

The Necessity for Evidence-Based Education Reform in Barbados

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Abstract: Long-term concern about the poor academic outcomes and violent behaviour in schools in Barbados have led to calls for reform of the education system with proposals recently being made by the Ministry of Education and many citizens with experience of the education system. In the main these proposals are not based on sound research evidence for which interventions will have a significant positive impact on the education system. This article outlines eight components of proposed education reform that are based on evidence from the field of educational psychology that highlight policies found in the international research literature to underpin effective education systems. These are: creating community secondary schools serving their local primaries; opening a small number of sixth form colleges; implementing comprehensive policy and procedures for the education of children with special educational needs; ensuring effective parental involvement at all levels of the education system; ensuring rigorous initial and ongoing teacher education at the pre-primary, primary and secondary levels; modernising all primary and secondary school buildings and classrooms; adding vocational options to the secondary school curriculum; re-focusing teaching at primary schools on ensuring all pupils develop adequate literacy and numeracy skills for them to be successful at secondary school.

Keywords: Education reform; Evidence-based practice; Educational psychology

1. Introduction

A report published in May 2020 by CEOWorld magazine, on the world's best education systems, surveyed 196,300 educators and other stakeholders in education, who rated education systems in 93 countries on the quality of their public education

systems. Barbados was ranked 79th out of the 93 countries, while Trinidad and Tobago was ranked 58th, the Bahamas 74th and the Dominican Republic 78th. Clearly this indicates a need for change in Barbados as for many years the government budget for education has been equal to or greater than that in other countries



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in the Caribbean region, so one would not expect such a low ranking.

Also, although official figures are not published, some commentators (eg. Walrond, 2016) have suggested that up to 80 percent of children who enter secondary schools in Barbados leave without gaining any qualifications whatsoever. This disturbing situation has pervasive consequences, both for the children's futures and for the country's social and economic development. It needs to be addressed by reforming the education system, and this is urgent if Barbados is to be competitive in the 21st Century world.

A report from the Organisation for Economic Co-operation and Development (OECD) on creating world class education systems (Schleicher, 2018) states that major education reforms have been achieved in many countries in the past thirty years, including Chile, Ireland, Portugal, Scotland, Vietnam, South Korea, Poland, Denmark, Finland, Germany and Estonia, with resulting improvements in educational outcomes. In a report on the Program for International Student Assessment (PISA) conducted in sixty-nine countries, the OECD (2016, p. 46) concluded,

PISA results show that more inclusive and fairer school systems are those that provide access to quality early education for all children, offer additional support to struggling students, rather than require them to repeat grades, and delay the age at which students are selected into different programmes or schools. These systems also strive to have excellent schools located in every neighbourhood and ensure that they are accessible to all students, and provide additional support to disadvantaged schools.

One of the key factors noted in this quotation from the OECD, is of particular relevance to Barbados. That is, delaying selection using high stakes tests at the age of 11 years that segregate children by ability and allowing all children to benefit from a broad curriculum for as long as possible. Delaying selection has been found to reduce the effects of socio-economic factors on achievement and to improve equity, as well as educational outcomes (Schleicher, 2018).

This is very relevant to the situation in Barbados as a high proportion of children who sit the so-called 11 plus examination are reported to have inadequate literacy and numeracy skills to cope with secondary schooling. It is also found that children who attended private

versus government primary schools had substantially better achievement in these basic academic skills.

Both of these issues are exacerbated by the constraining effects of the 11 plus examination system. With teachers and schools under enormous pressure to produce good 11 plus results the primary curriculum is squeezed as children are drilled to pass an examination. Often, schools in Barbados engage in the streaming of children into ability groups from as young as seven years of age, with most attention being paid to those in higher streams, while children that are struggling are less likely to have their needs addressed and therefore may make little progress. Once children are pigeon-holed into streams at such a young age, it becomes increasingly difficult for them to move into a higher stream. Therefore, the die is cast at age seven with many children getting further and further behind their peers each year.

It should not be surprising that private schools with more middle-class intakes, superior resources and smaller class sizes do better at preparing children for an examination like the 11 plus. The reforms suggested in this article, if implemented, will lead to improvements in levels of literacy and numeracy in government primary schools and thereby the narrowing of the gap between them and private schools, as well as increased overall levels of achievement.

Therefore, the key to reforming the education system in Barbados is moving away from a selective secondary school system focused on the achievement of a high level of academic qualifications by a minority of students, to one that provides all young people with an excellent general education as a sound basis for progressing to secondary education. This will enable them to fully benefit from a secondary education and to choose between obtaining either mainly academic or vocational qualifications by the time they leave secondary schools to go on to tertiary education or to gain employment.

It is proposed in this article that effective reform of education systems involves implementing policies that are based on extensive research evidence from educational psychology of what makes a significant impact on education outcomes. Analysis of research evidence on interventions that bring about substantial changes indicates that effective education reform in Barbados would best be achieved through the

implementation of eight key evidence-based policies (see diagram).

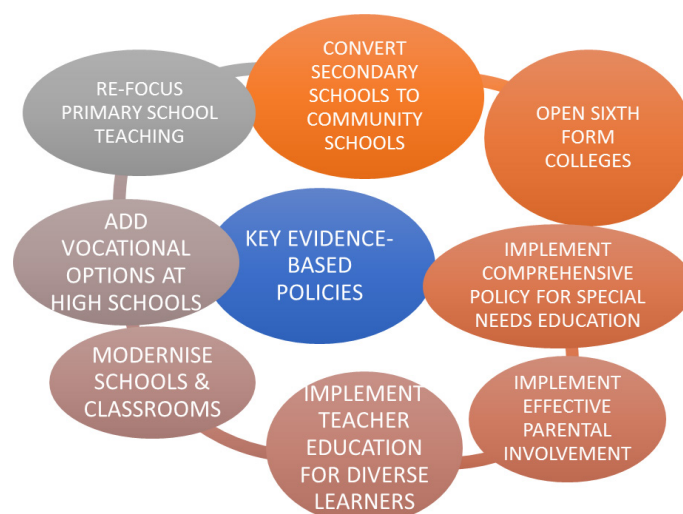


Figure 1: Eight key evidence-based policies for education reform

2. Key Evidence-based Policies for Education Reform

The first essential component of evidence-based education reform is creating community secondary schools serving their local feeder primaries by abandoning the system of selective secondary education based on results of the 11 plus examination. Second, turning the two secondary schools with the best record of achieving academic excellence into sixth form colleges. Third, the implementation of comprehensive policy and procedures for the education of children with special educational needs. Fourth, ensuring effective parental involvement at all levels of the education system in partnerships between parents and educators that are focused on providing quality education for all children. Fifth, ensuring rigorous initial and ongoing teacher education is in place at the pre-primary, primary and secondary levels, and focuses on the teaching of diverse learners. Sixth, modernising all primary and secondary school buildings and classrooms, and the equipment therein, to bring them up to a standard that is fit for learning in the 21st century. Seventh, adding vocational options to the secondary school curriculum so that in the later stages of their education pupils have the choice of working for either academic or vocational qualifications. Eighth, re-focusing teaching at primary schools on ensuring all pupils develop adequate literacy and numeracy skills for them to be successful at secondary school. Elaboration of the eight essential components of

evidence-based education reform is provided below.

2.1 Community Secondary Schools

The key to achieving effective education reform is moving from a selective secondary school system focused on the achievement of a high level of academic qualifications by a minority of students, to one that provides all pupils with an appropriate education with opportunities to excel. This requires establishing secondary schools that serve all children from feeder primaries in their local communities and that offer options for a choice between obtaining academic or vocational qualifications on leaving secondary schools.

Establishing community-based secondary schools requires abandoning the 11 plus examination and introducing a system for transfer from primary schools in which students attend the secondary school nearest to where they live. These will become community schools which will facilitate the involvement of parents and other members of local communities. Such community schools have been found to be key to establishing world class education systems internationally (OECD, 2016, 2022; Schleicher, 2018).

Greater involvement of people from the community in which schools are based is possible with neighbourhood community schools. Faith leaders and people from the local business community are more likely to associate themselves with local schools and thereby be able to provide support for these schools. The involvement of community leaders in schools supports the maintenance of good discipline and

provides links to sources of work experience and jobs for school leavers.

2.2 Sixth Form Colleges

Sixth-form colleges have been increasingly established in many countries because of their popularity with students and the superior education outcomes they deliver (OFSTED, 2008; Thomson, 2010). The way it would work in Barbados is that all children attend the secondary schools nearest to their homes from forms one through five and then have a chance to gain entry to sixth form colleges at around age 16 years based on their Caribbean Examinations Council (CXC) examination results.

It is proposed that, initially, two secondary schools, Harrison College and Queens College, be renamed sixth form colleges, since they have the best record of achieving academic excellence, because they gain the most Barbados scholarships for university study each year. They would cease to teach students in forms one through five and only enrol students in their sixth form years who are undertaking advanced level Caribbean Advanced Proficiency Examination (CAPE) courses. All other secondary schools would enrol students in forms one through five and offer programs leading to CXC and Caribbean Vocational Council (CVQ) qualifications. Students would then get into the sixth form colleges based on their passes and grades in the CXC examinations taken at the end of the fifth form year.

2.3 Comprehensive policy for Special Educational Needs

Research has shown that countries with well organised and comprehensive special educational needs provision, such as Finland, achieve higher levels of overall education outcomes, as indicated by the results of the Program for International Student Assessment (PISA) (OECD, 2016, 2022; Takala, et al., 2009). So it makes sense that the Ministry of Education (MoE) should develop a comprehensive policy for the education of children with special educational needs and disabilities as an essential part of education reform. This must focus on both the majority of children with special needs who are educated in mainstream schools, as well as those with more severe and complex special needs, who are educated in special schools or special units attached to mainstream schools. This policy needs

to be underpinned by specific legislation on children with special educational needs and disabilities that establishes responsibilities for meeting their needs for the MoE and schools. The policy needs to delineate the process by which children are identified, assessed and determined to be eligible for special education support and the role of the multi-disciplinary team in deciding whether this should be in mainstream school, special school or special unit provision.

The MoE needs to provide guidelines for schools and ensure they are followed, for example, using Individualized Education Programs (IEPs) for those children with more severe needs in special schools and units, and/or support from teacher-aides for those in mainstream schools with less severe needs, setting out details of the procedures to be used and the resources to be provided by the MoE and schools (Hornby, 2014).

Every school, primary and secondary, will be required to have qualified special education teachers (Learning Support Coordinators) to manage and coordinate the schools' special needs provision, identify children who are experiencing difficulties, provide support and guidance to teachers, and liaise with the MoE, other agencies and parents. Learning Support Coordinators in secondary schools and large primary schools would be full-time, while those in smaller primary schools would be part-time. Having effective special educational needs policy and procedures in place teachers will be able to address children's learning difficulties, gifts and talents, and ensure that all children develop to their maximum potential.

The MoE needs to establish an educational psychology service to give guidance to schools on how to provide effective education for the wide diversity of children. Besides conducting diagnostic assessments of individual children with special educational needs, psychologists would help schools set up programs aimed at building positive learning environments, such as social and emotional learning programs in all schools and anti-bullying programs in secondary schools (Hornby, 2023a). An important focus will be facilitating higher levels of academic achievement for all children through the establishment of evidence-based teaching strategies (Hornby, 2023b; Hornby & Greaves, 2022). Psychologists will also work closely with school counsellors and social workers. The Ministry of Education also needs to establish a Parent

Partnership Service with coordinators who work with parents of children with special educational needs and disabilities to help them access the most appropriate education and other services for their children, as well as offer parent education and support (Hornby, 2011).

2.4 Effective Parental Involvement

Involvement of parents and other family members in the education of their children, both at home and at school, is an essential component of effective education and parental engagement is an important evidence-based-practice that all teachers need to be able to facilitate (Hornby, 2000). Developing constructive working relationships for engaging parents from the early years, through elementary and high school levels will bring about improved academic outcomes and decreases in inappropriate behaviour. A useful approach to parental engagement involves focusing both on parents' needs and their potential contributions to their children's education. An important component of achieving this is to have regular student-led parent-teacher conferences, which research has shown has many benefits including increasing the numbers of parents who attend parent-teacher meetings (Hornby, 2011).

Having children attend schools in their local communities enables parents to support the school more easily and to be more able to attend parent-teacher meetings, be involved in the school's Parent Teacher Association and engage in other activities based at the school. It also facilitates improved pupil behaviour at school since parents can be more easily involved in behaviour management procedures, such as home-school behaviour programs.

School Boards of Management should include parent representatives elected by parents of children attending the school, as well as the principal, teacher and MoE and community representatives. This will ensure maximum involvement of the local community in the school and facilitate good discipline as well as academic achievement. Therefore, the importance of having a MoE policy of supporting teachers and schools in building strong partnerships with parents and communities cannot be over-emphasised.

2.5 Teacher Education for Diverse Learners

There is a need for comprehensive and rigorous pre-service and ongoing teacher education at the pre-

primary, primary and secondary levels. At the pre-primary level, training for early childhood teachers should be established on a similar basis to that for primary school teachers at Erdiston Teachers' Training College. For all teachers training needs to be focused on the development of effective evidence-based strategies for teaching students with a wide range of abilities and needs (Hornby & Greaves, 2022). For primary school teachers there needs to be an emphasis on the effective teaching of literacy and numeracy skills, as well as social and emotional development. For secondary school teachers there needs to be an emphasis on strategies for teaching diverse learners and on promoting positive mental health and wellbeing. For all teachers there needs to be specific training on facilitating optimum involvement of parents in the education of their children.

Specific training on teaching children with special educational needs and disabilities should also be provided for all teachers in early childhood centres, and mainstream primary and secondary schools through input into initial training and in-service training. Advanced training should also be made available for teachers in special schools and units, and for Learning Support Coordinators. Training can be provided by means of a combination of on-campus sessions with online learning, supplemented by establishing communities of practice at each school. This has been shown to be a cost-effective approach that is popular with teachers (Pilgrim et al., 2016; Pilgrim & Hornby, 2016).

2.6 Modernising Schools and Classrooms

There needs to be an upgrade of facilities throughout the school system so that students and parents are assured that every school offers a well-equipped and high quality environment for learning. There is a need for world class facilities and resources to support the world class education that is aimed for. School buildings must be safe and healthy places for pupils and their teachers. School classrooms must have enough space for typical evidence-based learning activities and provide minimally distracting environments in order to facilitate learning. The days of primary schools where a large hall accommodates four different classes of children operating at the same time need to come to an end. Such 'open plan classrooms' were tried in the 1970s and 80s and in most countries are being phased

out due to poor outcomes, especially for children with special needs who struggle to learn in noisy classrooms (Stobart & Hunter, 2023).

Most classrooms in Barbados have progressed from blackboards to whiteboards, but to be optimally effective they need to be replaced with more recent technology, in which all classrooms in primary, secondary and special schools have a smartboard or interactive whiteboard with a reliable internet connection. These can be operated from lap-top computers which are used by teachers to prepare and present lessons. Interactive whiteboards scaffold learning through technical and pedagogical interactivity to encourage participation (Thomas & Schmid, 2010). The multimodal interface fosters learning across the curriculum with pupils of all ages and those with special needs. This sophisticated technology will require training for teachers so that they can make best use of its wide range of applications. In primary schools use of interactive whiteboards will improve the teaching of literacy and numeracy. In secondary schools they will enhance teaching across the curriculum from arts subjects through technical and vocational education. In special schools and classes they will increase engagement in learning of children with a wide range of special needs, thereby improving outcomes.

2.7 Vocational Options at Secondary Schools

In addition to teaching academic subjects, secondary schools need to place greater emphasis on technical and vocational education by making these attractive alternative options during the later stages of secondary schooling. So while all students will study a broad mainly academic curriculum, with some technical/vocational courses, in the first few years of secondary schooling there will be a point when they have to decide which type of program to concentrate on, as is the case in many OECD countries (Schleicher, 2018).

This could be implemented in Barbados by allowing students to opt whether to follow a curriculum focused on technical and vocational education in order to gain Caribbean Vocational Qualifications, during their fourth and fifth form years. This more vocationally focused curriculum would be available alongside the more academically focused curriculum taken by students aiming to sit the more academic Caribbean Examination Council examinations.

So, whereas students following an academic program and sitting CXC's would be aiming to go on to sixth

form colleges and then university, those following the technical and vocational route to prepare for taking CVQs would be aiming to go on to institutions such as community colleges, polytechnics or hospitality schools, or aiming to leave school at age 16 years to get jobs. Making the possibility of a choice between academic or technical and vocational programs a reality will require the development of a suite of technical and vocational courses to make up a substantial part of the 4th and 5th form years for those students who opt for this track.

2.8 Re-focusing Primary School Teaching

Once the need to focus most of their time and effort on preparing children for the 11 plus examination has been eliminated, primary school teachers will be able to deliver a more broadly-based and relevant curriculum. This will involve a major focus on teaching literacy and numeracy as well as social and emotional development programs. That is, helping pupils develop reading, writing, speaking and mathematics skills, along with the personal and interpersonal skills needed for developing the confidence necessary for achieving educational success, gaining employment, and having a productive life. Teachers will have more time to address the needs of pupils who are struggling to learn basic academic skills, as well as more advanced learners who may need to be extended or provided accelerated learning pathways.

Teachers will also have more time to use evidence-based strategies such as formative evaluation, referred to in Barbados as Criteria Reference Testing, that has already been introduced into primary schools. This is used to target teaching on areas of weakness that need to be developed, for individual children as well as for entire classes, thereby ensuring that their teaching is effective in optimizing learning.

In addition to facilitating academic learning, primary school teachers will also be able to focus more on personal and interpersonal skill development through teaching social and emotional learning programs. In this way they will be able to focus on the development of the so-called soft skills such as teamwork, communication, time management, conflict resolution and problem-solving skills, that are considered essential for being successful at work and in life. Also, teachers will be able to use evidence-based strategies such as Circle Time and peer support programs to create positive learning environments that prevent disruptive

and violent behaviour, reduce bullying to a minimum, and prevent the development of mental health problems (Durlak, et al., 2011).

Teachers will also have more time to implement other evidence-based teaching strategies such as peer tutoring, cooperative learning, direct instruction and metacognitive strategy development (Hornby & Greaves, 2022). When widely implemented these strategies will lead to a significant increase in the proportion of children leaving primary schools with adequate reading, writing and mathematics skills for their secondary education. The result of these changes will be that many more children will be able to move on to secondary school with the basic academic skills, personal confidence and interpersonal skills needed for success than has been the case under the 11 plus regime that currently exists.

3. Conclusion

The implementation of this reform proposal in Barbados, will transform the education system into a world-class education system that will ensure the development of the talents of all young people and prepare them for the diverse needs of the workforce. There will be a necessary transition period when schools are being upgraded and teachers are undergoing training to provide for more diverse learners and learning how to help parents get more involved in the education of their children. However, disruption while implementing these eight policies will be more easily tolerated as teachers and pupils adapt to a more equitable and effective education system and benefit from school environments that are more conducive to teaching and learning.

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