EDDATA II

Executive Summary of the Jamaican Snapshot of School Management Effectiveness

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Prepared for
Sandra Bertoli, Cognizant Technical Officer
Bureau for Economic Growth, Agriculture and Trade (EGAT/ED)
United States Agency for International Development

Prepared by
RTI International
3040 Cornwallis Road
Post Office Box 12194
Research Triangle Park, NC 27709-2194

RTI International is a trade name of Research Triangle Institute.

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JBTEF and RTI International

Introduction

The importance of early childhood and primary education to a country's development is now accepted by most policy makers. For countries that have newly acknowledged—or reacknowledged—this fundamental need, the obvious next step is to examine the education status quo and potential improvements. In order to improve a primary education system, for example, it is imperative that all stakeholders—teachers and other school personnel, as well as policy makers and parents—obtain timely information on the performance of the system as a whole, as well as of individual schools.

Such regular evaluations of schools and their performance are not carried out in Jamaica. The National Assessment Programme (NAP) introduced in 1998 does offer an annual assessment of the performance of primary students island wide at grades 1, 3, 4, and 6. These tests are good indicators of Jamaican primary school children's performance on tests of literacy and numeracy. But while a school can learn of the average performance of its students and the individual performance of its students, these results cannot indicate what aspects of the school—such as its management or its pedagogical practice—are related to the outcomes obtained on the NAP.

The Snapshot of School Management Effectiveness (SSME) developed under the USAID EdData II project offers an approach to assessing primary student performance at the same time that it evaluates school management and governance factors that are strongly associated with school effectiveness and learning achievement. A single person can gather data in one school during a one-day visit, and just enough schools are sampled to give donors and governments a fast, inexpensive, yet reliable and statistically valid scan of school management at a given level of interest. The SSME also provides principals, teaching staff, and parents with a mechanism for voicing their concerns to the Ministry of Education.

The SSME kit, which includes seven instruments, collects information on the processes of school functioning such as principal supervision, classroom management, pedagogical practice, school management, parent and community involvement, school infrastructure, and availability of pedagogical materials; and students' reading ability as a proxy of student performance.

It is important to point out that applications of the SSME are not meant to find out what the respondents know about school effectiveness, or to generate original research on this issue or the determinants of learning outcomes. Instead, the tool uses existing knowledge and literature about the basic factors that influence student outcomes and tries to determine to what degree these effectiveness factors are in place in a given country's education system. However, the SSME does assess whether basic relationships exist between the effectiveness factors and the learning outcomes in the country in question. In what follows, we highlight factors that appear to be particularly relevant to student performance in Jamaica and we indicate areas where additional attention would be beneficial.

The SSME in Jamaica

The instruments that constitute the SSME were applied in 48 Jamaican primary schools in six parishes during the period May 29 to June 15, 2007. In each of the 48 schools, two classes (a grade 2 and a grade 3) and their two teachers were observed and interviewed. Two boys and two girls from each class were interviewed—making a total of 8 students from each school. In all, 48 principals, 96 teachers and classrooms, 384 students, and 47 parents provided information for the study. Observations were also made of the school compound and the classrooms.

The Results

The sample, although not technically representative of all schools in Jamaica,[1] does indicate some trends in the Jamaican school system. In what follows, we provide a brief overview of a few of the key public school findings from this assessment. Highlighted findings include students' reading levels and their variation; teachers' provision of help/feedback to students; student engagement; teaching methods—i.e., teachers' use of active and rote teaching methods;

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[1] In order to assess the effectiveness of the SSME instrument in different environments, we sampled public, private, urban, and rural schools from each of the six parishes. The number of schools was the same in each parish and therefore was not representative of the actual distribution of these schools in the parishes.

availability and use of textbooks and other pedagogical materials; time on task, as measured by factors such as teacher absenteeism and tardiness, student attendance rates, and variations in the length of the school day and in daily instructional time; principals' management training and experience, as well as their level of supervision of teachers; school infrastructure; and general impression of the school environment.

Student reading levels

Among the 168 second-grade public school students who were assessed, the average reading fluency was 54 correct words per minute. A wide range of reading fluency was observed. The fastest readers were reading 193 correct words per minute, whereas 11% of these second graders were unable to read a single word. Among the 168 third-grade public school students, the average reading fluency was 70 correct words per minute. The maximum reading fluency observed among third graders was 186 correct words per minute. Seven percent of the assessed third graders could not read at all.

International research indicates that by the end of their second year of primary schooling, students should be able to read 60 words per minute. To place this figure in context, in the United States, by the end of second grade, a child performing at the 50th-percentile level reads at a fluency of 89 correct word per minute while a third-grader performing at the 50th-percentile level reads at 107 correct words per minute. [2] Research has also shown that a reading fluency of between 45 and 60 words per minute is considered the minimum reading fluency required to ensure comprehension. [3] Therefore, the average assessed second grader in Jamaica was reading at a level that would permit comprehension, although the average reading fluency of 54 words per minute is not quite as high as the minimum that would be expected by the end of second grade (60 words per minute). The importance of reading fluency can be easily seen when we examine students' performance on comprehension questions. Among the students who were able to read at a fluency of 60 or more words per minute, the average number of correctly answered

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[2] Jan Hasbrouck and Gerald A. Tindal, "Oral Reading Fluency Norms: A Valuable Assessment Tool for Reading Teachers," *The Reading Teacher,* 59 (7) (April 2006): 636–644), Digital Object Identifier No. doi:10.1598/RT.59.7.3. See Table 1, p. 639.

[3] Recent neuro-cognitive research has demonstrated that children must read at a fluency greater than one word or sound per second in order to ensure automaticity of reading. Automatic processing of text frees up short-term memory and allows the brain to comprehend what is being read.

comprehension questions was 4.2 out of 5. Among those students reading at a fluency below 60 words per minute, the average number of correctly answered comprehension questions was 2.8 out of 5.

As implied above, the SSME results make it possible to identify student and school characteristics that are associated with stronger student performance in Jamaica. Below we highlight just a few of these characteristics.

Teachers' provision of help/feedback to students

Teacher feedback to students via returned exams, marks and written comments on exams and exercise books, and special recognition for strong student performance were all, to varying degrees, found to be positively correlated with student performance. For example, overall, the frequency of teacher marks or corrections in children's exercise books was found to be positively and significantly correlated with student performance. The average reading fluency for second-grade students who had no teacher marks in their notebooks was just 32 words per minute (Exhibit 1a). In contrast, those students who had teacher marks on all pages had an average reading fluency of 74 words per minute. This is not to imply a direct causation between the two, but to note that the process indicator "teacher feedback" is well correlated with the outcome indicator "reading fluency."

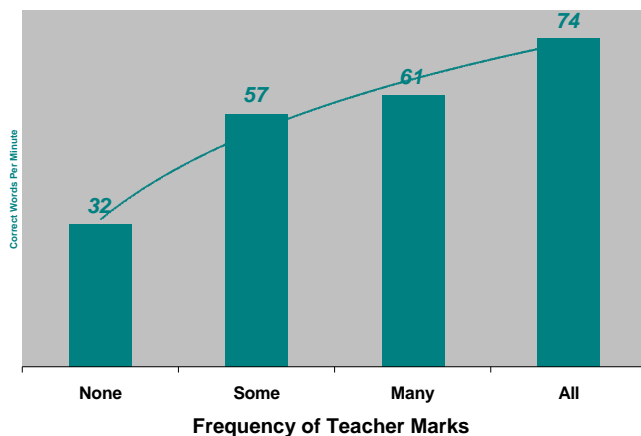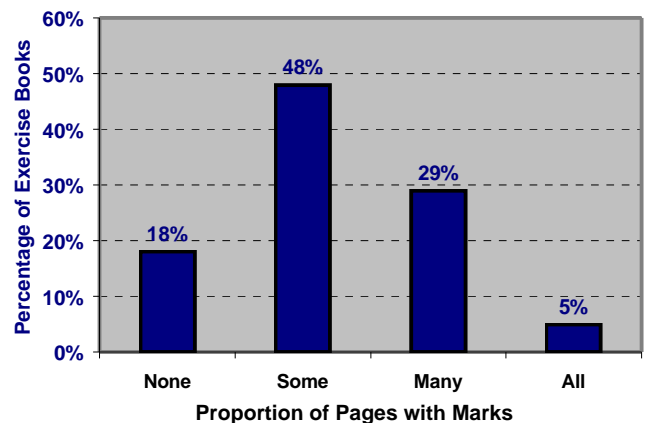**Exhibit 1a:** Student Reading Fluency by Proportion of Pages Marked by Teacher

Exhibit 1b: Distribution of Exercise Books in Public Jamaican Classrooms by Proportion of Pages Marked by Teacher in Exercise Books

The frequency of teacher marks varied quite a bit (Exhibit 1b) and, although most exercise books had at least some marks or corrections, among the assessed public school students, 18% had *no* teacher marks or corrections in their exercise books and a full 40% had *no* written teacher comments on any of their work.[4] Because these students performed less well during the SSME, it is likely that the teachers who are not providing their students this feedback are missing a valuable opportunity to increase student learning. This would seem to be an area that needs serious improvement in Jamaica.

Student engagement

There was moderate confirmation of a relationship between more active learning practices and activities, and higher reading performance. In the situations in which SSME observers saw students engaging in talk related to the lesson, that engagement turned out to be positively correlated with most reading scores. Also, student engagement in composition, writing at the blackboard, and reading was correlated positively with the number of correct letters per minute that third graders could name during the student assessment. Second-graders whose teachers were observed monitoring their students showed higher reading scores, particularly on correct words per minute. Third-grade students' reports of asking their teachers questions also correlated with higher scores on the reading exercise.

Most students interviewed (89%) stated that they were permitted to ask the teacher questions about the lesson, and 70% of these stated that they had themselves posed one or more questions the previous day.

The student activity most frequently observed was that of students working individually on their lessons (reading, composing, or doing other individual educational activities), followed by students engaged in talk relating to the lesson. The next most frequent activity was students engaged in social interaction and students engaged in copy-work activities such as copying down sentences that the teacher had written on the board. The picture these data offer of Jamaican

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[4] Please note that "comments" refers to written comments such as "Nicely done" or "Be careful with your work," whereas a "mark" may just be a "Ρ" or an "X" to identify which student responses were correct and which were not.

elementary school classrooms is one of considerable student engagement in lesson-related activities, favoring relatively traditional forms of active engagement (individual work, unstructured student talk) and rote-type activities.

Teaching methods

The findings indicate that teachers had knowledge of appropriate teaching methodology but there was a notable contrast between *teachers' reports* of their beliefs and practice and *observed practice* in their classrooms. For example, teachers reported both relatively high use of active-learning practices and appreciation for the usefulness of such practices. Among reporting public school teachers, 40% said that their students engaged in learning games frequently and another 40% stated their students engaged in these games sometimes. Additionally, 49% of public school teachers reported that they *frequently* had students solve problems on the blackboard and another 21% stated that they *sometimes* had students solve problems on the blackboard. However, the observed frequency of these and other active engagement activities was low. On a 0 to 9 observation point scale,[5] public classrooms only received an average point score of 0.3 for educational games and 0.5 for students seen solving problems on the blackboard (Exhibit 2). In contrast, student copy-work received an observation score of 3.1 and individual student work received a score of 4.9. This finding suggests that teachers generally know what is expected of them, and state this, but they practice these expected behaviors only to some degree. Further work supervising and supporting teachers so that pedagogical time is used more effectively would seem an important issue to work on.

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[5] Classrooms were observed on three different occasions during the interview day. Classrooms received points based on the number of times a particular activity was observed and based on the number of students in the class who were engaged in this activity.

Exhibit 2. Average Classroom Observation Points by Activity
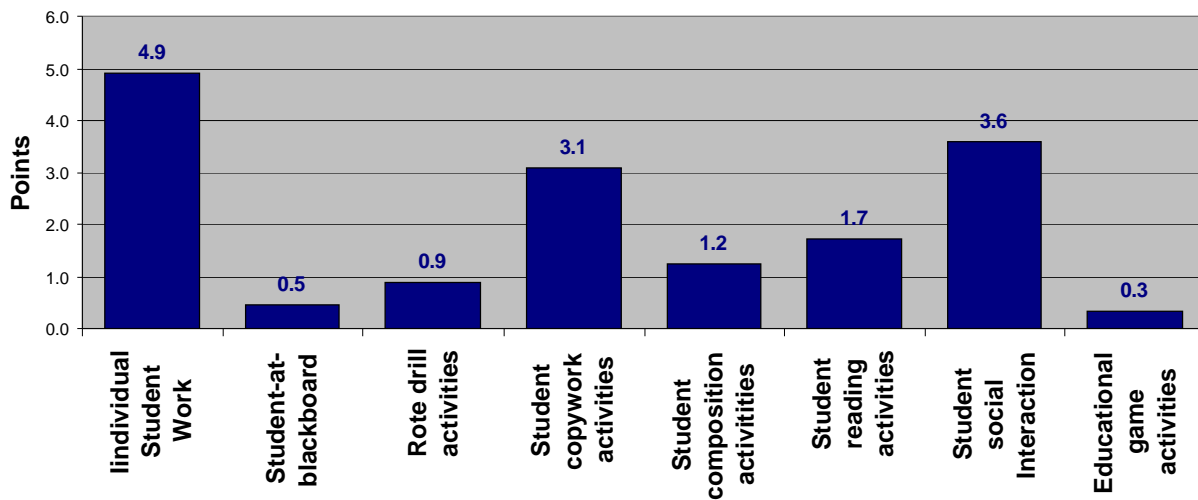
Availability of pedagogical materials

Student possession[6] of pedagogical materials such as textbooks, exercise books, and writing utensils was correlated with student achievement. On average, the vast majority of the public students in sampled classes had exercise books (96%) and either a pen or pencil (95%). Textbooks were less prevalent than were writing utensils or exercise books. The following graph (Exhibit 3a) highlights the relationship between student performance and availability of textbooks. In classrooms where 40% or fewer of the students had their textbooks on the day of the visit, the average reading fluency was 43 correct words per minute. Conversely, in classes where 100% of the children had their books, the average reading fluency was 83 correct words per minute. On average, 68% of students in sampled public schools classrooms had language arts textbooks and 76% had math textbooks. As with any average, these numbers mask some of the variation that exists among schools. Only 17% of sampled public classrooms had language arts textbooks (Exhibit 3b) for all their students on the day of the interview; 37% of classrooms had books for 60% or less of their students. Three classrooms had no language arts textbooks at all. Again, this is apparently an area that requires further attention.

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[6] Interviewers asked all students in sampled classrooms to hold up writing utensils, exercise books, language arts textbooks, and mathematics textbooks in order for the interviewer to identify the percentage of students who possessed that particular item on the day of the visit.

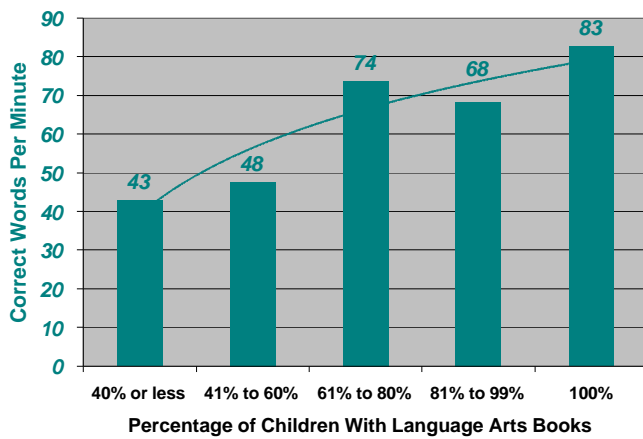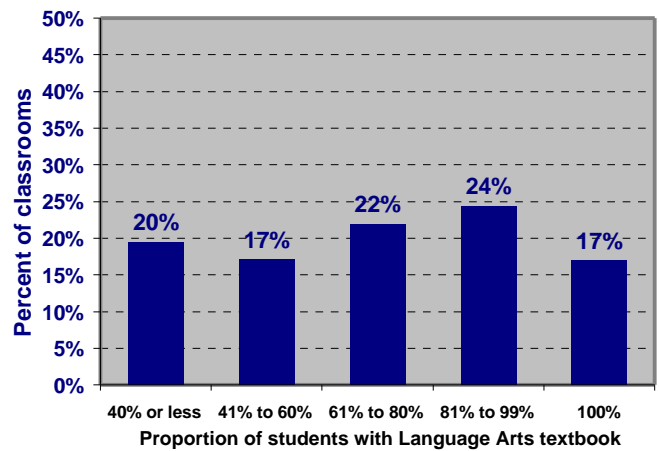| **Exhibit 3a:** Student Reading Fluency by Possession of Language Arts Books	**Exhibit 3b:** Distribution of Public Jamaica Classrooms by Observed Possession of Language Arts Books

Time on task

The amount of time in which students are engaged in learning has been shown in countless studies to have a significant impact on student performance.[7] The SSME collects data on several factors that affect the time used for learning. These factors include teacher and student absenteeism, number of days that school is in session, length of the school day, and instructional time available during the typical school day. In what follows, we highlight a few of the more interesting findings.

Teacher absenteeism and tardiness

Teacher absenteeism and tardiness are frequently lamented features of school systems because of the significantly deleterious impacts on student performance. However, in the sampled schools, principal-reported teacher absenteeism and tardiness, as reported for the previous school day, were relatively rare. On average, 4.3% of a school's teachers were reported to have been absent, and 8% tardy, on the previous school day. Forty-six percent of schools in the sample had no reported teacher absenteeism on the previous day. Of these, rural public schools had the highest proportion of high absenteeism (27%, representing three schools). Overall, 46% of principals in the sample reported no teacher tardiness at their school on the previous day, although 26% of principals reported that over 10% of their teachers had been tardy.

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[7] Helen Abadzi, *Absenteeism and Beyond: Instructional Time Loss and Consequences,* Policy Research Working Paper 4376 (Washington, DC: The World Bank Independent Evaluation Group Sector, Thematic, and Global Evaluation Division, October 2007).

Student attendance rate

Not unexpectedly, student absenteeism—as reported by the students—in the previous week was negatively correlated with student performance. Similarly, mean class attendance rates were positively correlated with third-grade student performance. The correlation between attendance and student performance can be seen quite clearly in Exhibit 4a. In classes for which observed attendance was at 60% or lower, the average reading fluency was only 23.8 words per minute. Among students in classes for which attendance was between 91 and 99%, the average reading fluency was 78.6 words per minute.

Thirty-four percent of the sampled public school students reported being absent on at least one day the previous week. Interviewers observed an 86% average class attendance rate among public schools. The fact that nearly 30% of schools had 80% or less attendance should be a concern (Exhibit 4b). The most common reason cited for absenteeism was illness, followed by lack of transport and inclement weather.

Exhibit 4a: Student Reading Fluency by Observed Class Attendance Rates
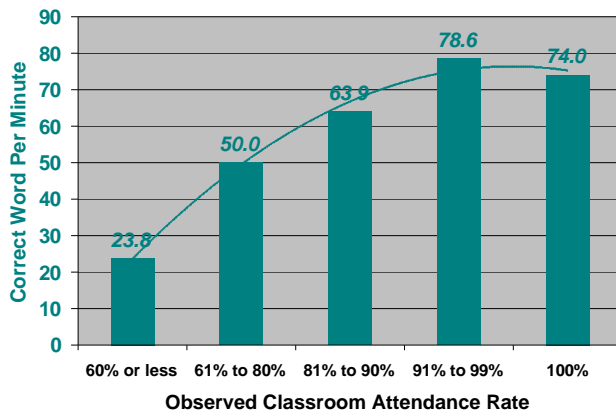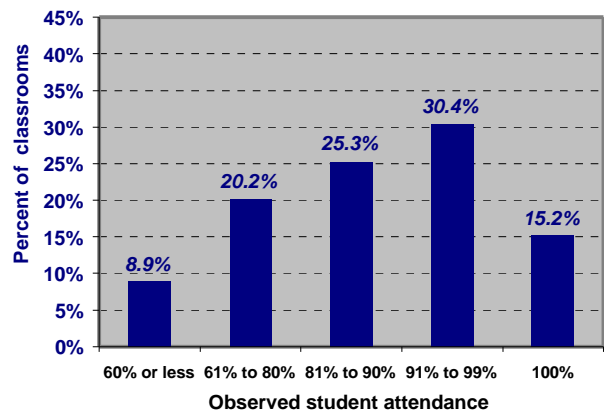
Exhibit 4b: Distribution of Public Jamaican Classrooms by Observed Class Attendance Rates

Length of the school day and average daily instructional time

The length of the school day as reported by school principals ranged from 4.5 to 8.0 hours, with an average of 5.9 hours. The amount of time per day that teachers reported spending on student

instruction (as opposed to other duties[8]) ranged from a minimum of 2.2 hours to a maximum of 6.5 hours. Instructional time was found to be positively correlated with all student performance measures. Exhibit 5a highlights the fact that students whose teachers spent over four hours teaching on an average school day had higher fluency in reading connected text.

However, only 38% of sampled public school teachers reported spending this amount of time teaching (Exhibit 5b). On average, public school teachers reported spending 3.9 hours teaching per day. Time on task therefore appears to be an important issue for at least 62% of classrooms, and an urgent issue for 20% of classrooms.

Exhibit 5a: Student Reading Fluency by Average Daily Instructional Time Reported by Teachers
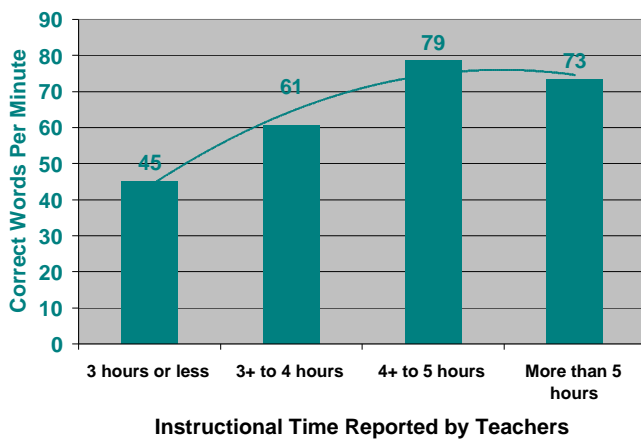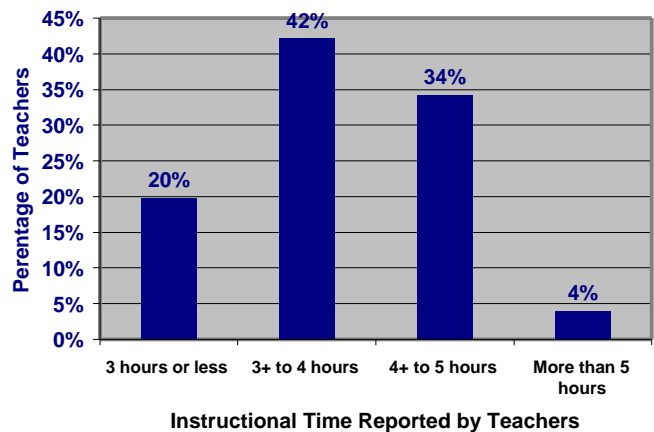

Exhibit 5b: Distribution of Public Jamaica Classrooms by Average Daily Instructional Time Reported by Teachers

Principals' management training and supervisory involvement

The large majority (87%) of the principals and vice principals in the sample held at least an undergraduate degree, and an even greater percentage (90%) reported having received special training or courses in school management. In schools in which these officials reported that they *applied* the school management training they had received, this claim was correlated significantly, though weakly, with student reading performance measures (correct letters per minute, in both grade levels). Formal training therefore appears not to be a very urgent priority.

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[8] Other duties included items such as student evaluations, student discipline, meetings with other teachers, and administrative tasks. It should also be noted that that some teachers had difficulty separating teaching duties from nonteaching duties.

The frequency with which principals carried out informal classroom observations—as reported by teachers—was positively and significantly correlated with observed student attendance rates. Student attendance rates tended to be higher in schools where principals visited classrooms more frequently (Exhibit 6a). In public Jamaican classrooms sampled, 75% of teachers reported weekly or daily visits by the principal (Exhibit 6b). This still leaves some 15% of classrooms with only monthly or less-than-monthly visits.

Exhibit 6a: Student Attendance Rates by Frequency of Principal's Informal Classroom Visits
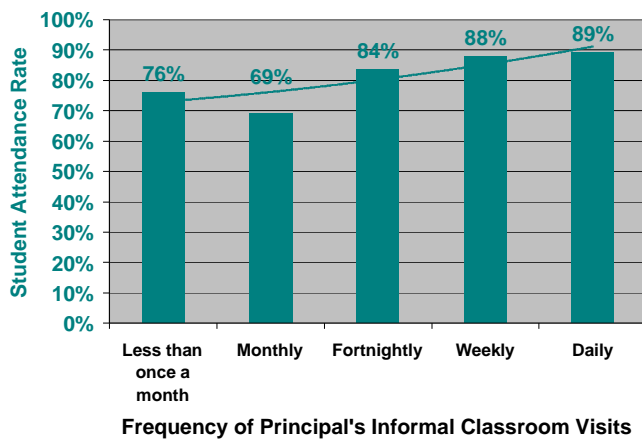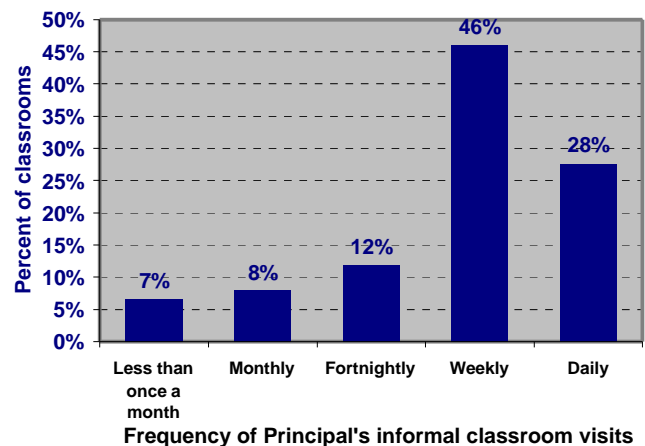

Exhibit 6b: Distribution of Public Jamaica Classrooms by Frequency of Informal Principal Visits

School infrastructure

The school's infrastructure affects the safety, comfort, and concentration of students and teachers alike. Over half (57%) of the public school principals said that there were safety problems with the school building. Specific problems mentioned by the principals included problems with old benches, doors, partitions, the electric system, the ceiling or roof, missing or inadequate stair railings, missing fire extinguishers, lack of or inadequate playing field, termites, flooding, landslides, and overcrowding. Interviewers noted a need for major repairs in 38% of the schools that they visited. Teachers reported that overcrowding and noise or other distractions acted as impediments to student learning.

General impression of the school environment

Interviewers used a series of criteria which ranged from physical appearance and cleanliness of school to orderliness and calm, level of noise, presence of teachers in classrooms during class time, presence of children outside of classrooms during class time, behavior/demeanor of students, and interaction between students and between teachers and students. Overall, 15 schools (33% of 46 ratings completed) received a "high" rating, 29 schools (63%) received a "middle" rating, and 2 schools (4%) received a "low" rating. Urban private schools were most likely to be rated "high," and rural public schools were most likely to be rated "low" or "middle." These ratings correlated positively with students' reading scores.

Conclusion

From these few highlighted findings, it is clear that the following inputs and characteristics are pivotal to Jamaican students' success:

- *Teacher interactions and assistance***.** The amount of time teachers are able to spend on instruction, the ways in which they engage their students in class, and the feedback and extra assistance that teachers give their students all have an impact on students' performance, and the current levels are such that it would be possible to improve considerably on this score. Although teachers appear to be aware of appropriate teaching methodology, they do not always apply this knowledge.
- *Principal engagement***.** Engaged principals monitor classroom activities and thus emphasize adherence to standards, and they encourage students to attend and engage in school themselves. The importance of the frequency of principals' visits to the classrooms highlights this role.
- *Learning materials***.** The data confirm the importance of classroom materials and textbooks for student learning, while at the same time indicating shortages of textbooks in many Jamaican schools. More needs to be done to increase universal coverage of student textbooks.
- *Sound infrastructure.* The data indicate that there is room for improvement in the infrastructure of many of the schools visited.

In summary, the data from the SSME, even with its stated limitations, offer a useful snapshot of how Jamaican schools are operating in terms of school and classroom management behaviors and characteristics that have been shown to have significant impact on student performance. The SSME results help us to quickly assess whether and how frequently positive teaching and management behaviors are occurring, and whether basic inputs are sufficient and equitably distributed. Knowing which positive behaviors and inputs are lacking can help in turn to identify appropriate interventions to strengthen student performance.

Full engagement of the Ministry of Education and the teacher, principal, and parent associations is needed to determine how best to make use of this information to help improve Jamaican schools.