

Improving
Jamaica's Education:
Options for Using Report Cards
to Measure Performance and
Improve Accountability



CaPRI

Caribbean Policy Research Institute



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EXECUTIVE SUMMARY

Despite relatively high levels of enrolment and education spending, there is a growing perception that a substantial proportion of the Jamaican labour force is unprepared for the demands of the global market. Low levels of learning and persistent inequalities in the education provided to low and high income children only exacerbate the problem. This leads to the conclusion that the Jamaican education system is operating below international standards. Jamaican citizens, including teachers, school principals, parents, students, business and education leaders, believe that at least part of the problem stems from the lack of appropriate accountability mechanisms to ensure better performance in Jamaica's education system.

This paper provides an overview of the current education context in Jamaica, considering how key groups perceive the education system in Jamaica and what they expect from it (based on stakeholder consultations). With that context in mind, it then discusses the role of accountability and more specifically, education report cards as a tool for raising accountability, and thereby improving the Jamaican education system.

Several stakeholders also raised the possibility of using a value-added assessment to identify and quantify changes in performance that can be attributed to a particular school or teacher as a potential tool for improving accountability in Jamaica. Consequently, the report also explores the possibility of incorporating value-added information into the discussions on education in Jamaica and considers the feasibility and relevance of conducting a value-added assessment as part of an education report card in Jamaica.

In simple terms, education report cards are summary reports, often produced annually, that assess the current state and progress of an educational system. They have the potential to improve accountability in Jamaica by equipping stakeholders with accessible and reliable data, thereby informing their positions on areas and policies for improving education.

In addition to presenting learning and other key indicators at the national or sub-national level, national education report cards compare results against regional and international standards. They also monitor key policy areas such as standards, testing, finance, teacher management and training, and authority and accountability at the school-level – crucial areas presently at the centre of the accountability debate in Jamaica.

Value-added assessments seek to quantify changes in performance that can be attributed to a particular school or teacher, taking into account each unit's initial starting point (e.g. school resources, socioeconomic background of students, prior levels of student learning). In some cases, report cards and value-added assessments can play complementary roles. A value-added study may, for example, find that certain schools are "adding value" at above average rates given their particular context, while a report card on overall performance might reveal that despite these accomplishments, schools are still failing to provide their students with some minimum level of skills deemed adequate to succeed.

This report examines how these tools might work in the Jamaican context and makes preliminary suggestions for moving forward.

EDUCATION IN JAMAICA: COMPETITIVE ENROLMENT, COMPETITIVE BUDGET EXPENDITURE, BUT QUALITY SHORTFALL

There are arguably few things dearer to the heart of the Jamaican people than education. Generation after generation, Jamaicans have invested in the education of their children, and West Indians are known abroad for the considerable successes they have achieved as a result.

One of the principal investments made by government, the education system has come into the spotlight in recent years, primarily because of a growing perception that the system is not performing to its potential. This came into sharp focus in 2008 when, as a result of an adjustment in teachers' salaries to bring them more closely in line with private-sector standards, many voices in civil society called for a commensurate improvement in the performance of teachers. In their defence, the teachers – represented by their principal union, the Jamaica Teachers Association – maintained that performance-related pay was inappropriate, unless they were given all the resources they needed to perform to their potential. Nonetheless, there was broad agreement in the debate that the education system needed improvement. The question, therefore, is how do we achieve that goal?

In a study published in 2007, CaPRI found that Jamaica lags behind in producing the kind of highly-skilled labour that would meet international standards and enable the country to operate at the vanguard of service industries (which is where the country's future is likely to lie).¹ A more advanced educational system has the potential to create a knowledge-intensive economy within the island and build Jamaica's reputation as a source of abundant skilled labour for domestic and international employers.² This would in turn position Jamaica more strategically within the global economy, in light of the country's vulnerability to economic changes, due in part to its heavy reliance on highly volatile sectors such as commodities and tourism.

Jamaica's school enrolment levels are similar to, or higher than, other countries in Latin America and the Caribbean, and so too is government expenditure on education. However, despite these factors, there is a telling shortfall in educational quality and equity. And it is because of this incongruity between expenditure, enrolment and results (i.e. the overall educational quality), that the demand for accountability in the Jamaican educational system is so high.

¹ Daniel P. Erikson and Joyce Lawrence, *Beyond Tourism: The Future of the Services Industry in the Caribbean* (Kingston: Caribbean Policy Research Institute and Waterloo: Centre for International Governance Innovation, 2008),

² CaPRI (2007), "Educational Reforms in Jamaica: Recommendations from Ireland, Finland and Singapore," Working Paper Series.

Competitive Enrolment

Jamaica's primary school enrolment levels have been close to the universal standard since at least the 1970s, and currently stand at around 90% for both boys and girls.³ The country has also made significant progress in boosting secondary school enrolment over the last two decades, with net enrolment increasing from around 65% to nearly over 75% between 1992 and 2007. Interestingly, girls are more likely than boys to be enrolled at this level (79% versus 74%).⁴

Pre-primary enrolment levels are also relatively high. In 2007, Jamaica's pre-primary enrolment rates were 87% -- higher than the average for Latin America and the Caribbean (65%) and well above the global average of 41%.⁵

Competitive Budget Expenditure

Although there was a slight dip in the mid-2000s, the Jamaican government spends a relatively large share of the country's GDP on education (around 6.5%), with increased resources dedicated to education every year over the last decade (**See Graph 1**).

Jamaica spends USD 1,329 (PPP) per student at the primary level and USD 1,527 (PPP) at the secondary level. This is approximately what Brazil spends at the primary level per student, and a little less than what Panama spends on the secondary level per student. Comparatively, Mexico, one of the highest education spenders in the region, spends an average of USD 1,842 (PPP) per student at the primary level, and USD 1,895 (PPP) per student at the secondary level.⁶

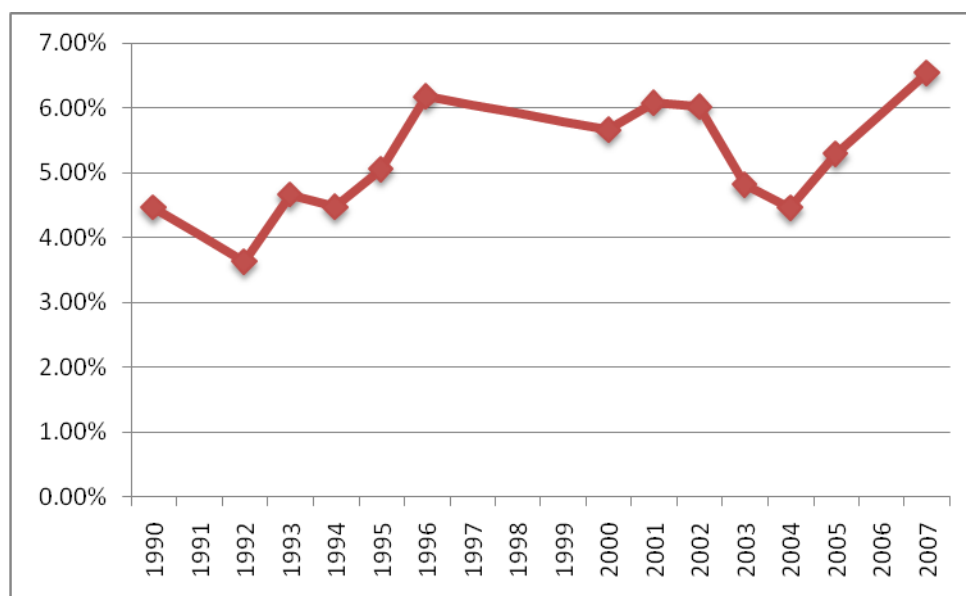
³ World Bank (2009), World Development Indicators online database and UNESCO (2009), *Global Education Digest 2009: Comparing Education Statistics Across the World*.

⁴ World Bank (2009), World Development Indicators online database.

⁵ UNESCO (2009), *Global Education Digest 2009*, annex Table 1.

⁶ UNESCO (2009), *Global Education Digest 2009*, annex Table 13.

Graph I. Public Expenditure on Education as a % of GDP, 1990-2007



No data are available for 1991, 1997, 1998, 1999 and 2006.

Source: World Bank, Ed. stats online database, last accessed October 2009

As Jamaicans see it, the large share of the government budget earmarked for education, and the relatively high per student expenditure in relation to GDP per capita, indicate the government's commitment to the country's educational system. However, it is still insufficient in addressing the shortfalls in education quality. In addition, current economic conditions further constrict public resources and make a substantial increase in education expenditure in the near future unlikely.

This reinforces the urgency of ensuring that available resources are used with maximum efficiency, in part through greater accountability within the educational system.

Shortfalls in Quality

Jamaican citizens, including teachers, school principals, parents, students, business and education leaders, are increasingly concerned about the *quality* of education offered to Jamaican students.

Indeed, national test scores show that nearly a third of all fourth grade students did not demonstrate acceptable levels of mastery on the recent Grade Four Literacy Test. Results from the Caribbean Secondary Education Certificate (CSEC) administered to 11th graders are also concerning. According to the Ministry of Education, the pass rates for the English and Math core exams in 2008 were 54.2% and 43.2%, respectively.

Concerns about Equity

Moreover, both the Grade Four Literacy Test and CSEC exams raise important equity concerns. The grade 4 exams showed a difference of nearly 26 percentage points between top performers at public and private schools: only 67% of students in public schools achieved the highest performing literacy level, compared to 98% in private schools. In the CSEC, traditional high schools have a pass rate of 63% in English and 40.5 % in Math. In contrast, an Upgraded High School's pass rate for English is 11.5 %, and 4% for Math.⁷

INFORMING PUBLIC DISCUSSIONS ON ACCOUNTABILITY IN THE JAMAICAN EDUCATION SYSTEM

In fulfilling its mandate to inform public discourse, CaPRI examined various accountability systems, working closely with one of our partner institutes – the Inter-American Dialogue (IAD), which has a tradition of monitoring education performance in several countries.

Specifically, the Partnership for Educational Revitalization in the Americas, PREAL, a joint initiative of IAD's education programme and the Corporation for Development Research (CINDE) in Santiago, Chile has developed a methodology for assessing national education performance which it has implemented in several countries. CaPRI sought to digest these lessons, and see which, if any, could be applied to Jamaica.

The Ministry of Education has also created a National Education Inspectorate, (NEI) whose task will be to assess the quality of Jamaican schools. So far, the NEI launched a pilot program which commenced on October 26, 2009. The 10 schools which will be inspected by December 2009 are; Shortwood Primary; Halfway Tree Primary; Mount James Primary; Hope Valley Experimental Primary; Mona High; Ardenne High; Franklin Town Primary; Spanish Town Primary; Naggo Head Primary and Jose Marti High.

⁷ Jamaica Gleaner (2009), "Editorial – The unhealthy state of education," *Jamaica Gleaner* [<http://jamaica-gleaner.com/gleaner/20090331/cleisure/cleisure1.html#> (last accessed October 2009)], March 31, 2009.

The pilot will assist the NEI in developing a framework to inspect 250 schools by May 2010. The number of schools inspected will be determined by the availability of personnel, and inspectors will assess schools based on the following indicators:

- (1) students' performance
- (2) students' academic progress in relation to their starting point
- (3) students' level of personal and social development
- (4) the efficient use of human and material resources to assist in student achievement
- (5) the effectiveness of the curriculum
- (6) the security, health and well-being of students
- (7) the teaching methods
- (8) effectiveness of the school's administration

Before inspection, evaluators will make a preliminary visit to schools in order to explain the objectives of the inspection. During the preliminary visit, each school will be asked to assemble documents such as the school's management structure, current development or improvement plan, and internal or external reports on the quality of any aspect of the school's work.

During the inspection process, evaluators will observe classroom lessons and the management process, and speak with students and parents to gauge their knowledge level, reasoning abilities, work attitudes and views on school life.

Due to time constraints, teachers will be offered limited feedback on their lessons. However, inspectors will provide oral feedback to the Principal on the students' achievement level; the strength and weaknesses of the school's teaching methods; the effectiveness of the school's administration and the inspectors' suggestions for improving the school. Detailed findings of the evaluation of the schools will be published openly at the earliest possible opportunity, and will be accessible at the National Education Inspectorate.⁸

Given that school evaluation information will enter the public domain, any performance monitoring carried out by an independent body should be designed to complement, rather than compete with the Ministry's own work. This would be done

⁸ National Education Inspectorate, *Draft of Inspection Handbook* (2008).

by using the available information, monitoring of Ministry initiatives, and providing additional information to meet the demands of education stakeholders.

An independent body, with an advisory board comprised of stakeholders from business and civil society, would help increase citizens' participation in monitoring education performance. By informing civil society more holistically, such a report could also assist the citizenry in its decision making process with regards to where they school their children, and what demands they make of – and the support they give to – their children's schools and their political leaders.

In order to understand what type of reporting makes the most sense for Jamaica, we examined the experiences of other countries with various types of “scorecards,” which rank-order schools and school systems according to their performance. Jamaica is not new to such rankings. However, it is widely-accepted that the existing methodologies do not adequately capture what happens in schools, as they tend to look only at outputs, and not inputs or channels of action.

Needed: More Accountability

In order to know against what standard the Jamaican education system should be measured, we spoke with stakeholders to develop a sense of what their expectations were.

The methodology was qualitative, using a four-point questionnaire, and was relatively informal, since the principal purpose was not to produce a scientific outcome, but to gain a sense of what stakeholders expect in a fully functional and accountable education system. Some four dozen stakeholders, namely government officials, private sector professionals, principals, teachers, parents and students were chosen for their representativeness, and we summarise the findings below, based on their opinions:

1. **Most stakeholders felt that the relevance of education needed significant improvement.** Private sector professionals, principals and teachers indicated that they do not believe that the current education system is helping students become individuals who are adequately prepared for the workforce. And as they saw it, the education system needs to produce students who are:
 - literate
 - numerate
 - analytical
 - technologically savvy &
 - well-rounded
2. **There is a need for greater integration of school administration (i.e. principals/teachers) in policy development consultations.** While stakeholders commended the National Education Inspectorate (NEI) and the Jamaican Teaching Council, they argued for more public disclosure to school administrators, and also to parents and students on the current changes being effected.
3. **The overcrowding of classrooms needs to be addressed and the teacher pupil ratio reduced to the 1:25 target established by the Ministry of**

Education. This underscores the point often made by teachers, that it is difficult to instruct and devote time to individual students in a class of forty to fifty students. The stakeholders pointed to the construction of more schools as an effective method to create additional classrooms.

4. **There is a need for a nationwide tracking system that collects data and regularly assesses students' performance from entry at the primary level to completion of the secondary level.** In addition to test scores, other variables to be included in this tracking system would be:

- a. the student's family income
- b. community background (as it relates to safety/volatility)
- c. access to public transportation
- d. access to proper nutrition
- e. involvement in co-curricular activities
- f. school infrastructure
- g. availability of education materials
- h. teacher qualification/certification
- i. the level of parental involvement



5. **Parent and community-member involvement in education should be measured.** The National Parent-Teachers' Association of Jamaica (NPTAJ) has been at the forefront of this message, pointing to parents' attendance rates of only 20-30% in school PTA meetings and decreasing rates as the year progresses.⁹ In line with NPTAJ's observation that children who do well are those whose parents are involved in their school, stakeholders point to parental and community involvement as important tools for improving student performance.
6. **Schools need more technological support.** With the belief that technological support enhances students' performance, stakeholders called for a more adequate provision of multimedia equipment, projectors, and computers at schools, especially the non-traditional ones. Notably, many teachers applauded the efforts made by the MOE in implementing E-learning tools, which they say, have gone a long way in assisting students in their preparation for CSEC examinations.
7. **The Jamaican education system needs to be decentralized, with more decision-making authority given to school-level administrators, especially principals.** Many of the interviewees supported the discussions on the decentralization of the educational system, which would entrust more power and decision-making authority to administrators at the school-level, especially principals.

⁹ Reynolds, Athaliah (2008), "National Parent-Teachers' Association of Jamaica – Boosting education through parent involvement," Jamaica Gleaner [<http://www.jamaica-gleaner.com/gleaner/20080526/lead/lead6.html>] (last accessed October 2009), May 26, 2008.

8. **Teachers desire more career-long training programmes as they go about improving students' development and educational performance.**
9. **There is disagreement over the pay-for-performance model.** Teachers tended to argue that too many variables account for a student's performance, thus making it unfair to penalize them for a student's poor test results. On the other hand, the consultations revealed that the private sector was more inclined to support performance-based pay. A compromise might therefore be found in a value-added model, which disaggregates the inputs into student performance in order to more effectively evaluate what value is added within the schools. This would avoid penalising teachers and principals who are working in particularly challenging or resource-constrained environments, and reward them in those cases in which they are adding more value.
10. **More needs to be done in early-childhood education.** While teachers and principals saw the government's new initiative on early childhood education – particularly the creation of an Early Childhood Commission – as an encouraging sign, they emphasised the need to divert more resources from secondary and tertiary education, towards early childhood education, including teacher training at that level.

As it is, expenditure on early-childhood education in Jamaica is roughly one-third of the expenditure on primary schools, on a per student basis. Comparatively, all OECD countries have a per student early-childhood expenditure rate of at least 18% of GDP per capita per student, and WEI¹⁰ countries average 9%, while the Jamaican early childhood system receives only 4% of GDP per capita per student.¹¹

Some teachers also suggested the need for a pre-early childhood assessment, to identify children with learning disabilities and to provide more special education classes that respond to the needs of these students.

Overall, the consultations indicated that transformation of the education system is a huge undertaking, requiring key attitudes and skills from a variety of actors, in addition to substantial financial and material resources.

¹⁰ This includes Argentina, Brazil, Chile, India, Indonesia, Jamaica, Jordan, Malaysia, Paraguay, Peru, Philippines, Russia, Sri Lanka, Tunisia, Uruguay.

¹¹ UNESCO *Global Monitoring Report* (2006).

Accountability: How an Education Report Card Can Help

Generating accountability within an educational system is hinged upon setting clear performance goals and holding different stakeholders responsible for their roles in ensuring that those goals are met. Accountability exists when all actors, from “clients” – i.e., parents, students, communities and the private sector, – to “providers” – i.e., administrators, school principals and teachers – to policymakers, can easily identify:

- whether or not educational goals are being met
- who is responsible for meeting set goals
- an existing monitoring and reward/punishment mechanism

In general, a structure of accountability depends on four conditions:

- ⦿ the existence of established performance standards
- ⦿ clear consequences for meeting or not meeting those standards
- ⦿ stakeholder authority and ability to assist in the meeting of standards and/or the enforcement of consequences
- ⦿ the availability of reliable information accessible to stakeholders ¹²

1. Standards

Jamaica at the moment has no widely accepted national standard for judging performance. Admittedly, students sit examinations at various levels, and there are established criteria for distinguishing between good and poor performances on these exams. However, while the idea of a minimum standard for teaching quality exists, there is no consensus on a benchmark. Similarly, there are no set minimum standards for what constitutes a good or bad school.

Few studies regularly compare Jamaica’s educational performance against a regional/global average, or monitor the rate of improvement over time. Therefore, improving systems for monitoring progress regularly and systematically as we move forward will be critical for streamlining educational priorities and guiding stakeholder dialogue and demands.

2. Reward/Consequence System

In addition to setting standards (content, performance and resource goals), countries seeking to establish accountability systems need to provide incentives for stakeholders who meet their obligations, and facilitate the enforcement of consequences for those who do not. To be effective, these consequences must be defined, well disseminated and accepted as fair, before implementation. They may be in the form of rewards for meeting standards, or sanctions/consequences for failing to do so.

¹² Puryear, Jeffrey M. and Laura Moodey (2007), “Accountability Rare in Latin American Schools,” *Viewpoints Americas*, Vol. 7 Issue 5 and PREAL, 2006 Quantity without Quality.

As in most Latin American countries, there are few mechanisms for enforcing consequences in Jamaica. The MOE is currently seeking to address this through the creation of its National Education Inspectorate, entrusted with, among other things, monitoring improvements in weak and failing schools and ensuring that appropriate remedial action is taken.¹³

3. Stakeholders' Authority/Responsibility and Ability to Enact Changes

The third criterion for a solid accountability system is stakeholder authority and capacity. School principals need the power to hire, promote, retrain, and if all else fails fire teachers. They also need the power to set and allocate school budgets. Teachers should be given autonomy in designing courses and selecting materials, in return for agreeing to be held strictly accountable for learning results.¹⁴

A clear step in the right direction would be for the MOE to empower principals to hire good teachers, fire bad ones, and reward good performers. It is also some stakeholders' belief that communities should influence the management of schools; which teachers are selected and their pay. In addition, parents should have some choice in which schools to send their children.¹⁵ In the absence of such changes, some stakeholders argued in consultations, any national initiative like a National Education Inspectorate will be hobbled in their effectiveness.

4. The Accessibility of Information to Stakeholders

Stakeholders, particularly clients of the educational system (i.e., parents, students, the community, and the private sector, which employs graduates of the system), have the right to receive regular and reliable information (whether at the national or local level) on the quality of education that their taxes finance. Only with this information can they fully play their role in any accountability system, ensuring that the established standards are met and that consequences are imposed when necessary.

Tellingly, the Programme for International Student Assessment (PISA) study in 2006 found that “the public posting of results by schools continues to have an effect on performance” even after controlling for other school and student factors.¹⁶ As results are made public, education clients can make better informed demands, and play active support roles, while education providers have a greater incentive to improve their services.

Some important information on the Jamaican education system is regularly monitored and made available to the public. For example, the Jamaican annual government budget is easily available, and information on public expenditure on education is clearly included and explained. Similarly, results from the Caribbean Examination

¹³ Holness, the Honorable Andrew (2008), the Minister of Education's sectoral presentation to the Jamaican Parliament, 20 May 2008.

¹⁴PREAL (2004), “A Call for Accountability,” *Accountability in Education*, no. 1.

¹⁵PREAL (2004), “A Call for Accountability,” *Accountability in Education*, no. 1.

¹⁶ Pisa (2006), *Science Competencies for Tomorrow's World*, vol. 1.

Secondary Council (CESC) are published widely each year in the *Jamaica Observer* and *Jamaica Gleaner* during August. Jamaica regularly provides data on standard education indicators such as enrolments and school completion rates via reports by international organizations such as UNESCO and the World Bank and also national databases.

However, other equally important information on the educational system, such as aggregated information on student scores in the Grade One Individual Learning Profile, or the Grade Six Achievement Tests (GSAT), or the infrastructure of each school in the public system, is not easily accessible, or not publically available. This inaccessibility limits the stakeholders' ability to make demands on, or take steps to improve the quality of the system. In this context, a report card on the Jamaican educational system could be a powerful source of information for students, parents, teachers and policy makers. If distributed widely, it could potentially empower parents and community members to take a more active role in improving the system. Similarly, school boards would have an additional source of information with which to hold principals accountable.

Such a report card, which would in effect be a careful analysis of the system, should also help stakeholders better define their respective roles and responsibilities, and initiate a dialogue on mutual goals and benchmarks. Ultimately, the most useful report is one that provides vital and immediate information and is accessible to all three groups of stakeholders in the educational system: clients, service providers, and policymakers.¹⁷

PREAL'S EDUCATION REPORT CARDS

As it seeks to improve the quality and equity of education in Latin America and the Caribbean, PREAL assists public and private sector organizations throughout the hemisphere in promoting informed debate on education policy. PREAL also identifies and disseminates best practices and monitors progress towards improvement. One of its principal tools for doing so is the education report card.

While an educational report card may take various formats, PREAL's national report cards have shown positive results in several Latin American countries. Their model thus provides a good starting point for a Jamaican report of this type. PREAL report cards are designed to:

- Provide timely, reliable and accessible information for monitoring key aspects of the education system and planning improvements;
- Promote transparency and accountability by providing the empirical base necessary to hold education providers accountable and making that information widely available;

¹⁷ Educational Quality Improvement Program 2(EQUIP2) (2008) "Strengthening Accountability in Public Education," policy brief.(http://www.equip123.net/docs/e2-AcctPublicEd_PolicyBrief.pdf)

- Create and strengthen civil society participation in improving education by “alerting the public to problems (and progress), providing space and guidance for participation, and showing education ‘users’ what kind of information to expect and demand from service providers”; and
- Foster a shared vision for improving education by helping to set priorities and encouraging constructive dialogue as stakeholders seek common ground on how to improve.¹⁸

Key features of PREAL’s report card model are that they:

- benchmark performance by international/national/state averages, rather than arbitrary measurement
- use established research on the best practises for improving education
- are results-oriented (i.e. the student achievement measures are an integral part of the education report card, since the ultimate measure of whether or not a school system is doing its job, is whether or not children are learning)
- is holistic in its approach (i.e. its goes beyond student scores, to consider other factors that may influence student learning, such as budget allocation, school infrastructure, and teacher qualifications). Such an approach at least partially addresses Jamaican stakeholder concerns that school performance should be viewed in context
- gauge the national progress of the educational system over time and compare it to regional and international educational systems
- combine visual aids such as tables and graphs with explanatory text to make data accessible to a non-technical audience and poses specific recommendations for improvement
- offer praise as well as criticism, and frequently identifies the best, or worst performers – often in rank order¹⁹
- conduct analysis that is independent and non-governmental

The standard PREAL report card is categorised into nine (9) basic areas, or “subjects”:

1. test scores
2. enrolment
3. staying in school
4. equity
5. standards
6. testing systems
7. finance
8. teacher profession (including management and training)
9. authority and accountability at the school level

¹⁸ Goodspeed, Tamara Ortega (2006), “Using Report Cards to Promote Better Education Policy in Latin America: PREAL’s experience.”

¹⁹ Goodspeed, Tamara Ortega (2006), “Using Report Cards to Promote Better Education Policy in Latin America: PREAL’s experience.”

Findings are presented in a summary table, assigning a letter score for the system's current performance in each given subject, with arrows to show recent progress (see **Figure 1** for an example).

Figure 1. Summary Report Card from *Quantity Without Quality: A Report Card on Education in Latin America*

Report Card on Latin American Education			
Subject	Grade	Tendency	Comments
Test Scores	D	↔	Scores on national and international tests remain below acceptable levels and, in general, are not improving.
Enrollments	B	↑	Enrollments are increasing rapidly, especially at preschool and secondary levels, but many children remain out of school.
Staying in School	C	↑	Children are staying in school longer, but completion rates are still inadequate, and repetition is substantially higher than in other regions.
Equity	D	↔	More poor, rural, and indigenous children are in school, but they learn less and leave sooner than those from better-off families.
Standards	D	↑	Although many are working toward them, no country has yet established and fully implemented comprehensive national standards or linked them to teacher education, texts, and tests.
Assessment	C	↑	National achievement tests are increasingly common, but remain precarious. Test results seldom influence policy.
Authority & Accountability at the School Level	C	↑	A number of countries have devolved decision-making to lower levels, but management and oversight are still inadequate.
Strengthening Teaching	D	↔	Efforts to improve teacher quality and accountability so far have not shown measurable changes in classroom processes.
Investment in Primary & Secondary Education	C	↑	Investment is rising, but per pupil spending is insufficient to provide quality education to all students.
Grading Scale:	A	Excellent	↑ Improving
	B	Good	↔ No Observable Change
	C	Average	↓ Declining
	D	Poor	
	F	Very Poor	

Source: PREAL (2006), *Quantity without Quality: A Report Card on Education in Latin America*.

How PREAL Report Cards Work

The report card – usually no more than 30 pages – is written in simple, straightforward language to maximise accessibility and usefulness. It discusses in detail the findings on each of the subjects, pointing to strong and weak performances within each category and draws on the local context and international comparisons to highlight areas for improvement.

Where relevant data is available, PREAL’s national report cards also include and discuss state, or regional-level data within a country, to demonstrate how educational experiences vary within the country and to highlight inequalities.

A report card for Jamaica based on the PREAL model would therefore show the performance of the island’s educational system in an international and/or regional context. It would also monitor key policy areas, such as standards, testing, finance, teacher management and training, and authority and accountability at the school-level – issues at the centre of the current accountability debate in Jamaica.

“Jamaicanising” PREAL’s Report Card

To tailor PREAL’s model to Jamaica, the report card could also include other subjects, in addition to the nine that already exist in the PREAL model. In our consultations, stakeholders emphasized that accountability does not rest solely with the Ministry, administrators, and teachers, but also with parents and the communities in which the schools exist. As such, “parent and community involvement” could be included as another subject in the Jamaican education report card.



Similarly, although preschool is already covered in some subject areas of the PREAL report card (e.g., “enrolments” refers to enrolment rates at all level from preschool to secondary school), an “investment in early childhood education” subject area could also be added to the report card, and could cover recent government efforts to improve education services at that level.

While the data necessary to conduct a standard report card under PREAL’s terms of reference should be readily available through the Statistical Institute of Jamaica, the Caribbean Secondary Examination Council, the Ministry of Education, the National Education Inspectorate, the National Council on Education and the Regional Educational Authorities, this may not be the case for the additional subject areas that might be considered in the Jamaican report card, particularly information on “parent and community involvement.” If this is the case, a survey covering those subjects could be prepared and conducted, and, after consultations with stakeholders for validation purposes, incorporated into the report card.

The following section of the study addresses the possibility of introducing a value-added aspect to the report card. This is in response to stakeholder concerns that the socioeconomic context is inadequately considered when assessing school performance.

Although not wide-spread internationally, a few value-added models are currently being tested and used by some educational systems in developed countries, especially state and district-level systems in the United States. The section explains the benefits and limitations of the methodology as it is currently employed. Following that, we examine the viability of adding a value-added component to a Jamaican education report card.

Value-Added Assessments

As stakeholders call for increased accountability in the education system, the possibility of conducting a value-added assessment, which calculates the “effect” that individual teachers and/or schools have on student learning, is often put on the table.

The idea behind value-added assessments is that, by measuring the increase in a student’s test scores (a proxy for the amount a student has learned) from the beginning of the school year to the end (or, in the absence of beginning of school year testing, from one school year to the next), one can calculate what a school or a teacher “added” to that student’s learning, controlling for other factors outside of the particular school’s or teacher’s sphere of influence. Such factors include the student’s previous level of knowledge (as measured by their score before starting the school year) as well as the socioeconomic background of students and the student body as a whole. That is, under a value-added system, schools and teachers are not judged strictly on the schools’ academic average, but rather on how much test scores improve given a school’s or teacher’s particular starting point.

Given the nature of the debate in Jamaica, especially considering the need to ensure that available resources are used efficiently, and in light of current discussions around pay for performance proposals, such an approach has obvious theoretical appeal. However, research suggests that implementing value-added assessments can be problematic.

The Adoption of Value-Added Assessments: a US Case Study

The most extensive examples of value-added assessments are from the United States, where various school districts have experimented with different models over the last decade.

Since the publication of *A Nation at Risk* (1983), the US educational system has been under increasing scrutiny by the American public. Consequently, policymakers have been under greater pressure to show improvement in the educational achievement of American students.

Given the decentralized nature of education in the US, states, not the federal government are the locus for change. Several states began experimenting with value-added assessment for teachers and schools as early as 1988. The best-known of these is the Tennessee Value-Added Assessment System (TVAAS). It was developed in the mid-1980s as a research project led by Professor William Sanders at the University of Tennessee. It uses students’ scores on standardized tests in various subjects, including Reading and Math, and controls for certain individual and school level variables to calculate a score that can be interpreted as the effect of individual teachers on students. The differences in the size of these effects between teachers suggest differences in teaching quality.²⁰

²⁰ The Center for Greater Philadelphia (2004), “Value-Added Assessment in Tennessee.” University of Pennsylvania, CGP [http://www.cgp.upenn.edu/ope_tn.html] (last accessed August 2009)].

In 1992, when funding increases for education in Tennessee sparked increased demands for higher standards and greater accountability, the existing TVAAS was chosen as the default methodology for measuring school and teacher effectiveness, used alongside more traditional indicators such as school promotion, attendance, and drop-out rates.

Several other states, such as North Carolina and California and cities including Dallas and San Diego, implemented similar value-added assessments in the 1990s, and the adoption of the No Child Left Behind (NCLB) Act in 2001, with its strong focus on accountability and the widespread implementation of student testing, spurred many more value-added assessment exercises. (The NCLB Act makes it mandatory for teachers to show competency in “core academic subject areas”. This competency must be measured by a “highly objective uniform state standard of evaluation” (HOUSSE).²¹)

The main difference among these assessments lies in the punishment/reward aspect of the assessment – specifically whether it is implemented at the teacher or school level and focuses on rewarding good performance or correcting bad performance (see additional discussion under “Limits of Value-Added Models as a Tool for Policy Decisions” below).

The Adoption of Value-Added Assessments: a Poland Case Study

The value-added approach to assessment in education is not limited to the United States. In Poland, for example, a value-added model was designed and implemented to measure the overall effect of schools on students. This model differed from the American one in that there was no attached reward system and the main audience for the assessment were the parents and students, not the schools, their administrators and teachers.

The main reason for this is that the Polish value-added assessment did not attempt to identify specific shortfall areas in school institutions, and therefore did not suggest best practises to improve these shortfalls. Rather, it calculated the overall “effect” of schools on students by combining student test scores with a detailed set of school-level data (e.g., the availability of school equipment, school organization and aggregated school-level teacher qualifications) and some limited student information (i.e., gender, date and place of birth, school and region, and dyslexia diagnosis, for example). In Poland, collecting data on students’ socioeconomic characteristics is illegal, thus the exclusion of students’ socioeconomic data.

The engineers of the assessment argue that, while the results may not be useful for policymakers and administrators since they do not reveal successful practices, or highlight effective teachers, they are useful for parents who simply want to measure the overall average gain for students similar to their own children in a particular

²¹ The Center for Greater Philadelphia (2004), “Value-Added Assessment in Tennessee.” University of Pennsylvania, CGP [http://www.cgp.upenn.edu/ope_tn.html] (last accessed August 2009)].

school.²² In addition, it also gives them the information needed to transfer their children to schools with higher overall value-added scores.

Perhaps the most important contribution of this type of assessment is that it reinforces the fact that evaluating schools according to the gains in student scores paints a more complete picture than using final value of scores (based on who gets the “best” overall score) alone.

Value-Added Assessments

Purpose: Measure school and/or teacher effects in student learning, as distinct from effects of other factors affecting learning.

Type of information provided: The calculated effect of each school and/or teacher on student learning.

Best suited for: National, sub-national and school administrators, to identify schools and teachers with the highest (and lowest) effect on student learning and learn from them. For teachers, value-added assessments may point to teaching strengths and weaknesses and inform teaching methods.

Usually Prepared by: Most value-added assessments are prepared at universities, but some are done by government-funded bodies created for that purpose.

Principal Advantages: Value-added assessments control for factors that affect learning but that are beyond the schools'/ teachers' control, understanding that the best school/teachers are not necessarily those whose students have the highest scores; and are based on rigorous statistical calculations.

Main Limitations: There is still no academic consensus on the best methodology for value-added assessments; and in policy, they have been implemented in high-stakes settings despite this shortcoming.

Caveats of Value-Added Assessments and Problems with Using them for Policy

No Consensus on Best Model

Despite the growing popularity of value-added assessments in supporting accountability systems, there is no current academic consensus on the best value-added model, and researchers continue to debate the merits of these studies and their methodology. This sub-section discusses some of the criticisms raised.

In general, value-added models are variations of the very basic model that posits that students' test scores are determined by their scores on previous tests, plus the effects that their teacher/school had on them. They can then be adapted to account for fixed student characteristics (e.g., race, gender, or even the natural ability of each student) and school effects (e.g., location, resources, and size). They can also be stacked with

²² Jakubowski, Maciej (2008), “Implementing Value-Added Models of School Assessment,” EUI Working Papers, European University Institute.

scores from several past years as “previous scores.” Quite naturally, these models will include an element of error.²³

Reliable value-added assessments depend both on academic rigor and on the breadth of data available at the student, teacher, and school-level. Including additional factors in the basic model may involve only minor modifications; however, the results yielded can sometimes be so dramatically different, that academics have yet to agree on the most accurate or nearly accurate model.²⁴

Student Placement Bias

Furthermore, there is still significant debate on whether, and under what circumstances, existing sources of bias in the model can be overlooked, or eliminated. In two very recent papers, for example, Rothstein (2009) and Koedel and Betts (2009) discuss how the non-random assignment of students to teachers/institutions affect the validity of value-added models.²⁵

Both papers, using different sets of student information – from North Carolina and San Diego, respectively, find that the non-random assignment of students to teachers (for reasons ranging from placing high or low ability students with specific teachers, to separating two children who do not get along by assigning them different teachers) creates a bias in value-added models. The effect of that bias varies depending on the specifications of each model.

Although Koedel and Betts (2009) propose a relatively complex methodology to mitigate the effects of that type of bias by using multiple years of student data, they admit that it does not eliminate the bias altogether and excludes the possibility of evaluating newer teachers.

Such methodological concerns raised by academics take on additional significance when legislators, policymakers and the public at large, see these value-added assessments more as an accountability mechanism used to influence the distribution of school resources and teacher pay, and not primarily as empirical studies on the factors that affect learning.²⁶

²³ Statistically, the basic equation is expressed as $S_c = \alpha + \beta(S_p) + T + \varepsilon$, where S_c is each student’s current score, S_p is each student’s previous score, T is the teacher and/or school effects, and ε is the error term.

²⁴ Rothstein, Jesse (2009), “Teacher Quality in Educational Production: Tracking, Decay, and Student Achievement,” Princeton University and NBER.

²⁵ Rothstein, Jesse (2009), “Teacher Quality in Educational Production: Tracking, Decay, and Student Achievement,” Princeton University and NBER; Koedel, Cory and Julian R. Betts (2009), “Does Student Sorting Invalidate Value-Added Models of Teacher Effectiveness? An Extended Analysis of the Rothstein Critique.”

²⁶ McMillan, James H. (1988), “Beyond Value-Added Education: Improvement Alone Is Not Enough,” *The Journal of Higher Education*, Vol. 59, No. 5 (Sept. – Oct. 1988), pp. 564-579.

Limits of Value-Added Models as a Tool for Policy Decisions

Some value added assessment-models withhold rewards, penalize teachers, and/or replace administrators based on the findings. This reward/consequence aspect of the model raises the question of fairness when considering possible methodological weaknesses and the presence of student placement bias, for example.

In the US, policymakers have attempted to diminish the potential errors involved in using value added models for performance assessments by lowering the stakes tied to their results. The TVAAS, for example, does not penalize teachers or schools with poor results, offering training and support instead.²⁷ On the high performance side, it provides financial rewards to schools with good results, and these are then distributed among all teachers and staff, regardless of individual performance.

The Dallas system, on the other hand, implements a wide range of remedial alternatives for poor performing schools, depending on the persistence of poor results. These include supplying additional resources for teacher training, replacing administrators and restructuring the schools.²⁸

Three other criticisms levelled at using value-added models for policy or management purposes are that:

1. They lack transparency.
2. They rely heavily on national educational tests, which arguably do not accurately reflect all facets of the students' achievement.
3. They could encourage teachers to merely teach to the test.²⁹ i.e. teach only what's on the syllabus (which is, however, not necessarily a bad thing where the basics of literacy and numeracy are poor).

Value-added models are complex, and become more and more intricate as variables are added. For example, the layering of several years of student test scores, in order to decrease biases, adds to the complexity of a value-added assessment. As a result, these models may be difficult to explain to those under evaluation and to the stakeholders who intend to use the results for policy formation. And in most cases, if teachers, principals, and students don't understand the criteria under which they are being evaluated, they are unlikely to accept, or use the results effectively. Moreover, while the importance of testing children throughout their school life is critical, and our consultations have revealed a desire among stakeholders to increase and improve student testing, there is an obvious difference between overall knowledge and what can actually be tested. Also, it must be noted that, when used in policy, value-added

²⁷ Baker, A. Paige and Dengke Xu (1995), "The Measure of Education: A Review of the Tennessee Value Added Assessment System," *Tennessee State Comptroller of the Treasury, Office of Educational Accountability*.

²⁸ Webster, William J. and Robert L. Mendro (1997), "The Dallas Value-Added Accountability System." Grading Teachers, grading schools: Is Student Achievement a Valid Evaluation Measure?

²⁹ For a list of other criticisms of value-added models in policy and some responses to them, see Baker, A. Paige (1995) and Drury and Doran (2003).

models tend to show the effect of teachers on their most recent classroom – just as test scores are associated with teachers from that grade – even though there is a general notion that the best teachers are those who have *lasting* positive effects on students. In other words, the value-added models, while focussing primarily on test scores, do not offer a proper gauge of a teacher’s long-term effectiveness.

In short, research suggests that value-added results and teacher evaluation can be a useful tool for evaluating school performance, although they should be used with a great deal of caution, particularly in light of:

- ⦿ the lack of consensus on the best value-added model,
- ⦿ biases due to missing variables,
- ⦿ the non-random assignment of students – a phenomenon that cannot be entirely eliminated,
- ⦿ challenges in the application of value-added models for policy purposes.

Nonetheless, a sound value-added educational assessment can be useful in helping teachers and administrators identify the strengths, and address the weaknesses of their school and personnel, and can provide a more comprehensive view of how and what teachers contribute to learning in a particular context. Value added studies can also feed back into the system in a variety of ways, not all of them high-stakes. For example, rather than using value-added results to determine compensation rates, Haycock (1998) suggests that such results may be useful for identifying the most effective teachers, who could then be offered incentives to teach low-achieving students.³⁰

Rothstein (2009), while identifying sources of bias in value-added models, still acknowledges that results could be used by principals to maximize efficiency in the schools, by assigning students to match specific teachers’ skills – assuming, of course, that principals are unbiased and have the maximization of efficiency as their primary agenda.³¹

³⁰ Haycock, Kati (1998), “Good teaching matters: How well-qualified teachers can close the gap,” Teaching K-16 (Summer 1998).

³¹ Rothstein, Jesse (2009). “Teacher Quality in Educational Production: Tracking Decay and Student Achievement”, Princeton University and the National Bureau of Economic Research.

OPTIONS FOR AN ASSESSMENT OF THE EDUCATIONAL SYSTEM IN JAMAICA

As the call for greater accountability in the Jamaican educational system becomes louder, the absence of a comprehensive study examining student achievement, in relation to the input variables (such as the socioeconomic background of students, school infrastructure and government funding allocations) becomes even more glaring. Without these analyses, discussions on education may be plagued with misinformation and agendas driven by special interests rather than concrete findings.



A report card with or without value added information could fill that information void and respond to stakeholder concerns, albeit in different ways. In this section, we discuss two options that could be employed at the national, parish/regional, school, or teacher-level (summarized in the **Table 1** below). The principal purpose of any study chosen, regardless of format, would be to inform stakeholders on the current condition of the Jamaican educational system and thereby facilitate dialogue and policy decisions for improvement.

Table 1. Options Matrix for Assessing Education in Jamaica

Assessment Level	Report Card			Value-Added Study		
	Strength	Weakness	Timeline	Strength	Weakness	Timeline
National	evaluates the Jamaican education system as a whole and in comparison to international and regional scales: includes information on regions/parishes within the country as available and appropriate	does not generally include information on individual schools or teachers: may be harder for local stakeholders to relate to aggregate information	1.5 years	could eventually include findings from value-added studies at the school or teacher level as these affect national policy issues	National level value-added analysis not meaningful (i.e., the effect of the country, in general, on students)	
Parish/Region	highlights the gaps between parishes/regions; looks at intermediate level of administration; particularly relevant given recent reforms that increase responsibility at this level	may not provide much added information to the extent that region or parish information is already included in a national report	1-2 years	could eventually include findings from value-added studies at the school or teacher level as those affect parish or regional policy issues	Parish/regional level value-added analysis not particularly useful (i.e., it aggregates the total effects of different parishes/regions on student performance)	
School	highlights school performance and resources: combined with national or parish/regional report cards, could show the individual schools progress relative to the larger context	Probably impractical for an independent NGO to carry out alone given the scope (i.e., a separate report card for each school in the country); taken alone don't give a sense of common problems	at least 2 years to develop model and collect data/write reports for some schools; including all schools would likely take longer	shows the effects of schools on student performance	Developing the right model is complex and dependant on availability of appropriate data; combines all teacher effects between grades tested together	1-2 years, depending on data availability, the time taken to develop model and the capacity of the organization conducting the study
Teacher	could provide the public (clients) with a standardized report on individual teachers performance	no clear consensus on best way to evaluate teacher performance or report on results in the international literature	Not Considered	shows the effects of individual teachers on student performance	Developing the right model is complex and dependant on availability of appropriate data; currently only possible for fourth teachers in math and reading	

A National-Level Report Card

On a national level, a report card for Jamaica would show the performance of the island's educational system relative to international and/or regional standards, within the context of stakeholder expectations. It would also incorporate region/parish level information to show how educational experiences vary within the country and to highlight inequalities.

Such an exercise would also make use of information from the National Inspectorate to highlight the broader policy implications of school level evaluations.

Based on the PREAL model of nine core subject areas, the national report card could also be tailored to include other priority areas, mainly:

- parent and community participation
- early childhood education
- co-curricular activities

Most information included in a standard PREAL report card should be readily available in Jamaica. However, there is no data readily available which shows the extent of parental or community participation in Jamaican schools beyond NPTAJ's estimates. Nor do we know whether such estimates are sufficient from stakeholders' perspectives. Therefore a report card proposal could incorporate a data collection activity in this subject area, if deemed appropriate.³²

Value-Added: It would not be very meaningful to try to assess value added at the national-level, as it would show only the average "effect of Jamaica" as a whole on student scores. However, a national level report card could eventually include findings from value-added studies at the school or teacher level as these affect national policy issues.

Timeline: PREAL has found that at least initially, its national report cards take a year or more to produce. The majority of this time is spent gathering data and consulting with national partners and stakeholders to ensure validity and comparability of data and message clarity. Thus, the exact length of time will depend largely on whether data is publicly available or must be sought, and whether data from various sources are conflicting, or given in different formats. Another factor that may add to the preparation time would be the availability of data on different Jamaican stakeholders' interests, or whether or not it needs to be commissioned.

Cost: PREAL estimates that the production and publication of national report cards under its model, cost between USD30,000 and USD60,000 each, depending on costs of materials and labour in a given country, print runs, and the quality of materials used. Including additional subject areas for the Jamaican report card would of course

³² The National Parent -Teacher Association of Jamaica (NPTAJ) is the main body with information on parent participation in schools. It estimates that parental involvement is around 20% and decreases as the school year progresses.

add to that cost; how much it would do so, would depend on whether a survey would have to be commissioned for the purposes of the report card, or not.

Regional or Parish-Level Report Cards

Parish or regional-level report cards would assess the current condition and recent progress of each parish's, or region's educational system, in comparison to the averages of other parishes and countries in the region.

PREAL experimented with the production of five province-level report cards in Colombia, which were very-well accepted and have since been produced for sixteen more provinces, entirely with national funding.

In practise, report cards at this level would follow the same general format as PREAL's national report card – evaluating regional or parish systems in nine subjects. In some areas, however, such as standards, there may be variations, since such policy decisions are often made at the national level. Regional report cards would also include comparisons with other regions or parishes and within region comparisons between schools or municipalities when comparable data is available, and would highlight both successful approaches and areas where improvement is needed.

As with the national-level report card, a parish, or regional-level report card for Jamaica could include additional areas for evaluation, such as early childhood education, parent and community involvement, and/or co-curricular activities.

Report cards at this level would include a more detailed study of the management of the educational system below the rank of the Minister of Education. At the same time, however, they may not contribute much more to the accountability discussion than a national report card, to the extent that decision-making is primarily concentrated in the Ministry, or that the detailed regional/parish level data is already included in a national report card.

As it is, Jamaican stakeholders do not appear to be as interested in assessing the accountability of intermediate administrative units such as regions and parishes. However, the failure to consider the role/responsibilities of education authorities at this level may in fact be a red flag indicating an important gap in knowledge, in which case parish, or district-level report cards would be a useful tool for understanding processes and differences in performance at that level. It may also be the case that stakeholders will more easily relate to and be inspired to act on information that is “closer to home” than information at the national level.

Value-Added: It probably would not be particularly useful to include a regional or parish-level value-added assessment in a report card. The results from the assessment would be weak, as they would be based on only six or fourteen data points, respectively, and would only show the “average effect” of a region/ parish on its students, masking the fact that parishes and regions include various towns of differing sizes and levels of infrastructure, as well as schools of different quality and student bodies.

However, regional or parish level report cards could eventually include findings from value-added studies at the school, or teacher level as these affect regional or parish level policy issues.

Timeline: The preparation and publication of regional or parish-level report cards is likely to be just as time-consuming as national-level report cards (1-1.5 years) or more so. This is because, while the data collection process would be similar to that of a national-level report card (since regional or parish-level information is generally included in a national-level report card), analyzing the collected information and writing the reports could take longer, since large portions of these two steps would have to be repeated in each parish or region-specific report card. In addition, school-level data may need to be analyzed to assess equity within regions/parishes. Again, adding more subjects for evaluation could lengthen the process, depending on data availability.

Cost: PREAL's experience with the five province-level report cards initially produced for Colombia came at a total cost of roughly USD 60,000 (or USD12, 000 each), not including PREAL central staff time. For Jamaica, the cost of report cards under that format would depend on the number and levels studied (i.e., fourteen parish-level report cards or six regional-level ones), as well as on print runs, dissemination costs, etc. and whether or not Jamaica-specific interest areas /subjects are included.

A School-level Report Card

School level reporting in Jamaica currently covers:

- student enrolment
- pupil teacher ratio
- test scores
- teacher qualifications and training

Stakeholders consulted were clear, however, that school-level assessments must consider information beyond a simple ranking/evaluation based on test scores. They noted that differences in student backgrounds, parent/community participation, the schools' available resources, and the differences in student qualifications as they enter high school, are all variables that impact student learning and that are largely outside of school control.

Currently, Ralph Thompson and Bill Johnson produce a yearly ranking of Jamaican high schools, using student scores from the CSEC. However, if a school-level assessment is to be conducted as a stand-alone report, or included in a national or parish/district-level report card, it must add value beyond a ranking. A simple ranking of high schools based solely on exam scores may have a distorted effect on accountability. It often leaves teachers and principals to answer for shortcomings without looking at differences in student backgrounds; parent/community participation; the schools' resources; and, specifically, the different academic achievement levels of students entering these secondary institutions.³³

³³ In Jamaica, top-performing students in the Grade Six Achievement Test (GSAT) get to choose which high school to attend, and will usually select those with high CSEC results (i.e., the "good schools"). Thus, schools that perform poorly in the CSEC results are also much more likely to be those that drew in students with lower GSAT scores. See, for example, Esther Tyson's, principal of Ardenne High School, criticism of the ranking system [<http://www.jamaica-gleaner.com/gleaner/20080518/cleisure/cleisure2.html> (last accessed August 2009)] and Howard Thompson's contribution to the Gleaner on the same subject

As it is, the existing ranking looks only at high schools island-wide. Given stakeholders' emphasis on monitoring performance at all levels of the education system, the school-level report cards may need to be engineered for primary, all age, and junior high schools.

The production of school-level report cards for each school in Jamaica would likely be costly and time-consuming for non-governmental researchers to undertake, particularly in a first iteration, given the size of the school system and the time needed to design an appropriate model. Since the MOE has more direct access to schools and a strong stake in the schools' performance in order to complete its management role, it may be that it is the most appropriate body to oversee/undertake reporting at this level and to ensure that it is sustained over time. The MOE could also collaborate with the National Education Inspectorate to have their inspectors collect the baseline data needed for the production of a value added school report card.

Value-Added: As national exams are given to a sample of Jamaican students before the start of 1st grade, at the end of 3rd, 4th, 6th and 9th grades, and upon completion of secondary school, or vocational training, it should be possible to conduct a value-added assessment of school "effects"³⁴ on student achievement at grades 1-3, 3-4, 4-6, 7-9, and in secondary school or vocational training. However, these results would be based only on test scores from students who attended the same school throughout the interval, and would be limited to test subjects included in both the start and end tests.

A framework for a simple school value-added model would require that baseline data be collected, first, on the students' family background -- in particular, the parent's occupation and educational level. It would be ideal if this information were available at the student level, and it should be collected at testing sites through the use of student identification numbers so as to provide ease in the data- collection and processing. Next, information on school infrastructure, such as whether the school facilities or resources at the school are in good repair, should be another component of the value-added school report. The value-added school report should also include data on the budget allocated to school on a per student basis. In addition, data on parental and community involvement should be gathered.

While the data on the budgetary allocation to each school should be readily available through the Ministry of Education, collecting some of the other data may be difficult, albeit perhaps not impossible. The data on parental occupation, education, and possibly even income is not currently available, though it may be that tracking the test score of students and identifying those who receive free lunches through the PATH programme could serve as a proxy. It may also be possible to alter the JSAS software to enable collection of such data. Obviously, though, all of this would depend upon the use of ID numbers, in order to preserve confidentiality, making only aggregate data

[<http://mobile.jamaica-gleaner.com/20090811/cleisure/cleisure2.php> (last accessed August 2009)].

³⁴ Effect is the change in student achievement on a per school basis, as measured by the difference between the results of the first test and of the second test in the period. That is on average, how much did the students in a particular school improve or lower their test results from 1st grade to 3rd grade.

publicly available. In the absence of this, one would be left with estimates and proxies of the average family-income in a school – a challenging, but not necessarily impossible task. Beyond that, information on school infrastructure can be obtained through the data that will be collected by the National Education Inspectorate (NEI) through their routine school inspections. Meanwhile, the level of parental and community involvement can be obtained by the National Education Inspectorate after it has finalized its inspection protocols for schools. The NEI seeks to assess the educational partnership that the school has with parents and the extent to which parents are actively involved in the life of school. In addition, the Jamaica School Administration Software (JSAS) is being upgraded and implemented in schools to have a Parent and Teacher Meeting Tracking application that will record the meetings teachers have with a parent or relative throughout the academic year. This feature can therefore be used as a proxy to measure parent and community involvement.

Since the standardized tests administered in Jamaica do not collect any student-associated factors (i.e., income level, parents' educational attainment, parent and community involvement, school infrastructure, aggregated teacher accreditations etc.), a value-added model based on currently available data would be similar to the Polish model and would only reveal the average effect of each school on its students, without indicating if these effects are mainly due to the student's background or the school itself. As in Poland, the model would reveal the overall effect of the school (and of other variables not included as controls), on its students. Additionally, it would still not separate the effects due to staff competence, from the effects due to individual student characteristics such as socioeconomic background, for example, or any other variable that cannot be controlled.

THE DATA NEEDED FOR A COMPLETE VALUE-ADDED REPORT CARD

Some of the data that might be used to produce a value-added scorecard is readily available now, and some may be available in the near future. These include:

(1) Readily available data (under currently planned evaluation systems)

- Whether a student repeated a grade
- Students' attendance rate to school
- Teacher attendance rate to school
- Number of students per class
- The first four items of data will be available through the JSAS. In addition the NEI will be ascertaining information on:
 - How well students perform in national and/or regional tests and assessments, and
 - How much progress students make in relation to their starting points.
- School resources and budget information can be obtained through schools and the Ministry of Education

(2) Data that is not readily available, but will possibly become so in the near future

- Relations with parents and the local community
- The performance of particular age groups in school in each target subject for the last three years (taking into account variations in performance of different social backgrounds and different abilities)
- Number of students who receive lunch vouchers through the PATH programme

The NIE plans to collect some material on this topic, and so it is possible that with relatively minor adjustments to their instrument, data that can be used in a value-added model will become available. The JSAS software will also have a web enabled application to collect information on Parent and Teacher Meetings which could possibly serve as a proxy for parental and community involvement. This feature will not be limited to Parent Teacher Association Meetings but can log the number of meetings held with a parent or relative and reason for the meeting.

(3) Data that is unavailable/ difficult to obtain

However, there will still be some data that will be difficult to obtain, leaving any value-added model to rely on proxies and estimates. These include:

- Data on parents' occupation and level of educational attainment
- Data on student or family socioeconomic status
- Data on students' use of public/private transportation to school
- Data on student co-curricular activities

Data-collection on these points is not presently done, though the obstacles presented are not necessarily insurmountable. Until such data is collected, though, a value-added model will be only indicative and could not, for example, be used as the performance based assessment for which principals would be held accountable.

Considering this important caveat, a value-added assessment based on existing test score data in Jamaica could not be used for performance assessment for individual staff, or to guide performance-based-pay. Also, it would not necessarily point to specific areas needing change at the school-level, since it could not pinpoint precisely the driving force behind the effects. Nonetheless, it could have indicative results, pointing to schools that perform well, and to the schools with the lowest performance. Assuming that parents, students, school staff, and community members involved in a school are aware of the school's main shortcomings, it is possible that they could use the information to mobilize for change.

Depending on stakeholder priorities and available resources, value-added assessments could supplement the more general school-level report card. And to the extent that value-added findings are applicable to national policy issues, they could also be incorporated into a national level report card. However, as said earlier, there is still no academic consensus on the best methodology for value-added assessments, and the estimate of the effect will be limited by the range of data available on inputs that influence education.

It must also be noted that most value-added studies have been conducted, at least at the outset, by academics and university teams.

Practically, since there are different national tests for students at the same grade level, but in different types of schools – for example, the GNAT is administered exclusively in non-traditional high schools in 9th grade and the CSEC is administered to students in traditional high schools at the end of their secondary-level education, – separate value-added assessments would have to be conducted for each school category and the calculated school effects would only be comparable within categories. That is, it would not be possible to compare the effect of a non-traditional high school with that of a traditional high school. This may be an important consideration, as the inability to determine the difference in average effects between school types, detracts from the potential contribution of a value-added assessment to stakeholder discussions.³⁵

³⁵ Howard Thompson, for example, has long argued that the existence of traditional versus non-traditional high schools in Jamaica has created a harmful divide (see, for instance, Thompson (2009), “Inadequate schools comparison,” letter to the editor, Jamaica Gleaner [<http://www.jamaica-gleaner.com/gleaner/20090625/letters/letters5.html>] (last accessed August 2009)). And Esther Tyson, principal of the Ardenne High School in St. Andrew, published an article in the Jamaica Gleaner argues that the current comparison between the two systems is unfair because it does not consider the differences in student backgrounds or socioeconomic conditions, nor the conditions of the schools; an assessment comparing the performance of students in the two types of schools while taking school and student characteristics into consideration could nonetheless be valuable (see Tyson, Esther (2008), “Unfair schools comparison?” Jamaica Gleaner [<http://www.jamaica-gleaner.com/gleaner/20080518/cleisure/cleisure2.html>] (last accessed August 2009)). But a value-added assessment that does not allow for comparisons between traditional and non-traditional schools, although it observes the distinctions between the two types as drawn by Thompson and Tyson, would be of limited use to the *debate* on the *actual* quality differences between the two school types.

Timeline: Generating a report at this level will likely take a minimum of two years, since the process would require data collection and analysis, in addition to designing an appropriate model for either a general school level report card, or one that includes a value-added component. The exact timeline would depend on the amount of readily available data, and how quickly an appropriate model could be designed. Currently, contextual indicators can be obtained from the Jamaica Survey on Living Conditions, however, it is not certain if they will be sufficient.

Additionally, value-added design would almost certainly take longer than general report card design at the school level. In Poland, for example, the expert group conducting the value-added assessment took over a year to match students' primary and lower secondary scores, tracing each student by name, gender, and date of birth. Jakubowski (2008) also observes that, in the case of a school-level assessment, "collecting data for the value-added analysis is usually the most demanding task...and policy makers should be aware of this when thinking about implementing value-added systems."³⁶

It is also important to note that the expert group for the Polish value-added assessment was part of the Central Examination Board, the body responsible for designing and administering the tests, thus ensuring their familiarity with the test and facilitating easier and timelier access to the data.

Costs: Given the fact that there is no single baseline for conducting a value-added study, it is not possible to determine the cost.

Teacher-level Reporting

The quality of teachers is at the center of the quality of any educational system; therefore, monitoring and evaluating their performance is key as we seek to attain the levels of learning and accountability desired by Jamaican stakeholders. As PREAL explains:

Teachers should... be evaluated periodically, and outstanding performance should be recognized publically. Parents and local communities should receive regular updates on teacher qualifications, teaching materials and school budgets.³⁷

Nevertheless, there is no single consensus on the best way to evaluate teacher performance and little discussion on how best to report the results of those evaluations. Researchers often talk about different approaches for teacher evaluations, which can be roughly categorized into those focusing on: teacher profile; student performance; classroom management; or teacher teamwork. Each approach implies looking at different elements of teaching and each has its own strengths and weaknesses (Vaillant, 2008; citing Alvarez, 1997). (**See Table 2**).

³⁶ Jakubowski, Maciej (2008), "Improved Value Added Models of School Assessment". EUI Working Papers, European University Institute.

³⁷ PREAL (2004), "A Call for Accountability," *Accountability in Education*, no. 1.

Table 2.

Types of Teacher Evaluation	What to Observe?
Teacher Profile	Credentials and experience
Student Performance	Type of teacher-student relationship and level of teacher's knowledge of subject matter
Classroom Management	Kind of strategies to promote student engagement and creativity in the classroom
Teamwork	Type of link established among teachers in the school

Source: Vaillant, 2008.

The current international debate on teacher evaluation is contentious, with most concerns focused on the validity of the measurements and the accuracy of the information used (Hunt, 2009). Teacher evaluations that use student performance as a proxy for teacher quality tend to generate the most controversy. Those who support the practice argue that the ultimate measure of whether teachers (or the education system as a whole) are doing their job successfully is whether or not students learn. Detractors argue that basing teacher evaluations solely on student's test scores, fails to encompass the overall effort of the teacher in the classroom. Moreover, student test scores are also affected by variables outside of the classroom, and therefore are outside of the teacher's control (Vaillant, 2008). Medley and Shannon (1994) emphasise the point:

“The fact that the test used to measure student achievement ... is valid, is no guarantee that measures of teacher effectiveness based on that test will also be valid” (cited in Hunt, 2009, p. 4).

Vaillant also notes that teacher evaluation systems face multiple obstacles from a political, conceptual, and operational standpoint. The author argues that, politically, evaluations by external evaluators may not be accepted by teachers, especially if they imply changes to established norms. Other possible operational constraints could be the costs associated with developing a rigorous methodology and the need to test each individual teacher.

Clearly, the issues surrounding teacher evaluation are complex, and determining the appropriate approach is beyond the scope of this paper. Likewise, the appropriate methods for sharing information gained from teacher evaluations will likely be influenced by both the type of evaluation and how it is used.

The ministry is currently working on these issues through the NEI and JTA mechanisms, and the results of pilot applications of new teacher and principal evaluations should be available in the coming months. As the ministry and the Jamaican people consider the effectiveness of these new mechanisms, it will be

important to continue to discuss whether they are meeting Jamaica's accountability needs and, if necessary, how they may be adjusted.

As a contribution to this ongoing discussion and given stakeholder interest in the potential of value-added methodologies as a way of evaluating teachers, the text that follows raises some key factors to take into account, when thinking about such an approach in Jamaica.

Value Added: The only two national exams conducted for students in consecutive years are the Grade Three Diagnostic Test and the Grade Four Literacy Test. As such, a teacher-level, value-added assessment is only feasible for studying the effect of fourth grade teachers on their students' improvement in literacy. As none of the other national exams are administered for consecutive grade-levels in Jamaica, any other value-added assessment would have to necessarily aggregate the effects of each teacher who taught a given student over the grade-levels between national exams.

Conducting a teacher-level assessment, therefore, would be impractical, as it would focus on a very limited set of teachers, and unfair, since it would hold only fourth grade teachers to statistical standards.

Timeline and costs: Under current contextual conditions, this is not considered, given the limited potential of either report cards, or value added studies at this level.

RECOMMENDATION: A JAMAICAN NATIONAL EDUCATION REPORT CARD -- A USEFUL TOOL TO GAUGE OVERALL PERFORMANCE

Of the options considered in this paper, a national education report card seems to have the most potential to enhance education accountability in Jamaica in the short term. Among other reasons, the arguments in favour of this approach are:

1. *It is based on an existing model, which has been proven successful in other countries and could be easily adapted to the Jamaican context.* Over the past eight years PREAL has published 16 national report cards in nine different Latin American countries. These report cards have helped spark constructive national debate, shape policy and enhance accountability by providing stakeholders with reliable information. This model is sufficiently flexible, allowing the integration of Jamaican-specific concerns into the design.

For instance, current areas of public and policy concern – including early childhood education, technology, citizenship, and parent and community involvement – could be worked into the existing assessment instrument. Then, as the report-card outcomes inform public discussions, possibly giving rise to new areas of interest, these too could be included in the report.

2. *It would be less costly, especially when compared to the other options considered.* The model developed by PREAL would be relatively inexpensive to implement, both because the model has already been designed and tested in other countries and because it relies principally on existing information to inform analysis to produce a single national level report.

Reports for multiple entities (e.g. regions or individual schools), that require collection of new information from surveys, or that incorporate a value-added methodology would typically be more expensive.

3. *Implementation by an independent monitoring body would help gain greater buy-in and sustainability.* A national report card produced by an independent monitoring body would encourage greater citizen buy-in, since self-assessment mechanisms, no matter how well designed, could be perceived less objective than assessments by outsiders.

Production by a non-governmental body would also help promote continuity, should changes in government, or budget cuts, lead to a shift in priorities away from monitoring and accountability. Given the interest of donors and local private foundations in education, it seems quite possible that an independent body with strong credentials could attract sufficient funding to create and implement such a national assessment and sustain it over time.

4. *It responds to stakeholders' desire to integrate more accountability at the ministerial level.* Report cards at various levels have the potential to add to the education debate and increase accountability. A national report card would allow Jamaican stakeholders to learn more about the current state of the system as a whole, and in comparison to other countries.

In this way, the report card could serve as a tool to hold Ministry-level actors accountable for their performance. At the same time, it has the potential to complement existing Ministry efforts to monitor the performance of schools and school personnel, draw larger policy conclusions and generate informed debate on areas that need further study.

Of course, these arguments do not necessarily mean that other options presented in the paper are not valuable, or that they should be dismissed from consideration in the future.

While an independent national report card is a valuable tool for monitoring the performance of the education system as a whole, holding principals and teacher accountable will likely require a somewhat different approach to reporting. As the National Education Inspectorate refines the method for assessing schools, principals, and teachers, we will look forward to seeing what proposals emerge. We would however recommend that the NEI consider tailoring its instrument to capture data on student associated factors such as student-family income, community background, student involvement in co-curricular activities and the level of parental involvement. In addition, the NEI should ensure that the quantitative data collected on students' performance in national and or regional tests and assessments can be aggregated to present an in-depth and accurate analysis of students' academic performance. It may be that the most efficient way of doing this will be to use the existing JSAS software, integrating such measures in such a way as to enable central data-collection.

Despite its considerable appeal to various stakeholders, including value-added information in a report card is problematic in the short term. In theory, if administered at the school-level, such a report card could enable the Ministry, and the country, to develop a clearer picture of what is happening in Jamaica's schools, than the current straight test score rankings allow. However, given the data requirements and complexity of such an exercise, developing a high quality value-added instrument would likely be costly and time consuming, and would most closely resemble the Polish-type model. Although enlightening, this model would not likely produce outcomes that could be used to hold principals accountable for the performance of their schools.

Nonetheless, as the ministry moves forward in its efforts to evaluate school performance, CaPRI stands ready both to assist in the process as appropriate, perhaps by helping to generate the kind of primary data needed for a value-added assessment or by incorporating broader findings from the value-added exercise into a national or regional report card. So while a value-added report card may not be immediately feasible, CaPRI would be willing to support the efforts of others in producing one for Jamaican schools, should they decide to pursue that option.

Done well, value-added options give rise to the sort of possibilities that excite all stakeholders -- that is an evaluation of Jamaican schools which measures not just their output, but takes into consideration their day-to day challenges. For all we know, the schools and teachers doing the most to improve student learning in Jamaica may be working unnoticed because resource constraints and marginalized settings at the schools where they teach limit average test scores. Basing annual rankings at least in part on value-added might well give rise to the sort of competition to "top of the league

table” which will enable teachers and schools to focus their attention on the classroom, where they will be more likely to be rewarded for their efforts.

That, surely, would help produce a Jamaican system in which we could all take pride.

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