63.7	+7.7	76.3	+9.3	46.2	+8.2	61.8	+11.8
2002	65.3	+1.6	73.9	-2.4	46.0	-0.2	60.2	-1.6
2003	57.7	-7.6	68.0	-5.9	37.2	-8.8	54.5	-5.7
2004	61.6	+3.9	N/a		42.7	+5.5	N/a	
Change from Baseline		+14.4				+9.8		

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

b) Language Arts - Third Grade

Tables 6, 7 and 8 show that systemic improvement in students' achievement in third grade Language Arts curriculum has been difficult for NHP to achieve, even though the NHP schools have managed to move a higher percent of students into the mastery level (table 7) than the non-NHP schools. The percentage of both NHP and non-NHP children reaching near mastery or better has declined since 1998 (Table 8) with the non-NHP schools showing a larger decrease in the percent of students than the NHP schools. On the other hand, while there has been a slight increase in the percent of students reaching mastery, there has been a decline in the percent of students reaching near mastery. It seems that as students move out of the near mastery level to the mastery level, sufficient students are not moving into the near mastery levels. Of note, however, is that while the percent of boys in the mastery level (table 7) has increased slightly, the percent of boys at this level in 2004 (14.4%) is still not at the 1998 level of girls (26.2%).

Table 6: Change in Near Mastery on Third Grade Diagnostic Language Arts Test in NHP and non-NHP Schools by Gender and Year

Year	Third Grade Female				Third Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	46.9		40.7		37.8		40.0	
1999	42.0	-4.9	34.6	-6.1	37.9	+0.1	34.8	-5.2
2000	42.0	0	39.0	+4.4	34.0	-3.9	37.0	+2.2
2001	36.7	-5.3	32.4	-6.6	33.3	-0.7	32.9	-4.1
2002	42.1	+5.4	35.7	+3.3	36.4	+3.1	36.3	+3.4
2003	40.2	-1.9	36.9	+1.2	36.3	-0.1	36.8	+0.5
2004	42.4	+2.2	38.2	+1.3	36.2	-0.1	35.4	-1.4
Change from Baseline		-4.5		-2.5		-1.6		-4.6

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

Table 7: Change in Mastery on Third Grade Diagnostic Language Arts Test in NHP and non-NHP Schools by Gender and Year

Year	Third Grade Female				Third Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	26.2		37.7		13.5		21.9	
1999	31.1	+4.9	46.1	+8.4	16.5	+3.0	29.0	+7.1
2000	28.0	-3.1	38.0	-8.1	13.0	-3.5	23.0	-6.0
2001	32.8	+4.8	48.5	+10.5	16.9	+3.9	33.1	+10.1
2002	33.9	+1.1	45.7	-2.8	16.2	-0.7	29.4	-3.7
2003	32.1	-1.8	44.4	-1.3	15.6	-0.6	28.7	-0.7
2004	20.6	-2.5	37.3	-7.1	14.3	-1.3	21.2	-7.5
Change from Baseline		+3.4		-0.4		+0.8		-0.7

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

Table 8: Change in Mastery and Near Mastery on Third Grade Diagnostic Language Arts Test in NHP and non-NHP Schools by Gender and Year

Year	Third Grade Female				Third Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	73.1		78.4		51.3		61.9	
1999	73.1	0	80.7	+2.3	54.4	+3.1	63.8	+1.9
2000	70.0	-3.1	77.0	-3.7	47.0	-7.4	60.0	-3.8
2001	69.5	-0.5	80.9	+3.9	50.2	+3.2	66.0	+6.0
2002	75.9	+6.4	81.4	+0.5	52.6	+2.4	65.7	-0.3
2003	72.3	-3.6	81.3	-0.1	51.9	+0.7	65.5	-0.2
2004	72.0	-0.3	75.5	-5.8	50.5	-1.4	56.6	-8.9
Change from Baseline		-1.1		-2.9		-0.8		-5.3

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

2. Environment for student learning

Learning environment standards relate to the social and emotional components of learning as prerequisites to and context for academic achievement. Thus, the focus is on the physical setting created by the teacher and the resources available. A six-item scale, dealing with the fostering of a positive self-concept, the creation of a nurturing environment that supports gender equity, and the organization of space and materials to allow a variety of learning opportunities, was used to measure the quality of the environment. Researchers used the assessment instrument after a complete series of observations in a classroom. Specific criteria were provided with each item to ground the ratings. Ratings were made on a three-point scale of "not met," "partially met," and "fully met". Thus, scores ranged between a minimum of six and a maximum of 18. Scores were expressed as a ratio of the actual score over the total possible score.

Table 9 compares the classroom environment scores for 1999, through 2004 by school size. The table shows that there has been a steady improvement each year. This improvement is related to the implementation of the new curriculum in NHP schools and the interventions of NHP. Both emphasize changing the classroom environment to create a participatory situation for students. Classroom environment scores that were lower for the large schools than the small schools in 1999 to 2001 have become quite similar by 2003.

Table 9: Mean Classroom Environment Scores by School Size

Mean/School Size	1999	2000	2001	2002	2003	2004
Small	.5929	.6389	.7350	.7589	.7996	.8533
Medium	.5900	.6588	.7359	.7597	.7993	.8136
Large	.4867	.5490	.7080	.7845	.7948	.8121
Total	.5464	.6115	.7218	.7711	.7977	.8286

In 2001, through 2004, classrooms generally met criteria of lack of physical punishment and interacting with individual children often. Equal lighting, ventilation, and furniture for boys and girls were also generally met, and there was an increase in displaying children's work. Other criteria such as creating a variety of learning opportunities within the classroom, encouraging children to express themselves with peers and adults, using materials that showed males and females in traditional and non-traditional roles, showed improvement in 2004. This reflects teachers increasing ability to use the limited space available in many of the classrooms, especially those in larger schools, in creative ways.

3. Teaching for student learning

Teaching for student learning is concerned with the act of teaching and its overall goal of helping students understand the content that they are imparting and the ability to present the content in a manner that is consistent with the knowledge, interests and abilities of the students. For the purposes of monitoring, the focus has been on interactions in the classroom between teachers and students.

a) Classroom interactions

Student-initiated interactions were taken as one aspect that made up the composite measure of Quality of Teaching, as such interactions show teachers' willingness to recognize student input. Student-initiated interactions were found to be a very low percentage of all interactions in teacher-centered classrooms. As mentioned, a corpus of 60 minutes of observations of academic lessons was collected in each classroom. These observations were divided equally between mathematics lessons and language arts lessons.

Table 10 presents the percentage of observed interactions initiated by teachers and students in the normally occurring contexts of the classroom in each year from 1999, to 2004. The table shows the percentage of interactions initiated by each actor in the contexts observed taking place in the classroom. The bottom row provides the overall percentage of interactions initiated by teachers, boys, and girls. Teacher-initiated

interactions predominate in all the years. They make up at least 87.7% of all interactions. Student-initiated interactions increased somewhat from 1999 to 2000, but decreased in 2001. They increased slightly in 2002 but went on to decrease in 2003 & 2004, nearly reaching the 1999 baseline levels

Table 10: Interactions Initiated by Teachers and Students

Year	Interaction Initiator		
	Teacher	Boy	Girl
1999	92.5%	3.8%	3.6%
2000	88.7%	5.2%	6.1%
2001	90.1%	3.6%	4.9%
2002	87.7%	5.1%	6.9%
2003	91.2%	3.8%	5.0%
2004	92.2%	3.8%	3.8%

. The continued high percentage of teacher-initiated interactions suggest that there has been little progress overall in changing the pedagogy employed by NHP teachers, as teaching strategies remain centered on the teacher initiating learning opportunities for children. Little difference is noted by the gender of the students, as both boys and girls initiate interactions with similar frequency.

4. **Other aspects of the quality of teaching**

From the data that was collected at the school level, other useful information can be obtained about teaching skills; such as a) the context of interactions; quality of teacher-student interactions; use of materials; and teachers' mastery of and commitment to NHP interventions. The focus here is on specific behaviors engaged in by teachers that encourage children to participate in the learning process.

Context of interventions. Table 11 shows the types of contexts in which the interactions occurred. As can be seen there have been changes in NHP classrooms over the years. The traditional context of a large group in which the teacher works with the entire class, however, remains the principal instructional method and is the context in which four-fifths of interactions occur.

Table 11: Interactions by Classroom Context

Classroom context	1999	2000	2001	2002	2003	2004
Teacher-led small group	9.2%	2.4%	7.3%	17.5%	13.3%	6.1%
Student-led small group	2.1%	.3%	.5%	0.4%	1.5%	8.1%
Large group	49.2%	75.5%	65.2%	66.0%	75.7%	81.1%
Seatwork	34.4%	19.4%	23.9%	15.2%	6.4%	2.8%
No instruction	5.1%	2.5%	3.2%	0.7%	3.1%	1.9%

The following changes are noted from table 11:

a) Small group instruction has shown a slight increase (11.3%, 1998 to 14.2% in 2004), with student-led small groups showing small increases.

b) Use of large group instruction increased from 49.2% in 1999 to 81.1% in 2004.

c) A decline in the use of seatwork. The use of seatwork decreased from 34.4% in 1999 to 2.8% in 2004.

The use of the small-group learning context, which is indicative of student participation and a decentralization of learning, increased by 10% in 2003, but then went on to decrease by about 3% in 2003 with a further decrease in 2004. At the same time in 2003 there was a 10% increase in large group activities and a continued decrease in the relative amount of seatwork.. As would be expected, the participation in these contexts is very similar for girls and boys.

A possible reason for the dramatic change in large group instruction that is seen could be obtained from considering at the same time the large decrease in seatwork. It could be that teachers are providing active instruction and not just allowing students to complete exercises in their books. The initial increase in the use of small-group instruction may have corresponded to the training that was held but this was not sustained in subsequent years.

Quality of teacher-student interactions: Teachers' ability to impart information and encourage inquiry rests largely with the types of verbal and non-verbal interactions that they use to engage students. To be effective, such interactions create situations that allow students to apply their knowledge and not merely memorize facts. Teachers must also monitor learning to make certain that students assimilate information accurately and can use what they have learned. Permitting students to expand ideas together with providing feedback and explanation as needed are generally considered manifestations of these skills.

The structured observations of mathematics and language arts, described previously, were used to collect data on the quality of student-teacher interactions. The percentage of all interactions that involved explanation and feedback was used as the measure of teaching skill. As shown in Table 12, the percentage of interactions that included explanation or expansion of ideas has doubled over the life of the NHP project (from 13.4% to 26.0%). Feedback through punishment was similar for the four years and occurs in a small percentage of interactions.

Table 12: Quality of Interactions

Context/Interaction	1999	2000	2001	2002	2003	2004
Questions	37.3%	64.1%	48.3%	59.0%	58.1%	62.8%
Expands	13.4%	7.3%	17.1%	23.0%	22.5%	26.0%
Orders	40.6%	30.3%	38.5%	47.7%	51.7%	42.3%
Dictates/Lectures	20.3%	18.1%	9.2%	3.2%	4.6%	5.0%
Reinforces	2.9%	3.3%	8.2%	7.7%	12.9%	8.4%
Punishes	1.5%	1.3%	3.2%	1.6%	1.6%	1.9%

Questions and commands are the principal types of speech behaviors engaged in by teachers. These have increased over 2001 percentages. Dictates and lectures decreased

from 2001 to 2002, but then increased slightly in 2003 & 2004. Although explanation and feedback remain a small part of the quality of teacher's speech acts, this is increasing and reflects attempts to engage students in the learning process.

Use of materials: A principal focus of the project is on improving the availability and use of instructional materials. Both texts and supplementary instructional provide children with a channel for interacting with academic content on an ongoing basis. Often, however, it is assumed that once children have books available teachers can use these effectively. Teachers may lack practical experience in using texts. The purpose of this indicator is to confirm the provision of sufficient supplementary materials to classrooms of project schools to enrich the teaching and learning of literacy and numeracy, and to indicate the level of use of these materials.

Use of materials was measured by three visual sweeps of the classroom during both mathematics and language arts lessons. During the sweeps, the number of available books and supplementary instructional materials and manipulatives were counted separately then the number actually in use was noted. The average number of materials available per child, as well as the average number of materials in use was calculated.

As shown in Table 13, both mathematics texts and supplementary materials such as manipulatives, and reading materials increased in the classrooms. This was in part due to the supplementary materials provided by NHP, which were present in a number of sample classrooms. However, in several schools these materials were found stored in the teacher's office or in libraries rather than present in classrooms. The availability of reading materials increased to the extent that almost two texts per child, on the average, were observed to be readily available in the sample classrooms.

Table 13: Availability and Use of Texts and Other Learning Materials

Subject	Availability						Use					
	1999	2000	2001	2002	2003	2004	1999	2000	2001	2002	2003	2004
Math	.20	.40	.54	.69	.55	1.1	.25	.13	.18	.18	.13	.99
Reading	.40	.90	.91	1.73	.96	N/a	.27	.20	.13	.25	.15	.28

The use of materials has increased in 2004 in comparison to previous years. Almost all the observed children, on the average were observed to use mathematics texts or manipulatives during lessons. But only one in four children, on the average was observed to use reading/language arts materials during lessons in this area.

Mastery of NHP interventions: There is consensus in the international literature on educational innovation that mastery of new instructional approaches by teachers is a critical factor in adoption and sustainability. As NHP interventions were not yet in place when the formative evaluation was initiated in 1999, mastery was measured by asking teachers about the general objectives of the program. A second factor closely associated with mastery of the innovation is commitment to the new approach. This aspect of teaching skill was measured through a series of hypothetical questions in the teacher interview on circumstances that might deter a teacher from using an approach.

Teachers were asked about their knowledge of the NHP program, and since the main focus of NHP is on reading and math skills, scores were computed based on those teachers who mentioned that the NHP focused on improving both reading and mathematics. Table 14 shows that in 1999, a little over one-third answered reading and math, about one-half the next year, over two-thirds in 2001, by 2002, the percentage dropped by about 10, but went up in 2003 & 2004, to the current level of 87.2. Most of the teachers interviewed are aware of the objectives of the programme.

Table 14: Teacher Support of NHP

Year/Teacher Response	1999	2000	2001	2002	2003	2004
Knowledge of NHP	36%	52%	72%	62.5%	70.2%	87.2%
Use of Incentives	57%	70%	72%	79.2%	76.6%	89.7%

B. Increased Student Attendance:

The purpose of this indicator is to measure the extent to which project activities impact absenteeism rates among students. Attendance was examined by student gender, as male attendance is traditionally lower than female attendance throughout the country. Two aspects of attendance were measured. The first was the average daily attendance, and the second the reported strategies that teachers were using to improve attendance.

1. The average daily attendance

The usual measure of attendance is being used: that is the percent of enrolled students who are attending on a given day, averaged over the year. However, the percent attendance on the day of the classroom observation is computed, and used as a correction factor for the official school attendance figures, as official school attendance may run the risk of inflation or deflation. The average daily attendance in 2003 sample schools was 77% for girls and 76% for boys, while in 2004 it moved to 83% for boys, and 84% for girls. Overall the average daily attendance has shown an increase.

2. Teachers reported strategies

The key to the success of incentive programs will be their integration with the teaching-learning process; thus, classroom teachers are the appropriate source of information about incentives. Teachers were asked to list all of those incentives that they were using in their classrooms to improve attendance. In 1999, half of the teachers interviewed stated that they used incentives to increase attendance. This increased up to 79% in 2002 and showed a slight decrease of 2% in 2003. However, by 2004, 90% of the teachers interviewed reported using strategies to encourage students to come to school.

C. System Support

In order to improve the success of children, teachers must be supported by an infrastructure at the school and national level. This includes support for professional development that will contribute to successful teaching and learning, effective management of the local learning institution to ensure that teachers can focus on teaching, and participation of community members in the education of their children.

1. School Visits by NHP Specialists

In 2004, 36 of the 39 (92.3%) as compared to 38 of the 47 (81%) teachers interviewed in 2003, reported that NHP specialists had visited their classrooms. The table below shows the specific activities carried out by the project specialists. The data show that NHP observation of teaching was reduced considerably by 2002 and 2003 but increased in 2004. Didactic training and the demonstration of new teaching methods have increased since 2001. Furthermore the demonstration of new materials and showing how to use new technologies has increased considerably in 2004. This increase is most likely due to the recent presence of more personnel on the field.

Table 15: Teachers' Recollection of NHP Specialists' Activities

Activity	Number				Percent			
	2001	2002	2003	2004	2001	2002	2003	2004
Observe Teaching	29	28	28	30	91	58	60	77
Didactic Training	8	14	26	15	24	29	55	64
Demonstrate New Materials	2	9	5	10	6	19	11	26
Show how to use technology	n/a	n/a	1	8	n/a	n/a	2	21
Demonstrate New Teaching Methods	8	18	16	14	24	38	34	36

2. Professional Development

Training to upgrade skills and knowledge is one of the main ways that a school system provides support for teachers. Such training can come about through in-service courses and workshops or through interaction with colleagues who have specialized knowledge in a particular subject area such as mathematics or language arts. This indicator establishes the number of teachers that have engaged in professional development activities as a consequence of their participation in New Horizons. The indicator takes into account training in Jamaica and abroad. Schools with resource teachers are also used as an indicator. All professional development activities are coordinated with the Professional Development Unit of the MOEC.

Table 16 shows the four-year trends of teachers' participation in NHP training workshops and the percentage of schools that have resource teachers that provide in-service training and support for the implementation of NHP interventions. In May of 1999, none of the sample teachers had participated in NHP workshops, but by the 2001 evaluation, all of the sample teachers had participated. In 2002, the percent of the sample teachers who had participated had dropped to 88%. This increased to 100% in 2003 and dropped again to 85% in 2004. This could be due to the movement of teachers from and to another school.

Table 16: NHP Professional Development

Professional Development/Year	1999	2000	2001	2002	2003	2004
Teachers participate in Workshops	0%	85%	100%	88%	100%	85%
Schools with Resource Teachers	15%	94%	100%	98%	100%	97%

3. School management

Tracking of school resources and students is an important function of school management. Such tracking should be undertaken within a framework of specific objectives and activities. Thus, the utilization of school development plans in regard to NHP activities together with the utilization of the computer and accompanying administrative software, which can speed principals' decision-making and ease reporting burdens, are the indicators of effective school management. Effectiveness of school boards is an additional indicator of school management.

As part of the NHP program, principals were asked to design and report on the implementation of school development plans taking into consideration school needs, teacher training, curriculum design and parent/community involvement, especially as related to improving student literacy and numeracy. Among sample principals, 30% had completed this task at the time of 1999 formative evaluation data collection. Since most of those interviewed mentioned progress in completing the plans, it was expected that the number would increase rapidly. As can be seen from Table 17, all principals were implementing their development plans by May of 2000.

Given that all of the sample schools had school development, a new indicator that was to be more sensitive to implementation of the plans was developed. The new measure asked principlas what activities in the school development plans they had implemented, and scored the spontaneous mention of literacy and numeracy activities. The index was then computed by assigning the value of 1 to schools that mentioned doing both, 0.5 to schools that mentioned doing either literacy or numeracy, and 0 to schools that did not mention either; the sum of these values was then divided by the number of schools in the sample. The value of the index was .52 in 2001, .67 in 2002 and dropped to .44 in 2003, reaching less than half the planned target for 2003, and dropped further in 2004.

In an effort to validate the measure in 2003, and 2004, school development plans and activity reports for the sample schools were examined. Based on these findings, the index was recomputed yielding in 2003 and .88 in 2004. The reason for the discrepancy in the two computations of the index needs to be determined. It may be that Principals take as routine classroom instruction programmes in literacy and numeracy and do not spontaneously mention them as special activities that are being implemented.

Table 17: NHP School Management

Professional Development/Year	1999	2000	2001	2002	2003	2004
School Development Plan	30%	100%	100%	100%	100%	100%
School Development Plan Implementation	NA	NA	.52	.67	.44	.33
					.70	,88
Computer present	25%	68%	100%	100%	100%	100%
Computer used for administration	0	20%	61%	88%	60%	72%

The percentage of schools with computers increased each year, and all NHP schools had computers in 2001 2002 and 2003, and 2004. In 2001, ninety-four percent of the principals said that they had received a computer from NHP; in 2002, 96% of the principals said they had received a computer from NHP, and in 2003, & 2004 it was 100%. With the training and the Jamaica Schools Administration Software (JSAS) developed by NHP, the use of computers for administration increased from 20% in 1999 to 88% in 2002 and dropped to 60% the following year, but moving to 72% in 2004. In 2004, 22% of the principals in the sample schools reported that computers were malfunctioning. This could be one reason for the decline in use of the computers.

4. Community Involvement

The body of research on parent participation shows positive effects brought about by parental emphasis on literacy and other achievement in the home. As the focus of the project is on improved student learning, parental participation in learning is measured. In addition, parental participation in management is important to assure that schooling is relevant to community interests. Thus, the presence of parent-teacher associations and the frequency of their meetings are also indicators monitored through the formative evaluation. Other indicators, such as the number of schools with parent participation programs and training for parent and community leaders, will be monitored in partnership with the NCE.

Samples of NHP students were asked about parental involvement in their studies. In 1999, these interviews were conducted as part of the NHP school survey, whereas in 2000 and 2001, data were collected as part of the formative evaluation. Table 18 shows that there has been a slight increase each year from 1999 to 2001 in the number of students who stated that either their father or their mother assisted them in their reading, a 10% decrease in 2002, and another small decrease in 2003, but an increase of 6% in 2004. When all family members are considered, in 2001, 94% of the children who said that they read at home did so with a family member. In 2002, the percentage had dropped to 76% of the children in the sample, and in 2003 the percentage had dropped to 74%, but in 2004 it had dramatically increased to 93%.

As with the previous two years, all the schools in the 2004 sample reported having Parent-Teacher organizations. There was a 10% drop between 2001 & 2002 in the

percent of PTAs that meet on a regular basis, and in 2003 the same percentage of school PTAs continued to meet regularly as in the previous year. However, there was a 5% increase in 2004 to 89%.

Table 18: NHP Community Involvement

Year	1999	2000	2001	2002	2003	2004
Parent Participation in Learning	36%	42%	54%	44.4%	42.9%	49%
PTA present	89%	100%	100%	100%	100%	100%
PTA meets regularly	33%	94%	94%	84%	84%	89%

D. Improved Student Performance

What progress has the interventions made in increasing the literacy and numeracy among Jamaican youth? The measures of the intermediate efforts are showing inconsistent results.

Jamaica is promoting pupil-centered "everyone can learn" concept of teaching rather than a norm-based "cream of the crop" approach. Thus, the focus is shifting to all children's mastery of the curricular content. This means that the array of individual scores will shift from the normal distribution or "bell shaped curve" associated with a norm-based assessment and mean scores, toward a "J-curve" with a few students falling at the low end and the middle and most scores reflecting a high degree of learning. However, with the current inverse J-curve, the first step is to move students to "near mastery" levels.

The formative evaluation originally examined both third and sixth grade mastery, however at the time it was somewhat difficult to obtain complete data sets of either NHP or non-NHP third grade tests, owing to their diagnostic purpose, which leads schools not to report results on time. This improved in 2004 by using new procedures for data capture. So the decision was to use the sixth grade test, and so the USAID strategic objective team uses only sixth grade in their reporting.

Although NAP does not designate mastery levels for the sixth grade GSAT, the criteria used at the third grade level was employed in determining student progress (less than 50% correct = "no mastery," 50% to 75% correct = "near mastery" and above 75% = "mastery". Thus, the NAP and Student Assessment Unit criteria of less than 50% of the items in each domain correct as "no mastery" level, was used in the evaluation. The measure therefore, is the percent of students who meet near mastery (near mastery + mastery) on the Grade Six Achievement test in the subjects Language Arts and Mathematics (considered separately) disaggregated by gender.

1. Mathematics - Sixth Grade

Table 19 shows the change in the percentage of children reaching near mastery of the sixth grade mathematics curriculum, as measured on the GSAT test for that subject. The percent of students in NHP schools who were in the near mastery category began in 1998

at lower levels than non-NHP schools (NHP 27.4%, non-NHP 40.3%). This gap narrowed somewhat by 2004. Changes in student performance in NHP schools are compared to all primary level schools not participating in the NHP program. As can be seen, there is significant positive change from 1998 to 2002 with declines in 2003 and 2004 for boys and girls in NHP and non-NHP schools. Overall however, for NHP schools, over the seven years (1998 – 2004) the percent of boys and the percent of girls in the near mastery category has increased by nearly 6% over the percent of boys and the percent of girls in this category from the non-NHP schools. NHP schools have shown modest gains over the seven years. This would have been more if it were not for the decline in 2003, & 2004.

Table 19: Change in Near Mastery on GSAT Mathematics in NHP and non-NHP Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	13.9		26.5		5.5		13.8	
1999	22.2	+8.3	31.9	+5.4	8.8	+3.3	17.3	+3.5
2000	30.0	+7.8	31.8	-0.1	19.2	+10.4	22.9	+5.6
2001	32.2	+2.2	36.8	+5.0	20.6	+1.4	25.9	+3.0
2002	36.0	+3.8	38.4	+1.6	23.5	+2.9	27.6	+1.9
2003	27.1	-8.9	34.2	-4.2	17.2	-6.3	24.2	-3.4
2004	20.2	-6.9	26.6	-7.6	14.2	-3.0	19.4	-5.6
Change from Baseline		+6.3		+0.1		+8.7		+5.6

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

As shown in Table 20, the overall increase in the percent of students in the mastery levels have been higher for non-NHP boys and girls, than for NHP boys and girls. Although there has been an overall positive increase among NHP children of both genders from 1998 to 2000, there have been annual decreases for both NHP and non-NHP students from 2000 to 2003. The percentage of children at the mastery level in non-NHP schools is almost triple that of NHP boys and girls.

Table 20: Change in Mastery on GSAT Mathematics in NHP and non-NHP Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	0.3		2.9		0.2		2.3	
1999	1.7	+1.4	6.9	+4	0.8	+0.6	4.0	+1.7
2000	10.9	+9.2	22.8	+15.9	5.7	+4.9	15.5	+11.5
2001	9.8	-1.1	21.5	-1.3	5.2	-0.5	14.8	-0.7
2002	9.2	-0.6	19.2	-2.3	5.3	+0.1	13.5	-1.3
2003	6.0	-3.2	15.1	-4.1	4.0	-1.3	11.6	-1.9
2004	6.6	+0.6	14.1	-1.0	4.2	+0.2	11.3	-0.3
Change from Baseline		+6.3		+11.2		+4.0		+9.0

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

The change from baseline in children at near mastery and mastery has been a 12.7% & increase for girls and for boys (Table 21). This increase is about the same for NHP girls as for girls in the system as a whole. However, the percentage of girls with no mastery is still 14% greater in NHP than in system as a whole, owing to the low initial performance of children in the program. The general population of boys has shown a two percent greater increase in the combined near-mastery/mastery as the boys in NHP. There has been a decline in 2003, & 2004 with NHP schools showing a larger decline that non-NHP schools.

Table 21: Change in Near Mastery and Mastery on GSAT Mathematics in NHP and non-NHP Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	14.2		29.4		5.7		16.1	
1999	23.9	+9.7	38.8	+9.4	9.6	+3.9	21.3	+5.2
2000	40.9	+17.0	54.6	+15.8	24.9	+15.3	38.4	+17.1
2001	42.0	+1.1	58.3	+3.7	25.8	+0.9	40.7	+2.3
2002	45.2	+3.2	57.6	-0.7	28.8	+3.0	41.2	+0.5
2003	33.1	-12.1	49.3	-8.3	21.2	-7.6	35.9	-5.3
2004	26.9	-6.2	40.7	-8.6	18.4	-2.8	30.7	-5.2
Change from Baseline		+12.7		+11.3		+12.7		+14.6

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002 , 2003, 2004 database

Table 22 presents the mean scores in mathematics for NHP and a matched comparison group. As can be seen, The change form 1998 to 2004 in the mathematics mean scores for NHP schools is more than the change in mean scores in Mathematics for non-NHP schools. However, both set of schools, for both boys and girls recorded a mean that was on average 10 points lower in 2004 than in 2003.

Table 22: Change in Mean Scores on GSAT Mathematics in NHP and Comparison Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change by Year	Comparison	Change by Year	NHP	Change by Year	Comparison	Change by Year
1998	26.6		28.5		21.2		21.7	
1999	31.3	+4.7	32.3	+3.8	25.9	+4.7	26.3	+4.6
2000	35.3	+4.0	36.0	+3.7	28.3	+2.7	28.0	+1.7
2001	37.0	+1.7	38.0	+2.0	30.2	+1.9	31.1	+3.1
2002	38.2	+1.2	37.9	-0.1	32.1	+1.9	31.4	+0.3
2003	43.4	+5.2	44.0	+6.1	37.9	+5.8	38.0	+6.6
2004	32.8	-10.6	32.3	-11.7	28.3	-9.6	27.3	-10.7
Change from Baseline		+6.2		+3.8		+7.1		+5.6

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

2. Language Arts – Sixth Grade

For NHP schools, there are positive increases in the percent of students in language arts who are in the near mastery level following a similar trend to that for mathematics among NHP students. There are greater gains over time for NHP students than for their counterparts. However, in 2004 there is a continuation of the general decline in the percentage of NHP children at near mastery that started 2002. Boys in the general population follow a pattern similar to NHP children, and show greater gains than girls. Non-NHP girls, however, show an overall drop from the baseline year. The percent of girls in this category in NHP schools at the baseline year was twice the percent of NHP boys, but close to the percent of girls in non-NHP schools.

Table 23: Change in Near Mastery on GSAT Language Arts in NHP and non-NHP Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	34.2		39.6		15.2		23.5	
1999	37.3	+3.1	42.3	+2.7	17.3	+2.1	25.3	+1.8
2000	36.8	-0.5	33.7	-8.6	22.4	+5.1	25.0	-0.3
2001	38.7	+1.9	37.8	+4.1	25.6	+3.2	27.8	+2.8
2002	37.7	-1.0	38.4	+0.6	22.0	-3.6	27.1	-0.7
2003	37.5	-0.2	39.4	+1.0	20.9	-1.1	27.1	0.0
Change from Baseline		+3.3		-0.2		+5.7		+3.6

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

Change in the percentage of students reaching mastery is similar for both NHP and the general population of Jamaican primary level students. Huge increases in this percent of students that were achieved in 2000 were not maintained. Overall change from the baseline is more for boys than for girls in both the NHP and non-NHP groups. However, lower percentages of NHP children are at mastery because of lower initial levels in 1998.

Table 24: Change in Mastery on GSAT Language Arts in NHP and non-NHP Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change	Non-NHP	Change	NHP	Change	Non-NHP	Change
1998	8.3		20.4		2.1		8.2	
1999	9.3	+1	18.2	-2.2	1.6	-0.5	7.4	-0.8
2000	26.6	+17.3	39.3	+21.1	12.6	+11.0	24.6	+17.2
2001	18.6	-8.0	33.7	-5.6	8.4	-4.2	20.2	-4.4
2002	12.9	-5.7	24.7	-9.0	7.4	-1.0	13.5	-6.7
2003	10.4	-2.5	22.5	-2.2	5.5	-1.9	14.6	+1.1
2004	8.2	-2.2	17.1	-5.4	4.1	-1.4	11.1	-3.5
Change from Baseline		-0.1		-3.3		+2.0		+2.9

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

As shown in Table 25, girls in both NHP and non-NHP schools have shown an overall decline in the percents who achieved near mastery or mastery over the seven years. Initial gains in 200, were erased with declines in the percents from 2001 through 2004. On the other hand, boys in both NHP and non-NHP schools showed an increase over the baseline percents, with boys in the NHP schools showing a larger gain. The pattern seen in girls with a huge increase in 2000 and declining percents in the years after 2000 is also seen for boys, but the percent decline is generally smaller.. The gap between the percent of boys in this category in NHP and non-NHP schools is about 15%. This is the same for girls. However, in 1998, for NHP schools, the percent of girls was more than twice the percent of boys. By 2004, this gap had narrowed with a decline in the percent of girls and an increase in the percent of boys.

Table 25: Change in Near Mastery and Mastery on GSAT Language Arts in NHP and non-NHP Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change by Year	Non-NHP	Change by Year	NHP	Change by Year	Non-NHP	Change by Year
1998	42.5		60.0		17.3		31.7	
1999	46.6	+4.1	60.5	+0.5	19.9	+2.6	32.7	+1.0
2000	63.4	+16.8	73.0	+12.5	35.0	+15.1	49.6	+16.9
2001	57.3	-6.1	71.5	-1.5	34.0	-1.0	48.0	-1.6
2002	50.6	-6.7	63.9	-7.6	29.5	-4.5	43.1	-4.9
2003	47.9	-2.7	61.9	-2.0	26.4	-3.1	41.7	-1.4
2004	39.6	-8.3	53.3	-8.6	24.8	-1.6	36.7	-5.0
Change from Baseline		**-2.9**		**-6.9**		**+7.5**		**+5.0**

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003. 2004 database

The results for language arts mean scores with the comparison group of children are shown in Table 26. NHP students have made greater gains than the comparison group. However, the difference in gains is about three percentage points for the girls and less than one percent for the boys. Increases in the mean score that were seen in both groups for 1998 through 2003, were almost wiped out by the decline in mean score in 2004.

Table 26: Change in Mean Scores on GSAT Language Arts in NHP and Comparison Schools by Gender and Year

Year	Sixth Grade Female				Sixth Grade Male			
	NHP	Change	Comparison	Change	NHP	Change	Comparison	Change
1998	37.3		40.5		27.7		28.7	
1999	38.5	+1.2	40.1	-0.4	28.4	+0.7	29.5	+0.8
2000	44.7	+7.4	44.9	+4.8	33.7	+5.3	33.4	+3.9
2001	42.9	-1.8	44.7	-0.2	33.6	-0.1	34.1	+0.7
2002	40.7	-2.2	40.9	-3.8	33.4	-0.2	32.6	-1.5
2003	49.7	+9.0	50.2	+9.3	40.5	+7.1	40.9	+8.3
2004	36.9	-12.8	37.2	-13.0	30.4	-10.1	30.3	-10.6
Change from Baseline		-0.4		-3.3		+2.7		+1.6

Source: NAP 1998 and 1999 database, Student assessment Unit 2000, 2001, 2002, 2003, 2004 database

III. SUMMARY, CONCLUSIONS AND IMPLICATIONS

A. Summary of findings

The main purpose of the study was to assess the progress made by the New Horizons in implementing activities that will lead to increased numeracy and literacy for students whose schools had limited success in maintaining a high student achievement level. The comparisons made from the baseline year of 1998, or in the case of the qualitative data 1999, with the results of the formative evaluation in subsequent years (2000, 2001, 2002, and 2003) allow certain conclusions and implications to be drawn that can help to guide further implementation of the program. Further the indicators, measures and results also serve to provide a measure of project results.

Interventions in three targeted areas have been used on the programme. These are: improved quality of teaching; increased student attendance; improved system support; and improved management of schools. All these interventions, it was hypothesized would result in increased literacy and numeracy skill among students in the targeted schools.

1. Improved Quality of Teaching

This measure was only taken in a sample of the targeted NHP schools. The measure showed a small but steady increase over the six years of the project implementation. There are four sub-measures that contribute equally to the index that is used. These are: Content Knowledge of students in mathematics and language arts, the environment of student learning; teaching for student learning.

The content knowledge was measured by the results of the Grade 3 Diagnostic Test. These results were inconsistent. While improvements were seen in mathematics when measured from the baseline, that were greater than for the system as a whole there has not been a consistent increase each year. Improvement was seen in 2004, reversing the decline seen in the previous year. However, in language arts, the overall results show a slight decline (1.9%) from the baseline year 1998, the decline continuing in 2004. This is a smaller decline than for non-NHP schools. It must be noted that the NHP schools began with 73% of the females and 51.3 percent of the males in the target category. This percent was higher than the starting percent for mathematics.

The environment for student learning was measured through classroom observations. The results show that NHP has been successful in changing classroom environments so that they are organized to facilitate learning. Classroom environments improved each year in NHP schools. Children's work was displayed to a greater extent, teachers were positive when interacting with students, and in many classrooms, there was an improvement in the organization of space. This was true of large as well as small schools. The large schools had caught up with the small schools by 2004.

Teaching for student learning is measured by the quality of classroom interactions, as measured through structured classroom observations. The results show that teachers initiate a majority of the interactions between teachers and students. Initial increases in student-initiated interactions that were seen in 2000 and 2002, were not maintained, and by 2004 were back to the beginning levels.

Other aspects of the quality of teaching that were not used in the index suggest that other positive changes are taking place in the classrooms in NHP schools. There has been: a) a significant decrease in the use of seatwork as the context of classroom interactions, b) increases in the use of expansion and feedback in the interaction with students with a decrease in the use of lectures or dictates and c) a dramatic increase in the use of materials in mathematics classes in 2004, with almost all the observed students using materials in the class.

2. Increased Student Attendance

This has shown an increase in both the average daily attendance of 8% over the baseline, and in the percent of teachers who reported using specific strategies to encourage students to come to school. In 2004, 9 out of 10 teachers reported using such strategies.

3. System support

This area includes a number of initiatives that together provide support for the schools. These are a) school visits by NHP specialists and associates; professional development; school management, and community involvement.

The results show an increase in the reports of schools visits that resulted in an increase in the demonstration of new teaching methods and materials, especially in the use of technology. For professional development, almost all schools in 2004 (97%) reported having trained resource teachers, and while all teachers reported attending workshops in 2001, and 2003, this number fell in other years.

In school management, all schools reported having School Development Plans, but not everyone reported implementing the strategies that were in the plan. The use of computers and the JSAS for school administration increased dramatically from 20% in 2000 to 72% in 2004, peaking at 88% in 2002. The lack of use of the computers in some schools may be due to malfunctioning of the computers as almost one-quarter of the principals interviewed in 2004, reported that the computer could not be used.

Dramatic increases have been seen in the involvement of family members in 2004 over previous years, except in 2002. In 2004, almost all students (93%) who were interviewed reported reading at home with a family member. All schools have PTA's and in 2004, 89% of the schools, an increase of 5% over 2002 & 2003, reported that the PTA's met regularly.

4. Increased Literacy and numeracy

Have the interventions resulted in increased literacy and numeracy skills? Not in all instances and not to the expected amounts as measured by the Grade Six Achievement Test, and the targets that were set.

While targeted improvements have not been met, the results have shown fluctuating increases and decreases. Initial changes over the baseline were not maintained. There were also differences in the results by gender.

For the mathematics results, the targeted increased were met up to 2003 for girls and up to 2002 for boys. In 2004, both NHP boys and girls registered increases of 12.7% over the baseline position. The percent of boys in the targeted category in 2004 was triple the percent in 1998, while the percent of girls in the same category in 2004, was almost twice the percent of girls in the same category in 1998. This improvement for females has been greater that the system as a whole. Similar results were seen in 2004 in the changes from the 1998 baseline in GSAT mean scores that were higher for NHP girls and boys in relation to the matched comparison group.

For Language Arts, the results were different for boys and girls. While girls decreased over the baseline (47.5%, 1998; 39.6%, 2004), boys showed a positive increase of 7.5% (17.3%, 1998; 24.8%, 2004). It should be noted though that boys were starting at a different position than were the girls, so much so that in 2004, the NHP boys are still behind the 1998 position of the girls. The decline in the percent of girls in the targeted category is less than the system as a whole, and the decline in the mean score on the GSAT for NHP girls is also less than decline in the mean score for the comparison group. The increase in the percent of NHP boys in the targeted category is slightly ahead of the system as a whole, and the increase in the mean score on the GSAT over baseline for NHP boys is 1% more than the similar increase in the mean for the boys in the comparison group.

B. Conclusions

There has been qualified success of NHP in improving student performance. The results have fluctuated, and the steady increase anticipated over each year has not been seen. While results have improved over the baseline in mathematics for girls and boys in Grade 3 and in Grade 6, the boys have shown greater improvements than girls in the GSAT Language Arts. It could be that the gap in the initial starting point between boys and girls in Language Arts performance necessitated the use of small-group strategies that are proving so difficult for teacher to implement consistently.

Good progress has been made in improving the classroom environment, in increasing attendance levels for both boys and girls, in the availability and use of materials especially for mathematics, in the preparation and use of School Development Plans, and in the use of the computer and JSAS software for school administration.

While the quality of teaching index has shown small steady increases, the decline in the percents of the Grade 3 students meeting the target category in Language Arts, and the persistent lack of increase in the amount of student-initiated interactions in classrooms, have limited the amount of increase that can be expected from this index. Although some progress has been made by 2004, the participatory, child-center classroom approaches, emphasized by the NHP program, have generally not been consistently implemented in NHP classrooms. Furthermore, despite training and increased school visits and demonstration of materials and the use of technology, instructional delivery in NHP schools continues to take place in a teacher-directed large group context.

C. Implications

1. Improving Language Arts performance has proved challenging, especially for girls. Because of the gap in the performance between boys and girls, teachers may need to use small group instruction so that students may work on their own and so pay more attention to the needs of all students.

2. There are implications for training, and classroom visits, in devising strategies for continued training so that desired results such as the improved use of materials, the use of collaborative learning, and student-initiated interactions can be sustained. The increased use of the participatory, child-centered methodologies, espoused by NHP and the new primary curriculum suggests that achieving behavior change in schools and classrooms is a long-term endeavor.

3. The use of the NHP associates seemed to have a positive effect in 2004, as seen in the increased use of materials especially in mathematics, and in the reported increase in the demonstration of the use of technology. The demonstration of the use of small-groups and in how to allow more student initiated interactions could also be included on site visits.

4. The decline of language arts performance in both NHP and non-NHP schools over four consecutive years is cause for grave concern. This implies a system-wide decline in scores. NHP might explore these tends at the training activities with teachers and principals and/or if funds are available, conduct a special study in collaboration with the Evaluation, and Student Assessment Units of the to determine the cause of the problem.

5. There are indications that the use of computers is being limited by the inability to repair them. While some initiatives have started in this area, more needs to be done to plan with schools for the maintenance and replacement, if necessary, of needed equipment. This may also have implications for other equipment that is being distributed to schools.

6. The similarity of test performance between NHP students and students in matched comparison schools suggest that targeted efforts to improve schools may require greater investment to make significant change. NHP performance in relation to the comparison group should be monitored closely over the remaining life of the project. One reason for the closeness of the results that have been seen may be that other projects and similar initiatives may have been started system-wide. For example, a School Development Plan is now required of all schools, and the Revised Primary Curriculum is now available to all schools.

7. Although the administrative infrastructure for improvement in learning appears to be in place and is an important achievement of the NHP project, it is not yet focused sufficiently on supporting all the NHP objectives. More attention needs to be paid to the evaluation and the reporting aspects of the use of the School Development Plans. Administrators need to be able to make diagnosis of student performance and planning of strategies that will enhance student abilities in Mathematics and Language Arts an explicit part of the administrative process.

Appendix A: USAID Reporting Tables

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: SO Level 532-004

A. Description

Precise Definition: Percentage of students meeting near mastery in grade 6 of New Horizons schools.
Unit of Measure: Number of grade 6 NHP students meeting the criterion of near mastery/mastery on GSAT divided by all grade 6 NHP students.

Disaggregated By: Gender, and program (NHP; non-NHP)
Management Utility: Project impact on language arts performance, allows comparison with national average. This is important for determining the impact of NHP interventions in relation to overall system improvement, over the life of the project.

B. Plan for Data Collection

Indicator: NHP grade 6 boys' GSAT Language Arts scores
Source: Student test data from Student Assessment Unit
Data Collection: Yearly
Est. Cost of Collection: N/A
Responsible Organization: Institutional contractor's Chief of Party and formative evaluation team

C. Plan for Data Analysis, Reporting, Review

Data Analysis: Manipulate Student Assessment Unit database to separate NHP and non-NHP students by gender and mastery levels on GSAT (50% correct= near mastery; 75% correct=mastery) divide by total number for each group, calculate percentage change from 1998 baseline and by year.
Presentation of Data: Combined percentage of near mastery and mastery in Tables of planned and actual improvement by year.
Review of Data: Review is performed by the institutional contractor, SO team's annual portfolio review, and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues

Initial Data Qual/Assess: The criteria used to designate near mastery and mastery with the third grade diagnostic tests is used. Using these criteria, at the time of establishing the baseline and targets, over 80% of the grade 6 boys were in the "no mastery" group in Language Arts.
Known Data Limitations: The Student Assessment Unit does not designate mastery levels for sixth grade GSAT. Therefore, the third grade criteria of 50% and 75% for near mastery and mastery, respectively are used in determining student progress.
Actions Addressing Limits: The latest available data will be used.

E. Performance Data Table

Method of Calculations: NHP and non-NHP students separated by gender and mastery levels then divided by total number of NHP and non-NHP GSAT scores for each gender.
Key to Table: No key, the table is easily interpreted
Baseline & Target Notes:

Year	Planned	Actual
1998		17.0
1999	19.0	20.0
2000	22.0	35.0
2001	25.0	34.0
2002	30.0	29.5
2003	35.0	26.4
2004	30.0	24.8

F. Other

Comments: The slight decline is consistent with a decline for the system as a whole. This decline is likely related to an increased number of students, who were formerly held back, taking the GSAT and scoring in the "no mastery" level.

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: SO Level 532-004

A. Description

Precise Definition: Percentage of students meeting near mastery in grade 6 of New Horizons schools.
Unit of Measure: Number of grade 6 NHP students meeting the criterion of near mastery/mastery on GSAT divided by all grade 6 NHP students.

Disaggregated By: Gender, and program (NHP; non-NHP)
Management Utility: Project impact on language arts performance, allows comparison with national average. Important for determining the impact of NHP interventions in relation to overall system improvement, over the life of the project.

B. Plan for Data Collection

Indicator: NHP grade 6 girls' GSAT Language Arts scores
Source: Student test data from Student Assessment Unit
Data Collection: Yearly
Est. Cost of Collection: N/A
Responsible Organization: Institutional contractor's Chief of Party and formative evaluation team

C. Plan for Data Analysis, Reporting, Review

Data Analysis: Manipulate Student Assessment Unit database to separate NHP and non-NHP students by gender and mastery levels on GSAT (50% correct= near mastery; 75% correct=mastery) divide by total number for each group, calculate percentage change from 1998 baseline and by year.
Presentation of Data: Combined percentage of near mastery and mastery in Tables of planned and actual improvement by year.
Review of Data: Review is performed by the institutional contractor, SO team's annual portfolio review, and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues

Initial Data Qual/Assess: The criteria used to designate near mastery and mastery with the third grade diagnostic tests is used. Using these criteria, at the time of establishing the baseline and targets, over 57% of the grade 6 girls were in the "no mastery" group in Language Arts.
Known Data Limitations: The Student Assessment Unit does not designate mastery levels for sixth grade GSAT. Therefore, the third grade criteria of 50% and 75% for near mastery and mastery, respectively are used in determining student progress.
Actions Addressing Limits: The latest available data will be used.

E. Performance Data Table

Method of Calculations: NHP and non-NHP students separated by gender and mastery levels then divided by total number of NHP and non-NHP GSAT scores for each gender.
Key to Table: No key, the table is easily interpreted
Baseline & Target Notes: Year 2000 actual differs from previously reported percentages because of corrections made in the database

Year	Planned	Actual
1998		43.0
1999	45.0	47.0
2000	48.0	63.0
2001	52.0	57.0
2002	56.0	50.6
2003	60.0	47.9
2004	52.0	39.6

F. Other

Comments: The slight decline is consistent with a decline for the system as a whole. This decline is likely related to an increased number of students, who were formerly held, taking the GSAT and scoring in the "no mastery" level.

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: SO Level 532-004

A. Description

Precise Definition: Percentage of students meeting near mastery in grade 6 of New Horizons schools.
Unit of Measure: Number of grade 6 NHP students meeting the criterion of near mastery/mastery on GSAT divided by all grade 6 NHP students.

Disaggregated By: Gender, and program (NHP; non-NHP)
Management Utility: Project impact on mathematics performance, allows comparison with national average. This is important for determining the impact of NHP interventions in relation to overall system improvement, over the life of the project.

B. Plan for Data Collection

Indicator: NHP grade 6 boys' GSAT Mathematics scores
Source: Student test data from Student Assessment Unit
Data Collection: Yearly
Est. Cost of Collection: N/A
Responsible Organization: Institutional contractor's Chief of Party and formative evaluation team

C. Plan for Data Analysis, Reporting, Review

Data Analysis: Manipulate Student Assessment Unit database to separate NHP and non-NHP students by gender and mastery levels on GSAT (50% correct= near mastery; 75% correct=mastery) divide by total number for each group, calculate percentage change from 1998 baseline and by year.
Presentation of Data: Combined percentage of near mastery and mastery in Tables of planned and actual improvement by year.
Review of Data: Review is performed by the institutional contractor, SO team's annual portfolio review, and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues

Initial Data Qual/Assess: The criteria used to designate near mastery and mastery with the third grade diagnostic tests is used. Using these criteria, at the time of establishing the baseline and targets, over 90% of the grade 6 boys were in the "no mastery" group in Mathematics.
Known Data Limitations: The Student Assessment Unit does not designate mastery levels for sixth grade GSAT. Therefore, the third grade criteria of 50% and 75% for near mastery and mastery, respectively, are used in determining student progress.
Actions Addressing Limits: The latest available data will be used.

E. Performance Data Table

Method of Calculations: NHP and non-NHP students separated by gender and mastery levels then divided by total number of NHP and non-NHP GSAT scores for each gender.
Key to Table: No key, the table is easily interpreted
Baseline & Target Notes:

Year	Planned	Actual
1998		6.0
1999	7.0	10.0
2000	10.0	25.0
2001	13.0	26.0
2002	20.0	28.8
2003	30.0	21.2
2004	30.0	18.4

F. Other

Comments: The slight increase is consistent with that for the system as a whole. This is likely related to an increased number of students, who were formerly held back, taking the GSAT and scoring in the "no mastery" level.

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: SO Level 532-004

A. Description

Precise Definition: Percentage of students meeting near mastery in grade 6 of New Horizons schools.
Unit of Measure: Number of grade 6 NHP students meeting the criterion of near mastery/mastery on GSAT divided by all grade 6 NHP students.

Disaggregated By: Gender, grade level and program (NHP; non-NHP)
Management Utility: Project impact on mathematics performance, allows comparison with national average. This is important for determining the impact of NHP interventions in relation to overall system improvement, over the life of the project.

B. Plan for Data Collection

Indicator: NHP grade 6 girls' GSAT Mathematics scores
Source: Student test data from Student Assessment Unit
Data Collection: Yearly
Est. Cost of Collection: N/A
Responsible Organization: Institutional contractor's Chief of Party and formative evaluation team

C. Plan for Data Analysis, Reporting, Review

Data Analysis: Manipulate Student Assessment Unit database to separate NHP and non-NHP students by gender and mastery levels on GSAT (50% correct= near mastery; 75% correct=mastery) divide by total number for each group, calculate percentage change from 1998 baseline and by year.
Presentation of Data: Combined percentage of near mastery and mastery in Tables of planned and actual improvement by year.
Review of Data: Review is performed by the institutional contractor, SO team's annual portfolio review, and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues

Initial Data Qual/Assess: The criteria used to designate near mastery and mastery with the third grade diagnostic tests is used. Using these criteria, at the time of establishing the baseline and targets, over 85% of the grade 6 girls were in the "no mastery" group in Mathematics.
Known Data Limitations: The Student Assessment Unit does not designate mastery levels for sixth grade GSAT. Therefore, the third grade criteria of 50% and 75% for near mastery and mastery, respectively, are used in determining student progress.
Actions Addressing Limits: The latest available data will be used.

E. Performance Data Table

Method of Calculations: NHP and non-NHP students separated by gender and mastery levels then divided by total number of NHP and non-NHP GSAT scores for each gender.
Key to Table: No key, the table is easily interpreted
Baseline & Target Notes:

Year	Planned	Actual
1998		14.0
1999	16.0	24.0
2000	18.0	41.0
2001	20.0	42.0
2002	25.0	45.2
2003	30.0	33.1
2004	35.0	26.9

F. Other

Comments: The slight increase is consistent with that for the system as a whole. This is likely related to an increased number of students, who were formerly held back, taking the GSAT and scoring in the "no mastery" level.

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: 4.1 532-004 Improved Teaching Quality

A. Description

Precise Definition: Composite of: 1) content knowledge of students; 2) classroom learning environment; and 3) teaching for learning, aggregated across sample classrooms and expressed as values between 0 (minimum) and 1 maximum
Unit of Measure: Index of third grade mastery levels – mathematics and language arts, score on classroom environment scale and percentage of child-initiated interactions, aggregated across sample classrooms.
Disaggregated By: Unnecessary
Management Utility: To track improvement in the quality of teaching over the life of the project.

B. Plan for Data Collection

Indicator: Index of Teacher Quality
Source: Student test data from Student Assessment Unit, observational data from formative evaluation of a stratified, random sample of NHP schools
Data Collection: Yearly
Est. Cost of Collection: N/A
Responsible Organization: Institutional contractor's Chief of Party and formative evaluation team

C. Plan for Data Analysis, Reporting, Review

Data Analysis: Aggregate each measure and average into an overall index of sample schools.
Presentation of Data: Index value between 0 – minimum and 1 – maximum in Tables of planned and actual performance
Review of Data: Review is performed by the SO team, the institutional contractor and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues

Initial Data Qual/Assess: Data collected by trained observers
Known Data Limitations: Diagnostic purposes of third grade tests results leading to lack of full reporting by schools.
Actions Addressing Limits: The COP for the institutional contractor will ensure that adequate data are available prior to the R4.

E. Performance Data Table

Method of Calculations: Scores of three dimensions are averaged as an overall index
Key to Table: No key
Baseline & Target Notes:

Year	Planned	Actual
1999		.43
2000	.50	.44
2001	.58	.48
2002	.65	.52
2003	.71	.47
2004	.53	.52

F. Other

Comments: Planned levels have not been met owing to teachers' continued use of traditional teacher-centered pedagogy.

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: 4.2 Increased school attendance

A. Description
Precise Definition: Number of enrolled schools attending school on a given day divided by all students on the roll, averaged over 190 days of school for the year, corrected by the attendance on the day of the visit.
Unit of Measure: average percent
Disaggregated By: Gender
Management Utility: Project impact on attendance

B. Plan for Data Collection
Indicator: NHP schools- average daily percent of enrolled girls attending school
Source: School attendance records & classroom observation data
Data Collection: Yearly
Est. Cost:
Responsible Organization: Institutional contractor's formative evaluation team

C. Plan for Data Analysis, Reporting, Review
Data Analysis:
Presentation of Data: percents
Review of Data: Review is performed by the SO team, the formative evaluation team and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues
Initial Data Qual/Assess: Data collected by NHP team
Known Data Limitations: None
Actions Addressing Limits: None

E. Performance Data Table
Method of Calculations:
Key to Table: None
Baseline & Target Notes:

Year	Planned	Actual
1999		76.0
2000	78.0	65.0
2001	80.0	78.0
2002	82.0	79.0
2003	84.0	77.0
2004	80.0	84.4

F. Other
Comments:

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: 4.2 Increased school attendance

A. Description
Precise Definition: Number of enrolled schools attending school on a given day divided by all students on the roll, averaged over 190 days of school for the year.
Unit of Measure: average percent
Disaggregated By: Gender
Management Utility: Project impact on attendance

B. Plan for Data Collection
Indicator: NHP schools- average daily percent of enrolled boys attending school
Source: School attendance records & classroom observation data
Data Collection: Yearly
Est. Cost:
Responsible Organization: Institutional contractor's formative evaluation team

C. Plan for Data Analysis, Reporting, Review
Data Analysis:
Presentation of Data: percents
Review of Data: Review is performed by the SO team, the formative evaluation team and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues
Initial Data Qual/Assess: Data collected by NHP team
Known Data Limitations: None
Actions Addressing Limits: None

E. Performance Data Table
Method of Calculations:
Key to Table: None
Baseline & Target Notes:

Year	Planned	Actual
1999		74.0
2000	76.0	63.0
2001	78.0	79.0
2002	80.0	76.0
2003	82.0	76.0
2004	78.0	82.6

F. Other
Comments: .

Performance Monitoring Plan
Fiscal Year FY2004

Strategic Objective: Increased literacy and numeracy among targeted Jamaican youth
Intermediate Result: 4.3 Improved Management of Schools

A. Description

Precise Definition: Number of schools implementing School Development Plan activities in literacy and numeracy; plus schools implementing activities in either literacy or numeracy; plus schools not implementing activities in these areas divided by the total number of schools in the sample
Unit of Measure: Weighted index where (L&N=1;L or N =.5; and other activities = 0)
Disaggregated By: Unnecessary
Management Utility: To measure the integration of project interventions with school activities.

B. Plan for Data Collection

Indicator: NHP schools implement SDP activities in numeracy and literacy
Source: Principals in a stratified, random sample of NHP schools; School Development plans and activity reports that were submitted to the NHP office.
Data Collection: Yearly
Est. Cost:
Responsible Organization: Institutional contractor's formative evaluation team

C. Plan for Data Analysis, Reporting, Review

Data Analysis: Weight responses, sum response categories, divide by number of sample schools using Excel or SPSS software.
Presentation of Data: Index value between 0 – minimum and 1 – maximum.
Review of Data: Review is performed by the SO team, the formative evaluation team and other stakeholders
Reporting of Data: Annual performance reports and highlighted tables and narrative of R4

D. Data Quality Issues

Initial Data Qual/Assess: Data collected by trained interviewers
Known Data Limitations: None
Actions Addressing Limits: None

E. Performance Data Table

Method of Calculations: Weighted index of SDP implementation
Key to Table: None
Baseline & Target Notes: New indicator with 2001 as baseline year

Year	Planned	Actual
2001		.52
2002	.70	.67
2003	.90	.70
2004	.80	.88

F. Other

Comments: This indicator was revised after 5-year targets were reached in 2 years with previous indicator. The measure was verified in 2003 by reviewing the actual school development plans and activity reports, compared to the impromptu questioning of principals.