

Guidelines from Educational Psychology for Education Reform in Barbados

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Abstract: The field of educational psychology has produced extensive research evidence that can inform efforts to facilitate reform of education systems in many parts of the world. Currently, major reforms to the education system at the primary and secondary school levels are being considered in the small island state of Barbados, in the West Indies. This article suggests guidelines for reforming school education in Barbados that draw on international research evidence from educational psychology. The guidelines are conceptualized using the acronym PERFORMING to focus on ensuring that the education reforms are: *Practicable, Effective, Relevant, Fair, Outcome-focused, Research-based, Modern, Inclusive, Nationally-equitable, and Globally-Competitive*.

Keywords: Education reform; Educational psychology; Primary schools; Secondary schools

1. Introduction

The Ministry of Education (MoE) in Barbados is considering major reforms to the education system at the primary and secondary school levels. This is due to concerns about poor academic outcomes and increasing levels of disruptive and violent behavior in schools that have been increasing in recent years. These have been highlighted by the challenges presented during the Covid pandemic and its aftermath in terms of apparent learning losses.

Barbados is a small island state in the West Indies region with a population of around 270,000 people.

The education system in Barbados has its roots in the sugar-cane plantation slave-based society that characterized most of the English-speaking Caribbean in the colonial period from the 1630s onwards. During this period, wealthy planters sent their children to be educated in Britain, while educational opportunities for the enslaved population were minimal. Between the end of slavery in the 1830s and independence in the 1960s, colonial educational systems in the Caribbean continued to be elitist in allowing for the selection of a small number of high-achieving students to attend prestigious secondary schools (Pilgrim et al., 2017). It is a legacy that has endured, despite the expansion



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of secondary school systems across the Caribbean to achieve the realization of universal secondary education (De Lisle, 2012).

In the colonial period in Barbados, each secondary school had its own entrance examination. But in 1959, there was the introduction of what is today known as the 11 plus examination, which is a standardised test for students between the ages of 10 and 12 used for allocating places in secondary schools. Therefore, a key legacy of the colonial era, that has remained in place across the Caribbean, is a high-stakes examination underpinning selective systems for transition to secondary schools that are stratified, segregated and elitist (De Lisle, 2012). Addressing this issue is a major driver for education reform in Barbados.

The Barbados MoE recently proposed that the education reforms should be guided by the key values of being *Fair, Inclusive, Relevant* and *Modern*. These values are important considerations in education reform, but, based on currently available research evidence in educational psychology, do not address all relevant issues, so it is proposed that these be extended by using the acronym PERFORMING, which the author has suggested provides an educational psychology based framework for considering and evaluating various aspects of the reforms needed. These focus on ensuring that the education reforms are: *Practicable, Effective, Relevant, Fair, Outcome-focused, Research-based, Modern, Inclusive, Nationally-equitable, and Globally-Competitive*.

2. Practicable

First and foremost, education reforms must address the major problematic issues with the current education system and be able to be implemented within the resources available, with minimal disruption to the education of current students and within the shortest possible timeframe. It is also important to consider the sustainability of any proposed changes and not attempt a 'quick-fix' or be swayed by 'in-vogue' ideas that will not bring long-term positive results. Therefore, it is useful to consider what the findings of research on educational psychology indicate about reforming education and apply them to the issue of proposed education reform in Barbados.

A major part of current MoE proposals for education reform is the addition of junior academies (middle

schools) for attendance in between primary and secondary schools. No rationale has been provided for this, which is being proposed in spite of there being a lack of evidence about the benefits of middle schools on improving education outcomes in the educational psychology literature, as indicated by the quotation that, '...large scale quantitative investigations and evaluations of the middle school model are lacking' (Olofson & Knight, 2018, p.1/2).

It is also the case that introducing middle schools will not address the major problematic issue with the Barbados education system, which is considered to be the extensive under-achievement of pupils in primary schools, long thought to be due to the intense focus on the 11 plus examination (Galloway & Upton, 1990). The 11 plus examination is a high-stakes examination that is considered to be a divisive means for selective transfer from primary to secondary schools. Whereas, the most equitable way of organising this transfer would be replacing the 11 plus examination as the basis for transfer to secondary schools with geographical zoning. Such zoning focuses on developing inclusive community schools supporting diverse populations, that previous research has shown can bring about improved overall academic outcomes (OECD, 2016; Pilgrim et al., 2017; Pilgrim & Hornby, 2019; Schleicher, 2018).

In addition, the implementation of middle schools in Barbados would require the development of relevant curricula, training of teachers and the adaptation of existing schools specifically for this age group, as well as possibly building some new schools. This is therefore a very expensive project that would take many years to fully implement which would be disruptive to the education of current students. Furthermore, the idea has already been rejected by former secondary school principals (Barbados Today, 2023) and other education experts in Barbados, who have noted that other countries, such as Bermuda, which is similar in many ways to Barbados, are closing down their middle schools because of the higher costs of having a three-tier education system and concerns about its effectiveness in raising education standards (Lagan, 2023). The available evidence should therefore clearly rule out changing to a three-tier system of primary, middle and secondary schools, since changing to such a three-tier education system is just not justifiable based on available evidence or in reality practicable at this

time.

3. Effective

Analysis of data from the UK (Bolton, 2012; Hornby, 2021) suggests that removing the 11 plus regime will lead to improved academic outcomes. Since primary school teachers will no longer need to teach children to do well on the 11 plus examination it will enable them to concentrate on, and be more effective in, their most important task, that is, the teaching of literacy and numeracy in order to ensure that as many pupils as possible develop a high enough level of these skills to be able to be successful at secondary school. Without the focus on the 11 plus examination, teachers will have more time to combine regular normative assessments with targeted criterion referenced testing in order to facilitate more effective teaching and learning (Hattie, 2009; Hornby & Greaves, 2022). This has been recently introduced into primary schools in Barbados, to target teaching on areas that need to be developed, for individual children as well as for entire classes, thereby ensuring that teaching is effective in optimizing learning for all pupils. When fully implemented, this should help bring about a significant increase in the proportion of children leaving primary schools with adequate reading, writing and mathematics skills for successfully completing their secondary education.

In addition to better facilitating academic learning without the 11 plus regime, primary school teachers will also be able to focus more on personal and interpersonal skill development through teaching social and emotional learning programmes. Teachers will be able to use strategies such as Circle Time (Kelly, 1999) and other personal and social development programmes (Durlak, et al., 2011) to create positive learning environments that help to prevent disruptive and violent behaviour, reduce bullying to a minimum, and prevent the development of mental health problems (Atkinson & Hornby, 2002). In this way they will be able to focus on the development of the so-called soft skills, including teamwork, communication, time management, conflict resolution and problem-solving skills, that many people consider essential for being successful in achieving vocational and life goals.

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, confidence and

interpersonal skills needed for success, than is the case under the 11-plus regime that currently exists.

4. Relevant

National education goals and priorities in Barbados include enabling as many of the population as possible to become citizens who can live fulfilling lives, contributing to the communities in which they live, while at the same time providing the skilled workforce needed for making Barbados competitive in the 21st century world. This requires an education system from pre-school through to tertiary education with relevant curricula and effective teaching in order to produce optimal outcomes (Schleicher, 2018). However, a major problem is that the overwhelmingly academic curriculum in secondary schools is not relevant to the education of many pupils (Hornby, 2019a).

An important part of education reform must therefore be to ensure that secondary schools 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 mainly academic subjects with some technical/vocational courses in the first few years of secondary schooling, there should be a point when they decide which type of programme to concentrate on. This is the case in many other countries such as Finland, Poland, Germany and the Netherlands (Schleicher, 2018).

This could be implemented in Barbados by allowing students to opt whether to follow a curriculum focused on more practical knowledge and skills, such as that required by the Caribbean Secondary Education Certificate (CSEC), or a more technical and vocational education required by the Caribbean Vocational Qualifications (CVQ), during their fourth and fifth form years. These more practically or vocationally focused curricula should be promoted as useful options alongside the more academically focused curriculum taken by students aiming to sit Caribbean Examination Council (CXC) examinations.

So, whereas students following an academic programme and sitting CXCs would be aiming to go on to sixth form classes 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 and those following a more practical programme and taking the CSEC will be aiming to leave school at age 16 years to get jobs.

Providing a choice between academic, practical or technical/vocational programmes will require the development of a suite of practical, technical and vocational courses to make up a substantial part of the 4th and 5th form years for those students who opt for these tracks.

5. Fair

Central to the concept of fairness is equity in education and valuing all learners equally. The equity agenda is regarded not only as a social justice imperative but also as a way of ensuring that resources are used effectively in the pursuit of national prosperity. Schleicher (2018) emphasises that where optimum opportunities are available for all members of a society to develop skills and achieve success in the educational process, they are likely to participate more fully in economic, social, civic and political processes. They are also less likely to be a burden to society in terms of physical and mental health costs and involvement in crime. It is critical therefore that Barbados should reflect on the capacity of its education system to promote equity.

Therefore, one of the key values in education reform must be abandoning selection using a high-stakes test (the 11 plus) that segregates children by ability at an early age (Pilgrim et al., 2017). This will allow all children to benefit from developing literacy and numeracy skills within a broad curriculum for as long as possible. Across the OECD countries, for example, the typical age at which school systems begin to select students is 14 years (Schleicher, 2018). So selecting students at age 11 is considered too early and using high-stakes tests such as the 11 plus examination to do this is therefore counterproductive. In addition, delaying selection has been found to reduce the effects of socio-economic factors on achievement and to improve equity, as well as overall education outcomes.

With regard to socio-economic factors, it should not be surprising that private schools in Barbados, with more middle-class intakes, superior resources and smaller class sizes typically do better at preparing children for an examination like the 11 plus. The reforms suggested in this article include ensuring schools in less wealthy areas have additional resources

and support for helping pupils who are struggling. This would lead to improvements in overall levels of literacy and numeracy in government primary schools, thereby increasing equity by narrowing the gap between them and private schools.

6. Outcome-focused

Educational psychology theory emphasises that, when considering the processes involved in education reform, it is important to focus on the desired outcomes of the education system (Hattie, 2009). Currently around 80 % of young people in Barbados are estimated to leave high school without obtaining at least four subjects at CXE (Walrond, 2016). So only around 20% gain certificates that allow them to access jobs that can lead to good careers or to carry on their education in sixth forms and beyond.

But what if this were the other way round and 80% were leaving school with good qualifications and only 20% without? But surely this is a pipe dream and impossible to achieve. Well actually, no its not. This is now the case in New Zealand. But it was not always so. In 1971 outcomes were similar to what they are now in Barbados, that is at age 16 only around 20% achieved four or more certificates in the equivalent of CXE, and around 80% left school as academic failures.

Thirty years later, by 2001, secondary schools had adopted a credit-based system with three levels of the New Zealand Certificate of Educational Achievement (NZCEA), the first taken at age 16 years. Each can be obtained by gaining 80 credits at one of three achievement levels, Achieved, Merit and Excellence. Around 4% are awarded NZCEA with Excellence, 16 % with Merit and 60% with Achieved. The 20% who do not pass are able to return to school to obtain the necessary credits to gain NZCEA in the future if they want to. This suggests that future education reforms in Barbados should consider the development of such a credit-based system in secondary schools, based on continuous assessments as well as examinations, to replace the exclusively examination based one currently in place.

7. Research-based

A key part of education reform must be that teachers are helped to abandon some traditional ineffective approaches and be encouraged to use a range of

teaching techniques and strategies that are based on solid research evidence of their effectiveness in facilitating student learning (Hattie, 2009; Hornby, 2022). In order to facilitate this, eight key evidence-based strategies that can be used by all teachers to improve student outcomes have been identified from the research literature on educational interventions. Guidelines for using these strategies, along with links to videos of them being used in classrooms to help teachers learn how to use them effectively, have recently been published (Hornby & Greaves, 2022). The eight strategies are: *teacher-student rapport*; *formative assessment*; *direct instruction*; *teaching metacognitive strategies*; *peer tutoring*; *cooperative learning*; *functional behavior analysis*; and, *parental involvement*.

The rationale for using these eight strategies is that developing *teacher-student rapport* is a pre-cursor to facilitating optimal learning, while use of *formative assessment* enables teachers to identify student's strengths and needs and to plan their teaching to address these. *Direct instruction* provides a guide to teachers in the steps needed for effective teaching and *teaching metacognitive strategies* helps students to learn more effectively. Implementing *peer tutoring* strategies helps students to learn together in order to maximise achievement and *cooperative learning* strategies facilitate social and academic learning. *Functional behavior analysis* facilitates the management of student behavior and prevents classroom disruption and supporting *parental involvement* both at school and in the home produces optimal academic and social outcomes. Providing training to support teachers in implementing these and other research-based strategies needs to be an essential part of education reform.

8. Modern

Education reforms must include modernization of classrooms in all schools. For example, in Barbadian classrooms chalk and blackboards need to be replaced with more recent technology, in which every classroom in primary, secondary and special schools have an interactive whiteboard with a reliable internet connection. These can be operated from a lap top computer which is assigned to each teacher so they can take it home each evening to prepare lessons on it.

The interactive whiteboard combines verbal, auditory

and tactile learning modes and multisensory methods to encourage participation (Thomas & Schmid, 2010). It scaffolds learning through its technical and pedagogical interactivity. Its 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 it will enhance teaching across the curriculum from arts subjects through technical and vocational education. In special schools and classes it will increase engagement in learning of children with a wide range of special needs. This initiative will be a major expense that will require gaining funding from external agencies, service clubs, and the business community, but is an important example of modernising the education system by using the most up-to-date technology available.

9. Inclusive

The MoE needs to have a published policy on the inclusion and education of children with special educational needs and disabilities (SEND). This policy must reflect the current reality in Barbados that the vast majority of these children are currently educated in mainstream schools, with a small minority, those with more severe and complex needs, being educated in special schools or special units attached to mainstream schools (Hornby, 2019b). There is a need for specific legislation on children with SEND that specifies the responsibilities for meeting special needs of both the MoE and schools. For example, in the USA, legislation specifies six principles: accepting students with SEND and providing needed services; children being formally assessed and parents receiving guidelines about the services available; schools being required to set up Individualized Education Programs (IEPs) for all children with significant special needs; schools being required to educate children in mainstream schools to the maximum extent possible; parents being fully involved in designing programs; and, having safeguards to ensure children's rights are maintained (Hornby, 2014).

The MoE should provide guidelines for schools that must be followed, for example, using IEPs for those

children with significant special needs, and support from teacher-aides for those with less severe needs. Every school, primary and secondary, should be required to have a qualified Special Needs or Learning Support Coordinator. That is a teacher to coordinate the schools' special needs provision, identify children with SEND, provide support and guidance to teachers, and liaise with the MoE, other agencies and parents (Hornby, 2014).

Professional development on teaching children with SEND should be provided for teachers in all mainstream schools through input into initial training and ongoing in-service training. Advanced training should also be made available for teachers in special schools and special unit classes, and for Learning Support/Special Needs Coordinators.

MoE educational psychologists should conduct assessments of individual children with SEND and provide guidance to schools about appropriate programs. The MoE should establish a national Parent Partnership Service to work with parents of children with SEND to help them access the most appropriate education and other services for their children, as well as offer parent education and support (Gordon-Gould & Hornby, 2023). The above changes will ensure that the education system is as inclusive as possible for pupils with SEND.

10. Nationally equitable

The implementation of zoning will ensure that all children attend schools in their local communities. So all schools will become neighborhood community schools, which have been found to be the most effective type (Schleicher, 2018). Therefore, students will not need to spend time travelling to secondary school by long bus trips as they will be able to attend the school nearest to their homes. They will be able to put all their energy into their studies at school and will be able to return home with some energy left to do homework, which for many children, due to the extensive travel required under the current organization of secondary schools, is not the case. Also, children will be able to attend their local primary schools, as there will be no need for parents who can afford to do so to drive them to schools that have good reputations for 11 plus results, because transfer to secondary schools will be based on the zones where they live.

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 (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 behavior at school since parents can be more easily involved in behaviour management procedures, such as home-school behaviour programs (Hornby, 2011).

Greater involvement of people from the community in which schools are based is possible with neighborhood community schools (OECD, 2016; Schleicher, 2018). 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.

School Boards of Management should therefore include: the principal, teacher representatives, MoE representatives, faith-based and business representatives, alumni representatives, and most importantly, parent representatives elected by parents of children attending the school. This will ensure maximum involvement of the local community in the school and facilitate national equitability of schooling.

11. Globally-competitive

A report on the world's best education systems (CEOWorld, 2020) surveyed 196,300 educators and other stakeholders in education, who rated education systems in 93 countries on the quality of the public education system and related opportunities. Barbados was ranked 79th out of the 93 countries, while Trinidad and Tobago was ranked 58th, the Bahamas 74th and the Dominican Republic 78th. This indicates the need for education reform in Barbados in order to develop a more globally competitive education system.

The recent OECD report on creating world class education systems suggests that making the necessary changes to bring about effective education reform has been achieved in many countries in the past thirty years with resulting significant improvements in

educational outcomes (Schleicher, 2018). In a report on the Program for International Student Assessment (PISA) conducted in sixty-nine countries, the OECD 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 (2016, p. 46).

Implementation of these components, based on psychological research, within reforms of the education system in Barbados will ensure that education at primary and secondary schools will become more globally competitive.

12. Conclusion

Reforming education systems is a challenging and politically difficult task. Such reforms will take considerable time, effort and resources to implement and there are certain to be teething problems that will need to be worked through. Although some benefits may come quickly, others may not be realized until student populations move into the workforce, where they can make use of their improved education, thereby furthering national economic growth (Schleicher, 2018). Education reforms along the lines of the key values and components discussed in this article would not only create a much more equitable and inclusive education system, enabling the nation to raise overall levels of academic attainment, while reducing student behavioural problems, it would also bring about the substantial long-term economic benefits that are found to result from producing a better educated population.

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