Caribbean Educational Research Journal (ISSN: 1727-5512) is published twice a year in April and September. The journal publishes original articles which have undergone rigorous blind review.

Executive Editorial Board

Dr. Jennifer E. Obidah  Editor-In-Chief & Director, School of Education, The University of the West Indies, Cave Hill Campus, Barbados

Professor Arthur Richardson  Professor of Educational Psychology, The University of the West Indies, Cave Hill Campus, Barbados

Dr. Babalola J. Ogunkola  Managing Editor & Senior Lecturer in Science Education and Evaluation, The University of the West Indies, Cave Hill Campus, Barbados

Subscription Rates

(Postage by Surface mail is included)

<table>
<thead>
<tr>
<th></th>
<th>BBD</th>
<th>USD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individuals</td>
<td>$100</td>
<td>$50</td>
</tr>
<tr>
<td>Institutions</td>
<td>$150</td>
<td>$75</td>
</tr>
</tbody>
</table>

Subscription requests, editorial correspondence, and books for review should be sent to:

Dr. Babalola J. Ogunkola
Managing Editor
Caribbean Educational Research Journal
School of Education
The University of the West Indies
Cave Hill Campus
Bridgetown, BB11000
Barbados
## CONTENTS

### Editorial
Editorial

### Articles
- A qualitative evaluation of some teachers’ concerns, and levels of use of the lower secondary SEMP science curriculum of Trinidad And Tobago
  *Dorian Barrow and Jerome Delisle*
  
- An investigation of students’ career preparedness at the University of the West Indies, Cave Hill Campus
  *Stacey Blackman and Donna Maynard*
  
- Inclusive education in South Africa: Using the lenses of disabled learners
  *Nancy Mutshaeni, Chris Denhere and Pilot Mudhovozi*
  
- Improving literacy acquisition skills of adolescents from at-risk populations
  *Michelle J. McCollin*
  
- Quality Education for All: The impact of disruptive classroom behaviour (DCB)
  *Benita P. Thompson*
  
- Predictors of computer attitudes of secondary school science teachers in Ogun State, Nigeria
  *Babalola J. Ogunkola and R. Ademola Olatoye*
  
- Social justice and the education of students with disabilities: Perspectives from two marginalized contexts
  *Dennis Conrad, Nicole Paul-Fraser, Margaret Bruce, Suzanne Charles and Kirk Felix*
  
- Quality education in teacher preparation: Considering the views of teachers and students
  *Catherine Clifford*
  
- Decolonizing educational policy in the Caribbean: Shifting our practice from an internationally-dependent policy consumption model to a contextually relevant policy research model
  *Eduardo Raoul Ali*
  
- Gender differences in study habit, interest in schooling and attitude towards substance abuse among secondary school adolescents in Barbados
  *Grace A. Fayombo*
  
- Evaluating the link between learner assessment and teacher development: Implementation of Integrated Quality Management System in South Africa
  *Azwidohwi Kutame*
  
- Will Technical and Vocational Education and Training (TVET) guarantee economic development of Caribbean islands?
  *Halden A. Morris*
  
- Influence of television behaviour on academic performance among some secondary students in Ibadan, Nigeria.
  *Titilola Adedoyin Adebowale*
Notes for contributors

The Caribbean Educational Research Journal (CERJ) is published twice a year (April and September) by the School of Educational of the University of the West Indies, Cave Hill Campus, Barbados. The journal seeks submission of original articles on topics covering all aspects of education in the Caribbean and in the global community. Research or application-oriented articles that describe, among others, curriculum, pedagogy, professional development or educational facilities issues are considered for publication in this journal.

All articles are refereed by a rigorous review process involving at least two blind reviews by qualified academic professionals. Submissions are judged by sustainability of the content, the intellectual framework and significance to society in general.

CERJ solicits only original contributions that have not been previously published or submitted elsewhere. An important criterion for acceptance of a manuscript for publication is the relevance of the work to the educational/training environment and its potential usefulness for advancing the quality of education at all levels.

CERJ only accepts electronic submission of manuscripts. Submit the manuscript for review process by sending an email with the paper as an attachment to drbeejay@hotmail.com or babalola.ogunkola@cavehill.uwi.edu. In the body of your e-mail message, include the author(s) name(s), contact information of the corresponding author and the title of your submission. Your submission should be in a file format supported by Microsoft Word (PDF submission will not be accepted). All submissions should be in English. The manuscript should be single-spaced, with a single column, 11-point Arial Narrow justified font, and 1” margins on all sides. A summary (Abstract) of between 150 and 200 words should be included on the first page of your submission.

Tables and figures should be included in the text, approximately where the author thinks that they should appear. Manuscripts should be edited for spelling and grammar. Reference citation ordering and format must follow APA style referencing. References must be complete. The paper should not normally exceed 10 single-spaced pages, including all sections, figures, tables, etc. However, longer articles may be considered.
Editorial

It is the vision of this journal to focus on broadening intellectual resources, understanding, development and exchange of ideas among education professionals, thereby offering intellectual contributions towards educational development in the Caribbean. However, it is recognized that there are many ways by which the international community exerts some influence on education in a nation or region hence we seek international input into the journal in all aspects of education. To attain this vision, CERJ emphasizes quality and relevance in the quantitative, qualitative and theoretical research articles and book reviews it publishes.

It is important to note that this edition of CERJ is a special one mainly because it is a compilation of the articles found to be publishable after blind peer-reviewed process of the submitted and presented articles during the Biennial Conference of the School of Education, University of the West Indies, Cave Hill Campus, held between 23rd and 25th June, 2009 at Accra Beach Hotel, Barbados with the theme: Quality Education for All: Exploring Realities – Considering Options. So this edition offers a wealth of intellectual resources towards ensuring quality in any educational system.

For instance in ‘Evaluation of some teachers’ concerns, and levels of use of the lower secondary SEMP science curriculum in Trinidad and Tobago’, Dorian Barrow and Jerome Delisle place in public domain the status of the ‘Secondary Education Modernization Project (SEMP)’ which had not been evaluated since September 2002 when it was launched and made some recommendations to improve the quality of the programme. Moreover, Stacey Blackman and Donna Maynard in ‘An Investigation of students’ career preparedness at the University of the West Indies, Cave Hill Campus’ look at some university students’ career preparedness at both the psychological and knowledge levels which are viewed as precursors to employment and related to career development. They concluded by stating that the University of the West Indies is indeed providing quality education in terms of psychological preparation for employment.

In ‘Inclusive education in South Africa: Using the lenses of disabled learners’, Nancy Mutshaenia, Chris Denhere and Pilot Mudhovozi throw light on the perceptions of the disabled learners towards an inclusive programme in South Africa. They alluded to the fact that a school cannot provide quality education if it fails to take cognizance of all its learners’ needs. Michelle McCollin in ‘Improving literacy acquisition skills of adolescents from at-risk populations’ submits that it is critical that secondary level teachers are able to provide effective reading interventions for adolescent at-risk learners and that teachers should promote critical thinking and extended discourse by asking questions and encouraging student questions and discussions.

Benita Thompson in ‘Quality education for all: The impact of Disruptive Classroom Behaviour (DCB)’ focuses on the nature, level, and causes of classroom disruptive behaviour as well as its impact on teaching and learning as perceived by teachers and students. Benita contends that it is imperative that disruptive classroom behaviour is quelled so as to advance quality education. In ‘Predictors of computer attitudes of secondary school science teachers in Ogun State, Nigeria’, Babalola Ogunkola and R. Ademola Olatoye’s study reveal that the combination of science teachers’ computer literacy, ownership, experience and usage has the potential of lifting the science teachers’ attitude towards computer and by extension the quality of their presentations when using technology to teach in science classrooms.

Dennis Conrad, Nicole Paul-Fraser, Margaret Bruce, Suzanne Charles, and Kirk Felix in ‘Social justice and the education of students with disabilities: Perspectives from two marginalized contexts’ look at the perspectives and experiences of faculty from the Cascade School for the Deaf (CSFD) and the Wharton-Patrick Special School (WPS)--on how they are responding to national calls for inclusive education; and how their responses contribute to social justice and conclude that social justice through inclusive education lies with leadership, collaborative practice and resource development involving all—parents, community, government, regular and special educators alike.

In ‘Quality education in teacher preparation: Considering the views of teachers and students’, Catherine Clifford presents the quality of teacher preparation programmes in the Eastern Caribbean through the lenses of St. Lucian teachers and opines that the teacher is an important influence on the quality of education therefore the quality of education may be improved by better teacher education. Eduardo Ali in ‘Decolonizing educational
policy in the Caribbean: Shifting our practice from an internationally-dependent policy consumption model to a contextually relevant policy research model’, concentrates on illustrating the value of policy analysis models for education policy and the need for empirical policy research data in the processes.

Grace Fayombo in ‘Gender differences in study habit, interest in schooling and attitude toward substance abuse among secondary school adolescents in Barbados’ presents the disparities between boys and girls in terms of their interest in schooling, study habits and attitude towards substance abuse in Barbados and the fact that females continue to dominate in many respects. In an attempt to contribute to general understanding of educational assessment, practice and policy, Azwidohwi Philip Kutame focuses on ‘Evaluating the link between learner assessment and teacher development: Implementation of Integrated Quality Management System in South Africa’

Halden Morris asks and answers a critical question ‘Will Technical and Vocational Education and Training (TVET) Guarantee Economic Development of Caribbean Islands? Morris contends that relevant TVET programmes will stimulate economic growth and development; however, this will not be accomplished unless deliberate actions are taken to incorporate TVET as part to the strategy for national or regional development. Lastly, in her paper titled ‘Influence of Television Behaviour on Academic Performance among some secondary students in Ibadan, Nigeria’, Adebowale Titilola presents data in favour of the popular opinion that television-viewing generally has a detrimental effect, because it takes the time that might have been spent acquiring basic skills or doing homework.

In conclusion, both individually and generally, it is obvious that papers presented in this edition will make an interesting reading. I, also hope that many expositions or revelations and suggestions provided by the authors will be found useful in ensuring educational quality.

Dr Babalola J. Ogunkola
Managing Editor
Evaluation of some teachers’ concerns, and levels of use of the lower secondary SEMP science curriculum in Trinidad and Tobago

Dorian Barrow and Jerome Delisle

School of Education, University of the West Indies, St. Augustine, Trinidad and Tobago

Introduction
Timely and systemic evaluations of educational innovations continue to be two challenges that education reforms in Trinidad and Tobago face. For example, there has been to date no published peer reviewed evaluation of the Secondary Education Modernization Project (SEMP) lower secondary science curriculum implementation status since its September 2002 launch. This tendency in T&T of not conducting timely evaluations of its education initiatives is not limited to just this new wave of reforms. Ten years ago, a report on the National Certificate in Secondary Education pilot project also pointed out this weakness when it reported that: “…it has been found that a major short coming of [past] pilot science projects [in T&T] was the failure to make provisions for the formal evaluation of the program … so that feedback of the empirical data could be provided on an ongoing basis” (Trinidad and Tobago, MOE, CDD Report, 1998, p. 13).

This paper is an initial attempt to breach this trend by placing in the public domain a report of a small-scale qualitative evaluation done by some science teachers. Using a focus group interviewing technique the concerns that the 24 science teachers have with the new SEMP lower secondary science curriculum, and their respective levels of use, have been identified and analyzed.

The analysis of the focus group interviews held with these 24 science teachers revealed that they had very high levels of concerns with the innovation, that is, they had thought critically about some of major issues surrounding the innovation, but had very low levels of use. However, since these conclusions are based on just three focus group interviews involving only a limited number of science teachers, the findings should be considered exploratory and must therefore be subjected to wider verification.

Background
The Secondary Education Modernization Programme (SEMP) is a major undertaking by the Government of the Republic of Trinidad and Tobago (T&T). Its stated aim is to reform the secondary education system of the country. This new education reform project was conceived and developed in the latter half of the 1990s, and was finalized, funded and launched in 1999, in time for the Education for All Dakar Conference of 2000.

In this regard SEMP can be considered the latest wave of secondary education reforms in T&T that had its origins 30 years earlier. In 1968 the government of Trinidad and Tobago took the position that secondary schooling would no longer be only for a privileged few, but would be the right of every eligible child successfully exiting its primary education system (Alleyne, 1995). However, constrained at the time by limited physical infrastructure and trained personnel, the government took a phased approach to the implementation of this new access to secondary schooling policy.

Consequently, in the decades following 1970, the government in an effort actualize this mandate constructed some 29 three-year junior secondary schools. They also built additional five-year secondary schools and four-year senior comprehensive schools to augment the elite state and denominational secondary schools in existence at the time. Additionally, in this wave of secondary education reforms, the government introduced a ‘shift’ system. In the shift system the new secondary schools admitted two cohorts of students, one cohort attending classes in the morning and a second cohort in the afternoon. In time, with the construction of the additional secondary schools and with a shift system in place more and more students, who would not have gone on to secondary schools, were being encouraged to do so.
SEMP then can be considered as one of the latest vehicles by which the government of Trinidad and Tobago is attempting to renew and expand the process of secondary education reforms in the country. At the same time, the SEMP is also being used as a framework to address those other important complementary matters of equity, quality, access and efficiency that have arisen over those 30-odd years in education systems in the Anglophone Caribbean in general (Sweeney, 2003) and T&T in particular.

One of those issues has been, and continues to be, the lower secondary science curriculum, that is, what science is taught, and how that science is taught, to all students in Forms One, Two, and Three since there has never been a common standard parallel to the standards of science taught in Forms Four, Five and Six (Grades 7 – 9). In this new reform thrust, a major aim of the State has been to develop in all secondary school students what the Ministry of Education has recently (1999) described as “scientific capability” (MOE, 1998).

Scientific capability is the label the government has given to the eclectic notion that all graduates from the secondary education system of T&T must be what historically have been described as being scientifically literate. Graduates from a secondary school system are considered ‘scientifically literate’ according to the international literature when they possess the knowledge and understanding of scientific concepts and processes required for personal decision making, participation in civic and cultural affairs, and economic productivity (NAS, 1995; NSTA standards, 2003).

Scientific capability, like scientific literacy, highlights even more clearly the focus of science education for action, personal satisfaction, and enlightenment. It includes five interrelated, though also somewhat distinct, outcomes. These are: competence, curiosity, understanding, creativity and sensitivity (Ministry of Education, GORTT/IBRD Basic Education Project, 2001). Hence the government’s vision of scientific capability not only encompasses the epistemology of science, but also emphasizes the skills, resources, and perspectives that are transferable to domains outside of science (Ramkissoon, 2007; MOE, 2002).

According to Pamela Fraser-Abder (1985) the pursuit by the government of Trinidad and Tobago of some version of this vision of scientific capability in all secondary school graduates, may have had its roots as early as 1977 with the development of primary science education in Trinidad and Tobago. In an article published in Caribbean Curriculum, (May, 1985), Fraser-Abder points out that:

“Despite the existence of the primary science syllabus of 1956 and 1975, little science was taught in primary schools in Trinidad and Tobago. In 1977 the Ministry of Education, and the School of Education, the University of the West Indies (UWI) launched an elementary science curriculum development program. The curriculum, Science – A Process Approach for Trinidad and Tobago (SAPATT), was developed for children 5-12 years old. Seven hundred teachers were involved in its development from 1977 – 1983” (p. 55).

In an earlier paper presented at the 1981 Annual Meeting of the National Association of Research in Science Teaching, in which she was describing a study that she had conducted to determine the status of cognitive development of primary school students of Trinidad and Tobago, Fraser-Abder said: “[T&T’s] secondary science curriculum developers will have to make an effort to achieve some match between the cognitive demands of the curriculum and students cognitive levels” (p. 1). This suggests that as early as 1981 there may have been some preliminary science curriculum development work being undertaken in Trinidad and Tobago that was trying to link the competencies that the secondary science curriculum was developing in students to their cognitive developmental levels.

By 1994, a lower secondary school science curriculum with scientific capability as one of its major goals was in place, ready to be piloted. This National Certificate of Secondary Education (NCSE) science was a program “designed for the lower secondary schools, which was introduced by MOE in 25 pilot schools in September of 1994” (George, 1997, p. 12). This pilot initiative was evaluated in 1997. Dr. George, who did the evaluation, found that the program was having an impact on the science experience of students at the lower secondary level. “Many students” she reported, “were enjoying science, had a good idea of what the discipline entailed, and wanted to continue studying science beyond form 3” (George, 1997, p. 13).

The nature of the impact of this program, however, appeared to vary depending on the orientation of the teacher. In her report, George (1997) noted that: “Teachers in the junior secondary schools seem to value most the fact that the program attempted to relate science to the daily lives of the students. Those in 7-year schools valued the emphasis placed on the nature of science and the work of scientists, as well as the development of science process skills in students” (p. 13). However, she further noted that the extent of the impact appeared to vary depending on the commitment of the teachers to the program. Additionally, she reported: “...Some of the
problems identified in the program [were] related to the syllabus itself, while others were contextual problems” (p.13).

The contextual problems were not limited to the science pilot alone. For the whole NCSE pilot program:

“It was found that a major shortcoming of the pilot project was the failure to design and make provision for formal evaluation of the program before implementation, so that feedback of the empirical data could be provided on an ongoing basis. The lack of adequate monitoring systems, as well as insufficient time to observe the process, severely limited the ability to provide an in-depth analysis of the running of the program” (Trinidad and Tobago, MOE, CDD Report, 1998, p. 13).

The report went on to “strongly suggest” (p. 14) that the program be suspended unless all its recommendations were accepted and fully implemented.

Following this report this NCSE pilot initiative was suspended, but subsequently replaced by the SEMP program initiative in 1999. The lower secondary SEMP science curriculum, along with seven other core curriculum subjects, was developed in three stages. The first stage of the curriculum development process consisted of stakeholder consultations held with representatives from a cross-section of the national community. In stage two of the process, the officers of the Curriculum Development Division (MOE) studied the reports of the consultations, together with the 1996 Education Policy Paper, the reports of the Curriculum Task Force and the Task Force for the Removal of the Common Entrance Examination, “as well as newspaper articles and letters to the editor on education over the past five years” (Trinidad and Tobago, MOE, 2002, p. 1-15).

Finally, at stage three, 10 existing schools were identified to pilot the new curriculum. Science teachers were drawn from these schools to form a Curriculum Writing Team. Other teachers with specific subject or curriculum development skills from other schools were also included in the team. In this phase specific science learning outcomes were identified, and content, teaching, learning and assessment strategies were developed to support these outcomes. The science curriculum document to be evaluated here is the outcome of these efforts.

Purpose
This study is designed to provide some insights into the perceived value of the lower school SEMP science curriculum of a small but diverse sample of secondary school science teachers. Additionally, the study sought to determine the implementation status of this science curriculum in 24 of the 140 secondary schools in T&T. and to recommend possible ways forward for these select schools with the successful implementation of this curriculum innovation.

Twenty-four (24) science teachers participated in the study. These teachers were selected from large schools and small schools; from urban, semi-urban and rural schools; from single sex and co-ed schools; from three-year, five-year and seven-year schools; and from prestige and modern sector schools. Hence all school types in the country were represented in the sample. The individual assessments of the 24 teachers were aggregated and a composite view of their concerns and their levels of use of the SEMP lower secondary science curriculum was generated.

Though no attempt was made to generate a system-wide view of teachers’ levels of concerns or level of use of the innovation, the authors used this opportunity to speculate about some of the implications that the findings might have for science education reforms in the wider secondary school system of Trinidad and Tobago.

Methodology
Because of resource and time constraints, the study had to be limited to only 24 secondary schools and 24 science teachers. There are approximately 140 secondary schools in T&T. A sample of 24 schools represents 17% of all the secondary schools in the country. Furthermore, schools in T&T are distributed in varying amounts in the eight education districts of the country. Additionally, there are several types of secondary schools, located in urban, semi-urban and rural sectors of the country. These include government secondary, assisted secondary, junior secondary, senior comprehensive, and composite schools (CSO, 1998). The sample of schools used in this study included at least one of each type of school, and from each of the three types of locations – north, east-central, and south.

Following focus group protocols outlined in Richard Krueger’s “Focus Groups: a practical guide for applied research” (Krueger, 1988), and the intimate knowledge one the researchers has of secondary school system of T&T following 20 years of experience working with the system in various capacities, 24 teachers who have been implementing this new SEMP science curriculum in their schools over the past five years (September
2002 to June 2007) were brought together in three separate focus groups of eight teachers per focus group. The screening process followed in selecting the 24 science teachers was as follows.

The school principal of each of the 24 four schools identified was contacted and the project introduced with supporting documentation that this was a MOE initiative. Each principal was asked to recommend two science teachers who could speak authoritatively about the schools’ experience with lower secondary school SEMP science curriculum. It was stipulated that these teachers had to have had direct experience with teaching the curriculum at least at one of the form levels. From the 48 nominees the research team selected 24, one from each school, to form three focus groups of eight science teachers each.

One group consisted of science teachers who worked in schools in the north, the second group consisted of teachers who taught in schools in the east and central, and the third group made up of science teachers who taught in schools in the south of the country. Each of the focus groups included teachers with approximately the same mix of teaching experience, gender, and content area specialization.

The three groups met in two-hour sessions for approximately six hours on the same day at a common location in central Trinidad. Graduate students from the School of Education with training and field experience in moderating focus group sessions were tasked with moderating the sessions following a brief orientation. Each focus group had two moderators and one of the researchers was on site to coordinate the sessions.

Each focus group, through the moderators, was asked the following eight key questions:

1. What is your overall impression of the lower secondary SEMP science curriculum?
2. How is the lower secondary SEMP science curriculum different from the general science syllabus it has just recently replaced?
3. How can the curriculum be improved or revised?
4. How do you judge the curriculum in terms of meaningfulness of its content and activities?
5. How integrated is the SEMP science curriculum?
6. What do you understand to be the specific outcomes of each of the three levels of the SEMP lower secondary science curriculum?
7. What are some of the challenges you are facing in implementing the curriculum?
8. What do you see as some of the specific barriers to implementing the curriculum?

Each of the questions was discussed until the moderators felt that the group had reached data saturation point, at which point they would move on to the next question. All sessions were audio taped and the moderators took field-notes. The tapes were later transcribed, and the transcripts checked for accuracy. Transcripts together with the field-notes subsequently were used as the basis for the content analysis of the data (Berg, 2007; Creswell, 2004)

Analytic framework

The eight questions form the basis of the conversations the moderators had with the focus groups. These conversations were tape-recorded, and the audiotapes transcribed. After checking for accuracy, the transcripts were carefully read and coded. The two researchers were solely responsible for the coding and the analysis, which was, in part, grounded in codes generated from the focus groups data, but was also interpretive in that codes were also ‘borrowed’ from a conceptual analytic framework – the concerns adopted model - that was viewed as consistent with, and helpful to, this type of applied research. Consequently, the coding frame used to analyze the data comprised of a mixture of grounded codes and codes borrowed from the literature (Berg, 2007; Oppenheim, 1966; Strauss, 1987).

Several themes emerged from a qualitative analysis of the related coded sections of the transcripts. The themes generated could be grouped under one of two major categories namely: teachers’ concerns about the new curriculum; and teachers’ levels of use of the new science curriculum. The emergent themes under these two major categories were then further examined in light of the codes generated from the Concerns Based Adoption Model (CBAM) framework (Hall & Hord, 2001).

As was indicated above, only parts of the CBAM conceptual framework was adopted in generating the coding frame used to analyze the emergent data. This decision was made in part because the CBAM framework was developed to explain teachers’ concerns about innovations, and to explain why educational innovations were not always adopted and used as extensively as innovators intended, which parallels the situation in T&T.
this CBAM uses three conceptual frameworks, namely Innovation Configurations, Stages of Concerns (SoC) and Levels of Use (LoU). In this analysis codes from only the latter two conceptual frames were adopted. Stages of Concerns (SoC) address the affective side of change, that is, the teachers’ reactions, feelings, perceptions, and attitudes to the new SEMP science curriculum. Levels of Use (LoU), on the other hand, “has to do with behaviours and portrays how people are acting with respect to a specified [innovation or] change” (Hall & Hord, 2001, p. 81). Hence, only these two dimensions of the analytic framework was adopted as the study sought to explore the affective outcomes as well as the behaviours of the science teachers as they adopt and implement the new SEMP science curriculum, and to diagnose their progress in implementing the innovation.

Most significantly, these dimensions of the CBAM framework were selected from the many other change models available in the education evaluation literature because other curriculum evaluators who have used the framework attest to Hall and Hord’s claim that “[CBAM] makes it possible to understand and predict what is likely to occur with people in change and to determine whether a new innovation was making a difference” (p. 81).

Findings

Affective outcomes: Teachers concerns

The answers the teachers provided to those questions that reflected their stages of concerns were derived from a qualitative analysis of the relevant episodes of their respective focus groups’ conversations and the moderators’ field-notes. Several themes emerged from the analysis of the related coded sections of the transcripts. Where possible the moderators’ field notes were used to triangulate the findings that emerged from the transcripts. An elaboration of these themes, or affective outcomes, forms the basis of the summary evaluation of the science teachers’ concerns.

The first clear theme to emerge from an analysis of the transcripts of the focus groups sessions was that of satisfaction with the new SEMP science curriculum initiative.

“…I wouldn’t say that the SEMP science curriculum is ambitious. [What] I would say is that it is innovative, [especially] in bringing out the philosophy that all children can learn and in keeping with that philosophy, which I totally agree with and I hold on to that notion. [However] one of my concerns is [with] the course assessment”. (Teacher I, Teacher Focus Group I).

Though most of the teachers from the focus groups were generally impressed with the new SEMP science syllabus, especially with its philosophical orientation and its activity base, some teachers thought that the curriculum was not balanced “being too heavy on certain topics”. Others felt that there were too many topics to cover in a year, and that the syllabus was not sufficiently integrated. Still, others felt that there was mismatch between the proposed teaching/learning strategies and the evaluation strategies, while others felt that “several important things …have been left out of the syllabus document”. However, despite this string of “consequence concerns” (Hall & Hord, 2001, p. 62), the general consensus of the teachers who participated in this review was that this new SEMP science curriculum was not only different from the “old science syllabus it has replaced, but was also substantially better”. Essentially, the teachers felt that the SEMP lower secondary science curriculum is better than the old science curriculum it replaced, partly because “[it is] so different from the old curriculum.” These differences were more pronounced in some areas than in others. For example, although the old science syllabus covered more content material and was better integrated, it was in fact organized as a set of prerequisite courses for the CSEC science syllabuses that students take in the upper secondary school. The ‘old general science’ curriculum therefore was not as holistic in its approach to the science education of students as the SEMP science syllabus is. This is so in part because the SEMP science is a cohesive program that is projected over the entire five years of the students’ secondary school life.

Furthermore, the old science syllabus prioritized breath over depth of content and so it was not as focused as the SEMP program is on engendering in students such critical competencies as scientific literacy and science inquiry process skills “that the CXC would like the students to have”. Additionally, the SEMP science curriculum had some unique features to specifically address the needs of special students, that is, to address those Form 1 Special (1S) students who are socially promoted from primary into secondary schools without the appropriate academic and literacy skills regarded as necessary at the secondary level. All of these may have contributed to why the teachers felt that the SEMP science curriculum catered to a much wider range of student abilities than the old general science syllabus it replaced, did.
Even though the teachers felt that the SEMP science curriculum is substantially better than the previous general science curriculum it replaced, the second theme to emerge from an analysis of the focus groups transcripts is challenges, that is, the strong sentiment that the innovation still posed some new, and old, challenges to science teachers. One such problem is that it challenges secondary school teachers to extend their own science content knowledge as this teacher with 12 years experience points out:

“To me if we are going to extend to where we’re looking at providing students with quality education, I feel very strongly that you have to seriously narrow the gaps in teachers’ science knowledge… I am not saying that is the situation [now], just that teachers’ need as much help as possible. [For example] if you are looking at mixtures, chemical changes, etc. and you are a physics person, you need the help of an experienced chemistry teacher. If somebody is not experienced, for example, when I started to teach, I was the only chemistry teacher on staff, there was nobody to help me with anything. So when you have no body to go to, you learn these things by making mistakes, trail and error, practicing on the children, sending them out there with half the knowledge they should have and so on”. (Teacher I, Teacher Focus Group III).

This challenge might in part exist as a consequence of how teachers are appointed to teaching positions in secondary schools in T&T. Because secondary school science teachers enter the teaching profession usually just after they have completed a B.Sc. degree in some specific science discipline (e.g. chemistry, physics, biology,) as specialists, it is not unreasonable to assume that most of their content knowledge of other science fields may sometimes be limited.

Furthermore, the focus groups transcripts suggest that many of these 24 science teachers’ attitudes to this challenge were: “this topic is not a part of my subject area, so I don’t know much about it myself. How do they [the significant others in the society] expect me to teach something I barely know myself?” Some of these teachers in their focus group discussions even admitted to: “…not feeling comfortable with teaching content outside their field”. Teachers also adopt several untenable pedagogical strategies, such as, resorting to the chalk-and-talk method of teaching science. By teaching in this disjointed manner whereby science is presented to students at times as inquiry and at other times as ‘telling’, teachers convey mixed messages to students about the nature of science and how scientific knowledge is constructed instead of the meaningfully coherent message about the nature of scientific knowledge the SEMP syllabus intends to be conveyed to them.

Another challenge that the new SEMP science curriculum poses for teachers is how to proceed with integrating the various topics into teachable coherent science units. As currently constructed these science teachers do not view the SEMP science curriculum as integrated. Technically, these teachers consider it more a “combined than an integrated science curriculum”. By a combined science curriculum teachers’ mean that the content of the syllabus is made up of topics from the field of chemistry, physics, biology, and earth/space science and that these topics are only “loosely stringed together under the headings of Living things, Matter and Energy, etc. etc.”. Because most science teachers have not been exposed to how to teach science in a multi-disciplinary, inter-disciplinary or integrated manner (Glasgow, 1997), the levels of integration of the SEMP science curriculum varies from school to school, and sometimes even within schools from teacher to teacher.

Additionally, the teachers claim that what further compounds the task of integrating the SEMP science syllabus into coherent teachable science units is the way the curriculum topics are sequenced. For example, Form I topics like the Cell and the Particulate Nature of Matter are sequenced too early, since at this level many of the Form I students do not have the pre-requisite knowledge and skills “to appreciate these topics”. Lastly, the teachers found that the topics in the SEMP syllabus are not sequenced in the “best way to fully engage students in an optimal way”. Hence, even though most of the teachers do not find the SEMP science syllabus to be very dense (a few of the teachers sampled do), that is, it is not mandating that a lot of outcomes be covered in a relatively short period of time, they did cautioned that whether the outcomes could actually be achieved over the three years also depended on the quality of the school’s student intake. The schools that take in a lot of academically weak students, the teachers claim, would most likely be the most challenged to meet the standards of the outcomes set by the curriculum.

The final theme to emerge from the analysis of the focus groups transcripts was leadership, that is, a yearning for a new type of curriculum leadership. The teachers, especially those who have participated in science curriculum innovations in the past, spoke about “…wanting to get this one right”; about “…us learning from our mistakes of the past”; and of “…the Ministry doing things differently”. They would, for example, like to see more “…regular and direct involvement from the Ministry” in these reform initiatives. They also would like to be supported in more concrete, even “…more mundane” ways. For example, some teachers would like to see some
model lesson plans added to the curriculum document, or to the recourse booklets that will in the future be accompanying the SEMP science curriculum document. Furthermore, some teachers, like the one quoted below, need help in how to introduce and develop an engaging science lesson.

“Listen to what she said. She is right. In terms of teaching the objectives, we could have a set induction so we could know how we should be introducing the students to each objective and from that we could build the content. It would help us a lot if for each objective we get that set induction”. (Teacher 1, Focus Group II).

In essence, this last emergent theme suggests that these teachers are crying out for help in those practical areas such as how to use a curriculum document in planning and organizing for instruction (Quinn, Haggard & Ford, 2006), that is, with unit and lesson planning.

In summary, the teachers had nine major concerns, mostly in the management and consequence domains. These include:

- The SEMP lower science curriculum is not balanced.
- The curriculum covers too many topics.
- The topics are not properly sequenced to engage the students in an optimal way.
- The curriculum has left out some “big ideas” of high school science.
- The teachers’ feel uncomfortable with the way the curriculum challenges them to expend their pedagogical content knowledge.
- The curriculum is not sufficiently integrated.
- The onus of integrating the topics into coherent teachable units falls on the shoulders of the teachers and they feel that they lack the training/competence to carry out this task properly.
- There is a mismatch between the curriculum’s recommended teaching/learning strategies and the strategies that the MOE uses to evaluate the students in the NCSE examinations.
- The curriculum lacks features that specifically address the concrete needs of some science teachers.

Hence, the affective side of the change process that these 24 science teachers are experiencing as they implement the new SEMP lower secondary school science curriculum can be characterized by three themes, namely: a sense of satisfaction with the new curriculum; the feeling of being challenged by some aspects of this innovation; and as sense of yearning for new leadership, that is, hoping that this time around the support provided by the leadership of the innovation (invariably the MOE) will be much more gritty and substantive.

Using the CBAM framework as the lens, one sees that the affective side of the change process that these science teachers are experiencing as they implement the innovation would be categorize as at the levels of management and consequence concerns (Hall & Hord, 2001). That is, most teachers’ attention at this point in the implementation process is focused on the processes and the tasks of using the innovation and the best use of information and resources. Consequently, issues related to efficiency, organizing, managing and the time demands associated with the implementation of the curriculum are of utmost importance to them at this stage.

At the same time, the teachers’ attention is also focusing as much as they should on the strategic impacts the new curriculum innovation is having on the students in their immediate sphere of influence, even though they spend a considerable amount of their time thinking about the relevance of the topics for their students, how best to evaluate student outcomes including performance and competencies, and on adjusting different topics to make them more teachable.

Ultimately, the hope of the Ministry, as articulated for example in the SEMP science curriculum document of 2003, is that teachers will go beyond the management and consequence stages of concerns to those concerns of collaboration and refocusing (Hall & Hord, 2001). The latter level of concern would be where the science teachers’ focus shifts to coordinating and cooperating with other science teachers in their schools, as well as those in other schools, regarding the use of the innovation, and even to the elaboration of more universal benefits from the innovation for both teachers and students, including the possibility of major changes or replacements with a more powerful alternative of the SEMP science curriculum as it currently exists.

These notwithstanding, it might still be fair to say that the science teachers have made significant progress in responding affectively to the change process associated with this innovation, given the relatively short period of time over which the innovation has been introduced and the ‘cautious’ manner in which it has been implemented.
Given their current levels of reflective engagement with this innovation, it is also reasonable to say that the teachers have adjusted in a satisfactory manner to the affective demands of the curriculum change process (Rakes & Casey, 2002), given the history of teachers' affective responses to science curriculum innovations in Trinidad and Tobago in the past (Fraser-Abder, 1985). This is especially encouraging since the records show that in the past teachers' affectivity to change have been at such low levels that many of the innovations have had to be abandoned after a few years.

In the past, many science teachers, especially more experienced teachers, have been unable to find effective ways of dealing with the affective dimensions of the change process. This study is further validating the common-sense notion that one obvious way of overcoming this challenge, is to bring practicing teachers together to talk about their concerns with the innovation, in part to have them finding out for themselves how wide spread are their concerns (Rakes & Casey, 2002), and at the same time, to provide them with opportunities to map out a common path forward. Before we look at what these 24 teachers are suggesting as the way forward, we first have to examine their levels of use of the new SEMP science curriculum in their schools, that is, how affectivity translates into behaviours.

**Behavioural outcomes: Teachers levels of use**

This section explores the teachers' behaviours in the classroom as they implement the new curriculum. It seeks to portray how the 24 science teachers are acting as they seek to learn about new practices for teaching the new science curriculum to their students. Again, the answers the teachers provided to those questions that reflected their levels of use of the SEMP science curriculum in their classrooms were derived from an analysis of the relevant episodes of the respective focus group interviews using the CBAM conceptual framework. Where possible these outcomes were triangulated by the field-notes of the moderators. Themes consistent with those predicted by the CBAM model, as well as other themes, emerged from this analysis. A further elaboration of these themes, or behavioural outcomes, forms the basis of the discussion that follows.

Hall and Hord (2001), have identified, and verified through their 25 years of research, “eight classifications, or levels, of how people act or behave with change” (p.81). They have argued that since “levels of use deals with [teacher] behaviours it is possible to develop operational definitions of each level” (p.82). Although their eight levels of use are fundamentally hierarchical, that is, going from the lowest level of “non use” through the “mechanical use” median to the optimal use of “renewal”, the adaptation to levels is not necessarily linear and a person’s level of use may vary by context.

Of the eight levels of use the one that seem to best characterize these 24 science teachers’ current classroom levels of curriculum use is Level III, or Mechanical Level of Use. This quote from Teacher 2 was typical of how the teachers categorized their level of use of the new SEMP curriculum:

“I am having problems daily with the way the syllabus has been presented. [For example] some of the things they have listed as concepts are not concepts. I don’t know what they are, but under the section concepts there are some things there that are not really concepts. [Furthermore], some [teachers] by me had trouble understanding, for example, how they have the specific outcomes broken down into inquiry skills, conceptual understandings, etc …It’s kind of confusing for people to understand”. (Teacher 2, Teacher Focus Group III).

As can be discerned from the text above, at this level the teacher focus most of his efforts on the short-term, day-to-day use of the curriculum, with minimum or no time spent on long-term strategizing and reflection. Furthermore, as Hall and Hord points out, “changes in use are made more to meet the user [teacher] needs than client [student] needs. The user is primarily engaged in a step-wise attempt to master the tasks required to use the innovation often resulting in disjointed and superficial use” (p. 82).

However, this mechanical level of use of the curriculum by the teachers must be placed in the context of the potential for such other levels of use, both higher and lower. At one level, the use of the curriculum is stabilized. On another level, the teacher is just preparing for first-time use of the innovation. Here, teachers are varying the innovation to increase its impact on students within his immediate environment. On another level the teacher has little or no knowledge of the innovation, has no real involvement, and is doing nothing towards becoming involved. Hence their mechanical level of use is more a central tendency (an average) rather than an exclusive categorization.

So it is not just to note, and rightfully rejoice in, the confidence of knowing that at least nearly all of the 24 science teachers are clearly users of the new SEMP science curriculum, but also to underscore at the same time that their level of use being mechanical, though low, is fairly dynamic. Furthermore, this might provide some
justification for the MOE to be more than just concerned about teachers’ level of use of the curriculum in their classrooms, but to also consider the type of facilitation that is now needed to help these teachers to increase their level of use of the new science curriculum in their respective schools.

This evaluation, though limited in its scope, does suggest that such a facilitation must take into account that science teachers in general and these 24 science teachers in particular, are experiencing at varying intensities, different combinations of the nine challenges identified in the previous section while at school. Furthermore, facilitators in the future must realize that these teachers’ low mechanical levels of use is in part a consequence of how teachers are responding to the challenges, or levels of concerns, they are experiencing at their respective schools.

The recognition of this link is especially important since this mechanical level of use of the curriculum is further confirmed by these teachers many other classroom behaviours. For example, many of these 24 science teachers constantly find themselves having to select which of the many topics to include in their teaching, and which ones to leave out. Some of these teachers complain that that this “is sometimes done on a daily basis”.

Future facilitators will also have to become aware of another common behaviour in which these teachers are engaged, that is, matching the cognitive and psychomotor demands of the topics in the curriculum with the mental ages and skill levels of their respective students. Many of these teachers claim that: “generally …the cognitive and skills demands of many of the content topics of the new syllabus are beyond the reaches of many of their Forms 1, 2 and 3 students”. Some teachers further complain that even after they have eliminated those topics they are still finding that “they cannot successfully cover all the remaining topics in the three years allotted”. Hence, as a consequence of this low mechanical level of use, the full implementation of the SEMP science curriculum is being compromised in many of these 24 secondary schools.

What then are some of the other specific barriers that are preventing these teachers from moving beyond the low level of mechanical use of the SEMP science curriculum in their schools? One of these barriers is contextual, the others being: the teachers themselves, the students, the subject matter of the curriculum, as well as other elements of its design.

Contextual barriers include the administrative bureaucracy of the school. The teachers who participated in the study have found that the levels of administrative bureaucracy at the school impacts significantly on how extensively, and consequently how successfully, the new SEMP curriculum is being implemented. This, the teachers say, is especially so when it comes to the matter of securing the material resources needed to implement the program. They report that in those schools where administrators are efficient at securing the materials, the implementation process is much less frustrating to the teacher. Additionally, the speed with which the school administrator can get the MOE to deliver on the physical infrastructures needed to successfully implement the program, including such needed facilities as functional science and computer laboratories and audio-visual rooms and equipment, are also very important. Again the teachers’ claim is that “…schools with administrators who have been able to get these facilities built and operational are currently poised to proceed more smoothly to [higher levels of curriculum use], than those schools that are experiencing these “bureaucratic inefficiencies”.

Some of these teachers, however, have pointed out that: “…even in some of the schools where the administrators have been efficient in securing the resources and in putting the physical infrastructure in place use of the SEMP science curriculum by the teachers…” is not even fully operational at the CBAM’s mechanical level. In such limited cases some of the teachers have suggested that: “…there are at least two additional counter forces at work”. The first is that many of the science teachers in those schools have not being provided with the opportunity, or have not taken advantage of the opportunity, to learn to use the material resources to support the program’s learning outcomes.

Secondly, because the new curriculum requires “…considerable time to be spent by teachers on out-of-class planning and because some teachers do not possess good time management skills…”, many of the required pre-planning activities never get done. As a result “…some [of these teachers] have not even fully operationalized the SEMP science curriculum…” at the mechanical level. It must be noted that those teachers in the sample who have been able to manage their time to do the required pre-planning activities have been implementing the SEMP curriculum more effectively at the mechanical level than those who are saying that they “…cannot find the time to do the required planning”.

Hall and Hord, 2001, claim that the first step in determining whether any new curriculum is making a difference is to determine if the curriculum is being used. Hence this section of the evaluation has attempted to make that determination within this microcosm by aggregating the individual assessments of 24 science teachers from 24 different secondary schools. While this small sample of teachers does limit the study it does identify
some consistent themes that might be found in a system-wide view of the extent of the use of the SEMP lower secondary science curriculum in schools in Trinidad and Tobago.

One possible projection from this micro-study to the system-wide view would be that the curriculum is being used in all the secondary schools, but that the level of use is low. Viewed through the lenses of the CBAM framework these teachers are suggesting that system-wide the new science curriculum is possibly being used at the mechanical level in most of the secondary schools science classrooms in T&T. It must however be emphasized that the caveat here, of course, is that this study included small samples of science teachers in three focus group interviews and as such cannot be considered representative sample of the targeted population groups. As a result this finding must be considered exploratory and must be subjected to later verification.

One possible implication of this, however, is that though the new science curriculum is being used widely in schools, it is not being used at the optimal levels intended. The broad picture that these 24 teachers paint if projected on to the wider system is that science teachers often use the curriculum in disjointed and superficial ways. Most of their efforts are spent on short-term, day-to-day use with little time for reflection on the impact the curriculum is having on their students. When they do make changes to the curriculum what we should find if this projection pans out, is that it is more to meet their needs than their students’ needs, as they are now just attempting to master the many and varied tasks required to teach the new curriculum. Hence, if in doing the more extended study this turns out to be the case, their efforts could be characterized as being fragmented, step-wise, and short-term, that is, mechanical.

Another implication of this finding is that other key interventions must be put in place if the level of use of the innovation is to advance to the intended level of Renewal (Hall & Hord, 2001), that is, the level where the science teachers are involved in the re-evaluation of the quality of use of the innovation. This is where they seek modifications of, or alternatives to, the present curriculum to achieved increased impact on their students’ learning of science. Furthermore, use of the curriculum at this level will significantly increase the probability of teachers enabling students to become more scientifically capable. But to ensure that this occurs other key interventions are needed if the reforms are to achieve its ultimate stated goal of wanting science teachers to constantly examine new developments in the fields of science education and to proceed with confidence in exploring new goals for themselves and the wider education system (MOE, 2005). A few of these needed interventions are proposed in the final section of the paper.

Conclusion and recommendations

The concluding section that follows highlights, in their own voices, some of the teachers’ recommendations on what those key interventions might be, and, where possible, an attempt is made to embed these recommendations in the literature

“If they could put the practical activities in the front of the curriculum document, that would help most teachers to think a certain way. It is not about getting the content across, it is about trying to get the students to think a certain way and understand and love what it is we are teaching them and at that point you putting them first instead of putting yourself first”. (Teacher 3, Focus Group II).

Most of the 24 science teachers who participated in the focus group interviews are aware of the low level at which they are using the new SEMP science curriculum in their classrooms and would genuinely like to move to those levels of use where, as Teacher 3 above put it, they are “putting them [students] first instead of putting yourself [teachers] first”. That is, most of these teachers want to move from their current mechanical, teacher-centred uses of the curriculum to the more learner-centred use intended. But in order to do so they need help! They need to see “…some changes made to the curriculum”.

The first thing some teachers would like to see change is the format the SEMP curriculum has adopted, as these two teachers below point out:

“I guess what every one is trying to say is that the format of the curriculum, not the actual content, the way it is laid out, that you are not sure if you are achieving your objective at the end of it”. (Teacher 4, Focus Group II).

“Yes, I fully endorse what [Teacher 4] was saying because with objectives at the front and the activities at the back we tend to focus on the activities more. I find myself looking to see what I have to do …then saying ‘look, I have some practical activities here!’ … [But this is] after the fact, after you have finished teaching the topic”. (Teacher 3, Focus Group II).
The format, one teacher suggests, could be changed to the one currently being used to frame the primary science syllabus, with “...the content, structure, strategies and assessment on the same page”.

Secondly, many teachers would also like to see some model lesson plans added to the curriculum document “…or even to the recourse booklets that will in the future be accompanying the SEMP science curriculum document”. Furthermore, a few teachers, like the one quoted below, need help in how to introduce and develop an engaging science lesson.

“Listen to what she said. She is right. In terms of teaching the objectives, we could have a set induction so we could know how we should be introducing the students to each objective and from that we could build the content. It would help us a lot if for each objective we get that set induction”. (Teacher 1, Focus Group II).

In essence, then, the teachers who participated in this study are crying out for help on how to use a curriculum document in planning and organizing for instruction (Quinn, Haggard & Ford, 2006).

This is not entirely surprising given that many, if not most, of the science teachers who participated in the study, have not yet had any formal pedagogical training where they are exposed formally to curriculum theory and instructional designs. One of the consequences of this deficiency in pedagogical training seems to be that many of them do not see the need for careful and complete reading a science curriculum document. For example most of these teachers who participated in the study did not become familiar with those parts of the science curriculum document that spell out the philosophy, the aims, the goals, and the expected outcomes that the curriculum is trying to get students to achieve through their lower secondary school science experiences. Many of these teachers admitted that when they were using the SEMP curriculum document as a resource in their planning, they skipped the first two parts of the document and proceed directly to the back of the document to the “…content and activity sections”.

Many of those teachers who approach the SEMP science curriculum in this back-to-front manner, said that “…it is the science content, and its related suggested activities, which is [the engine that is driving] my classroom curriculum use”, that is, how they plan, organize and use the new science curriculum in their classroom teaching. Some of these teachers suggested that this invariably lead to their “…planning being disjointed and short-term”, since they were planning without always having the “big picture” foremost in their minds.

This action also suggest that many of these teachers who participated in this study may have assumed that the new science curriculum’s underlying philosophy was a subject centred (Zais, 1976) vis-à-vis the learner centred curriculum that the curriculum designers are claiming the SEMP innovation to be (Revised Draft Secondary School Curriculum Form One Science, 2002, p. 13). Using the document in this “subject-centred” and fragmented manner is, in part, what is implied by the claim that many teachers selected for this study are using the SEMP science curriculum, mechanically. Hence, if these teachers are to extend their levels of use of the SEMP science curriculum they will have to learn, among other things, how to utilize the document differently.

In addition to being facilitated in how to use the SEMP curriculum differently, many of the teachers interviewed are saying that they also need to be endowed with an expanded inventory of pedagogical tools that would, at the same time, help to further empower them to make better decisions on how best to scope and sequence the proposed content topics in the curriculum. Specifically, these teachers are asking for further training in the type of pedagogy that would empower them to make better decisions about what science content they should include in the unit and lessons plans and which topics they should leave out. For example, these two teachers quoted below, would like to be empowered in ways that would allow them to justify omitting those topics included in the syllabus that they consider are too difficult for high school students, since their inclusion not only “frustrates” both teachers and students, but also contribute to them not “finishing” the syllabus in a timely manner:

“There are a couple of things in there that are too advanced for these kids. That is not required at this level. Some of the things you try to explain totally blow them off! For me …depending on the class I have …I totally dilute the content. That is why I don’t ever [get to] finish the content”. (Teacher 4, Focus Group II).

“I agree with what they are saying. Cells and Atoms and these kinds of things are out of space for them. They have no idea what you are saying to them …They don’t understand what your are talking about because even those who try to learn it end up doing the wrong thing. At the end of it the teachers get frustrated and the students get frustrated”. (Teacher 8, Focus Group II).
These teachers clearly articulate the difficulties that many teachers operating at this level invariably have, that is, tremendous difficulties with consistently linking the science content of the curriculum innovation with its aims and goals. What these teachers are in fact saying here is that they need further training, including some basic training that would orient them to the basic processes in science curriculum development and design.

This is an especially important request, since it suggests that the current SEMP training is not providing the teachers with all the critical skills they need to fully implement the new curriculum. The additional training they now need should further empower them by endowing them with an added set of pedagogical tools that would better enable them to make the kinds of decisions needed to extend their level of use of the curriculum. If this new SEMP science curriculum innovation is to be fully explored and successfully implemented, the teachers implementing it will have to be able to decide for themselves, based on a sound analysis of their idiosyncratic classroom context, if a suggested science topic will or will not do the job of helping with the development of the type of critical competencies the curriculum is trying to foster in students. These include such competencies as problem-solving and communications skills, aesthetic expression, citizenship, personal development and technological competence.

Furthermore, this new training should ensure that teachers have the competence to be able to substitute more appropriate science topics for the ones they find inappropriate for their classroom contexts. Hence customizing the pedagogical training opportunities for these, and possibly other, science teachers with these goals in mind would be one appropriate way forward.

Finally, these teachers made it clear that they would not only like to be provided with further specific training opportunities but would also like a “proper” re-orientation to the SEMP curriculum, with an emphasis on how the new SEMP curriculum expects them to deal with the challenges of those students with special needs, as the following two teachers underscore:

“I feel that what everybody is saying has to do with teachers getting more training in how to deliver the topics”.
(Teacher 5, Focus Group II).

“Sometimes the kids we get they cannot read and write and sometimes you get a group of students and the syllabus would work and for others it just would not work. I don’t know what adjustments can be made. …I don’t know what can be put in place to make us [teachers] see what can be done”. (Teacher 6, Focus Group II).

At this stage in the implementation process of this science curriculum innovation, what other things, in addition to the training and the re-orientation of the teachers to the curriculum recommended by the teachers, can be put in place to “make [science teachers] see what can be done”? Probably the single most important “other thing” that should be done is to intensify the facilitation process. This would mean that the agency that is responsible for coordinating the implementation efforts need to restructure the system that is now in place in these schools that is intended to support the curriculum implementation processes.

One possible new structure would be one in which the heads of science departments, curriculum supervisors, and to a lesser extent, school principals, would become even more central to the implementation process. The justification for this new structure is that, because the general affectivity levels and the behavioral characteristics of the mechanical user of any new innovation are unique, a unique kind of facilitator and facilitation is needed to help in moving the mechanical user of an innovation to higher levels of use (Hall & Hord, 2001).

Hall and Hord describe what the ideal traits and tasks of such a facilitator might be. For example, such a facilitator “must be willing to do all sorts of seemingly low-level, nitty-gritty tasks to help teachers achieve short-term success in use” (p. 84). Furthermore, they must be willing to offer teachers short-term tips, must be prepared and capable of doing such things as “publish[ing] newsletters and establish[ing] telephone hotlines to answer mechanical questions as they arise” (p. 84). Hence curriculum supervisors, and especially science department heads, will have to be re-oriented to take on these new roles if they are to become effective facilitators of the curriculum implementation process.

To be effective, these facilitators will have to help the teachers with many new tasks. They will, for example, have to help the implementing teachers with finding and organizing the SEMP science materials for use, and with scheduling time to plan while they manage their classrooms and students. They will also have to model for the implementing teachers how to use the SEMP science materials effectively in the classroom. Furthermore, they will have to be prepared to co-plan with the implementing teacher, co-teach or demonstrate teaching in the implementing teacher’s classroom, bring in substitute materials when glitches occur, and even be prepared to run
and fetch what is needed should such occasions arise. Being prepared to become engaged in tasks such as these is what Hall and Hord means when they say that the persons charged with facilitating the mechanical user of an innovation must be willing and able to do all sorts of “low-level, nitty-gritty tasks” (p. 84). Hence another recommendation is that a structure of support be put in place that would involve facilitators with these kinds of traits described.

In conclusion, it is fair to say that these science teachers perceive the new science curriculum as being better suited to help meet the national human development needs of the country than the old general science curriculum it replaced. However, most science teachers still have some concerns about the innovation. Seen through the CBAM lenses of stages of concern, the teachers’ nine articulated concerns could best be characterized as being at the relatively high consequence levels of intensity. This means that, generally, these teachers have given considerable thought to the new initiative.

Though the teachers’ reflections on the SEMP science curriculum innovation appear to be at a commendably high level, there do not appear to be a correspondingly high level of use of the innovation in their science classrooms. The level of use, at best, can be characterized as being mechanical. In mechanically using the curriculum in their classrooms, the teachers’ efforts are mostly focused on short-term, day-to-day use, spending little time on connecting the individual daily science lessons to the “big science ideas” or on the long-term impacts their teaching is having on students achieving the strategic aims, goals, and competencies the curriculum is endeavouring to engender in all students.

In conclusion, it must be noted that data from such a small sample (24 teachers) does limit the generalizability of these findings. Furthermore, due to the deficits in the scope of this research which resulted in such a small sample size and other limitations that ensued, the findings have to be considered tentative. Substantial variability in the science teachers SoC and LoU remain unexplained by the current synthesis indicating the need for further study. Despite this however, the study does suggests consistently that at this stage of the implementation process, the following are needed to move the SEMP science curriculum innovation forward: more appropriate customized teacher training, a reorientation of the science teachers to the curriculum, and facilitation and support for the mechanical-use-type teacher.

References
Fraser-Abder, P. (1985). The status and implications of the cognitive development levels of elementary students in Trinidad and Tobago. Journal of Education in Science for Trinidad and Tobago, 12, 1-6.


Republic of Trinidad and Tobago, Ministry of Education. (2002). *Secondary education modernization programme revised draft secondary school curriculum form one science*.


An Investigation of students’ career preparedness at the University of the West Indies, Cave Hill Campus

Stacey Blackman* and Donna Maynard

School of Education, University of the West Indies, Cave Hill Campus, Barbados

According to Leo-Rhynie (2006) the concept of quality education has been viewed as excellence, the transformation of students, meeting certain standards, value for money and meeting market demand. In this paper quality education for all embodies the cognitive and the affective domain of the student. In particular it looks at career decision self-efficacy and career planning knowledge as a function of the student’s own personal sense of agency that is shaped by their educational experiences at the university. This research employs a cross-sectional survey design to investigate students’ career preparedness at both the psychological and knowledge levels. These components of career preparedness are viewed as precursors to employment and related to career development. The Career Decision Self-efficacy Scale-Short Form (CDSE-SF; Betz, Klein & Taylor, 1996) and Career Planning Knowledge (CPK) (Blackman & Maynard, 2008) are used to assess students’ career preparedness. The research questions are: (1) What differences exist between male and female students’ level of CDSE and CPK? (2) What differences exist between younger and more mature students and their level of CDSE and CPK? (3) What differences exist between junior and senior students’ level of CDSE and CPK? (4) Is there a relationship between the CDSE and the CPK of students on campus? The study found no significant differences between males and females on the CDSE Scale and CPK Scale. However among more mature students (22-50 years old) a significant difference was found on the subscale ‘making plans for the future’ of the CDSE-Scale \( t(139) = -2.33, p=.02, \eta^2=.29 \). In addition, significant differences were also recorded on the subscales; accurate self appraisal \( t(166) = -2.04, p=.04, \eta^2=.22 \), making plans for the future \( t(166) = -2.55, p=.01, \eta^2=.29 \) and problem solving \( t(166) = -2.02, p=.04, \eta^2=.23 \) of the CDSE-Scale for students in their senior years of the programme.

Key Words: career decision self-efficacy, career planning knowledge, career preparedness, university students.

Introduction

Quality education has been defined by educationists, researchers, policy makers and practitioners in varied ways. Leo-Rhynie (2006) argues for example that quality is variously defined: “it has been viewed in terms of excellence, of consistency, of meeting certain standards, as transformation of students, as value for money and as meeting market demand” (p.6). Beckles, Perry and Whiteley (2002) have succinctly defined quality education at the University of the West Indies as “relevance and fitness for purpose.” In addition to this Leo-Rhynie (2006) suggests that this phrase speaks to “the holistic nature of the educational experience with which students must be provided in a quality educational institution” (p.10). University graduates are currently exposed to a global labour market and having students with a clear career trajectory will be advantageous. This therefore implies that a quality education for all students should seek to provide experiences to increase the capacity of students to make more informed career decisions that would translate into real gains in the market place.

Globally, the reality is that employers are asking institutions of higher education to ensure that students’ university experiences adequately prepare them for employment (Fields, 2006; Dearing, 1997); therefore the concept of quality education at the tertiary level must include graduates’ career preparedness. The fact that employers are making such request suggests that there is a fundamental disparity between the concept of a
university education and the reality of how this education should transfer to the work environment. This has implications for the way universities meet such demands and the kinds of career decisions that students make. This is even more critical as stakeholders and employers in the market place require their employees to exhibit greater dexterity in their skills and personality in the workplace. These ideas are congruent with those expressed by Brown, Stewart and Bell Hutchison (2005) who examined the expectations stakeholders have of a university graduate. They suggest that employers want a quality graduate who possesses excellent communication skills, practical problem solving skills, entrepreneurial skills such as innovation, self-confidence and risk taking.

In this paper, we adopt the definition of Beckles et al (2002); that quality education refers to “relevance and fitness for purpose.” In particular we try to understand whether the student’s university experience influences psychological constructs to work such as their Career Decision Self-efficacy and Career Planning Knowledge. These two psychological constructs are embedded in the affective domain of learning and refers to “quality initiative in educational institutions” (Leo-Rhynie, 2006, p.10). Leo-Rhynie (2006) asks the question “Are students obtaining the sort of educational experiences which will produce the desired outcomes?” (p.10). However, we assume that the quality of the student’s experience inclusive of: their perceptions of the “relevance and fitness for purpose” of the programme for their chosen career, the course of study and extracurricular activities are inextricably linked to the career development of students. It could be argued that these factors prepare students to function in the workplace and assimilate the necessary skills and information needed for succeeding on the job.

Career Development Theory is used to explain how people make decisions about their prospective employment or vocational aspirations. Super, Starishesvsky, Matlin and Jordaan (1963) established career development theory in the 1960s and their investigations suggested that the process of understanding how people make career decisions is quite complex and includes social and environmental influences (Davey & Stoppard, 1993; Lindstrom & Benz, 2002; Way & Rossman, 1996). A contemporary perspective; social cognitive career theory (SCCT), extends Albert Bandura’s (1986) general social cognitive theory to academic and career behaviour and examines the role that external influences such as school and work environment have on personal aspirations (Lent, Brown & Hackett, 1994). SCCT suggests that one’s interest influences one’s experiences in an environment, this interest then influences career goals and motivates individuals to act on them, i.e. gain the required experience needed to obtain the job. Finally, the lifespan view of career development suggests that it is comprised of a series of phases in which persons may change their career options periodically from adolescence through to retirement (Lindstrom & Benz, 2002) suggesting that career development is fluid rather than linear.

In the last 20 years Bandura’s (1977) self-efficacy theory has been used to undergird much of the literature on career development and career decision making (Betz & Hackett, 1986; Brooks, 1990; Cook, 1991; Lent & Hackett, 1987; Spokane & Fretz, 1992; Taylor & Betz, 1983). Bandura (1977) hypothesised that self-efficacy would be a mediator for many beliefs and expectations that students possessed. Suggesting that a person’s level of self-efficacy determined the extent to which they engaged in behavioural specific goals. To illustrate; students with high self-efficacy would pursue their goals with confidence and achieve success, while those with low self-efficacy would not expect to succeed at behaviours or tasks they attempted.

Research by Taylor and Betz (1983) integrated Bandura’s self-efficacy concept into a psychometric construct; the Career Decision Making Self-efficacy. They developed the instrument to assess how college students approached career decision making in the United States. Career Decision Self-efficacy is defined as “the individual’s belief that he or she can successfully complete tasks necessary to making career decisions.” (p.6). The task domains identified within this construct include: self-appraisal, gathering occupational information, goal selection, planning and problem solving. In the context of career research, the self-efficacy construct when applied to career decision making implies that students with low levels of career decision self-efficacy are not likely to engage in the career decision making process and behaviours. On the other hand students with high levels of career decision self-efficacy would engage in behaviours associated with career development (Luzzo, 1996).

Another related construct in career development is career planning knowledge. This differs significantly from the traditional use of the term ‘career planning’ which most often refers to assessing your skills, knowledge, values, limitations and interests; preparing your educational and training path according to which skills and knowledge are required for your chosen career; researching career opportunities; and formulating an action plan. Career planning knowledge as defined by Blackman and Maynard (2008) refers to the knowledge one has about career planning procedures i.e. how to investigate and locate information about work and the skills needed by employees to be successful on the job. Hence, by honing one’s career planning knowledge students should be
able to improve their employability. The term employability is in itself twofold it has the behavioural component in terms of applying book knowledge to the world of work and the psychological component as it relates to one’s mental preparedness for entry to a career.

We expect a very linear relationship between a person’s attitude to career decision making, their course of study, education and their career decision making; but is the relationship really this sequential? Luzzo (1993) has examined the relationship between Career Decision making self-efficacy and Career Development attitudes and skills. Although Luzzo’s research does not shed light on the directionality of the relationship between vocational aspirations, career decision making and course of study, it does suggest a positive relationship between the level of maturity of the individual, career decision-making attitudes and skills and career decision-making self-efficacy. Luzzo hypothesised that the more confident a person is in his/her ability to engage in the career development process the more likely it was that this individual possessed more mature attitudes towards career development. Luzzo (1993) conducted research with 233 undergraduate students aged 18-52 years old in the United States of America. Students were assessed on three scales: the Career Decision Making Self-Efficacy Scale (Taylor & Betz, 1983), Career Decision Making Attitude Scale (Crites, 1978b), Career Decision Making Skills (Super, Thompson, Lindeman, Jordaan & Myers, 1981). Luzzo found a positive relationship between Career Decision Making Self-Efficacy, attitudes and age and that Career Decision making self-efficacy and Career Decision Making Skills were the two strongest predictors of Career Decision Making attitudes along with age. These findings are not surprising especially since more mature students who perhaps have some experience in the world of work in addition to attending university might be more confident in their ability to engage in career related behaviours. Mature students who possess skills based on their work experience might also have more positive attitudes that are artifacts of their experiences as well.

We hypothesize that overall students will exhibit high career self-efficacy and possess good career planning knowledge in order to help them chart a path toward their chosen vocations. If on the other hand students possess low career self-efficacy and low career planning knowledge, then this must call into question the “relevance and fitness for purpose” of the total university experience and the programme that students are pursuing at this level. We will now consider the role that career decision self-efficacy and career planning knowledge play in the overall career development of tertiary level students.

This research employs a survey design to investigate students’ career preparedness at both the psychological and knowledge levels. These components of career preparedness are viewed as precursors to employment and related to career development. The Career Decision Self-efficacy Scale–Short Form (CDSE-SF; Betz, Klein & Taylor, 1996) and Career Planning Knowledge (CPK) Blackman and Maynard (2008) are used to assess students’ career preparedness. The research questions are: (1) What differences exist between male and female students’ level of CDSE and CPK? (2) What differences exist between younger and more mature students and their level of CDSE and CPK? (3) What differences exist between junior and senior students and their level of CDSE and CPK? (4) Is there a relationship between the CDSE and the CPK of students on campus?

Method
Participants
Participants in the investigation were 168 undergraduate students (139 women and 29 men) attending the University of the West Indies, Cave Hill Campus. Students surveyed were in the following faculties: Humanities and Education (44), Pure and Applied Sciences (55), and Social Sciences (69). The majority (101; 60%) of the participants were in the 16-21 age range and were in their junior (first) year of study (67, 40%). The ethnic groups represented included Black (151, 90%), White (6, 4%), East Indian (7, 4%) and Mixed heritage (4, 2%)

All students volunteered to participate as part of a class exercise. With the permission of individual lecturers, the researchers asked students in several different classes whether they would like to participate in a study of career preparedness of students. Students were not required to sign a consent form since the demographic section of the questionnaire did not contain any intrusive items such as names or chronological ages of participants. The questionnaires were distributed to all students who were willing to participate and completed in that class. Instructions on how to complete the questionnaires were given. Following all data collection, participants were debriefed regarding the purpose of the research and students were invited to provide feedback.

Instruments
The Career Planning Knowledge Scale (CPK) is an adaptation of the Career Planning subscale of the Ansell-Casey Life Skills Assessment (ACLSA; Casey Family Programs, 2005). The CPK is a strengths-based measure
of capabilities and behaviours generally viewed as important life skills for young people (Nollan, Wolf, Ansell, Burns, Barr, Copeland, et al., 2000). The ACLSA was designed to provide an index of ability, purposefully biased toward capturing youths' strengths. Age differences (older youths scoring higher than younger youths) were found in all versions of the ACLSA (Nollan et al. 1997).

The CPK consists of 13 items on a 3 point Likert scale: “Not like me” (1), “Somewhat like me” (2), and “Very much like me” (3). The scores on the CPK range from a minimum of 13 to a maximum of 39 for the thirteen items on the scale. The Ansell Casey Life Skill Assessment IV has an internal consistency Cronbach alpha value of .98. The Cronbach’s alpha for the CPK was .80.

The Career Decision Self-Efficacy Scale–Short Form (CDSE-SF, Betz, Klein, & Taylor, 1996) is a shortened version of Taylor and Betz’s (1983) original Career Decision Self-Efficacy Scale which measures one’s degree of belief that one can successfully complete tasks necessary to making career decisions. The instrument includes five subscales which assess behaviours pertinent to: (1) accurate self-appraisal; (2) gathering occupational information; (3) goal selection; (4) making plans for the future; and (5) problem solving. Hence, the CDSE-SF has 25 items consisting of five 5-item subscales that reflect each competency area. Responses were obtained using a 5-level confidence continuum, ranging from No Confidence at All (1) to complete Confidence (5). Each subscale score is the sum of the responses given to the five items on that subscale; this sum is divided by 5 to return the score to the units of the response continuum.

The original 50-item CDSE (Taylor & Betz, 1983) and the CDSE-SF (Betz, Klein, & Taylor, 1996) have been reported to be highly reliable. For the normative sample of 346 students from a large state university and a private liberal arts college, the internal consistency reliability coefficients (alpha) ranged from .86 to .89 for the subscales and .97 for the total score (Taylor and Betz, 1983). Luzzo (1993a,b) reported an internal consistency total scale alpha of .93.

The internal consistency reliability of the CDSE-SF ranged from .73 (Self-Appraisal) to .83 (Goal Selection) for the 5-item subscales and .94 for the 25-item total score (Betz et al., 1996). In Betz and Klein Voytens’ (1997) study CDSE-SF reliabilities ranged from .69 (PS) to .83 (GS) for the subscales and .93 for the total score. The Cronbach’s alpha in this study for the total score is .93 and for each subscale: accurate self-appraisal (.77), gathering occupational information (.75), goal selection (.75); making plans for the future (.77); problem solving (.72).

Test-retest reliability (stability), Luzzo (1993b) reported a 6 week test-retest coefficient of .83 for the CDSE total score.

Procedure
Each participant received a survey package consisting of a demographic questionnaire, the Career Decision Self-Efficacy Scale Short Form (CDSE-SF) and the Career Planning Knowledge scale (CPK). All of the participants completed the survey in classroom settings, and they were instructed that the survey would take approximately 20-30 minutes to complete.

Data analysis
Analyses were performed to assess the internal consistency of the CDSE-SF and the CPK for the sample. A Pearson’s correlation was employed to determine the convergent validity of the CPK and the “making plans for the future” subscale of the CDSE-SF. Independent t tests were performed to assess whether or not significant differences occurred between the independent variables in the study.

Results
The researchers surveyed male and female students at varying levels of their university programme to assess both their career planning knowledge and career decision self-efficacy to ascertain any significant differences between: 1) male and female students; 2) younger and mature students; 3) junior year and senior year students of the university.

For the whole group of participants (N = 168), the overall means were high for both CPK (M=28.46, SD=5.01) and CDSE (18.41, SD=2.30). The highest mean score was obtained on the Self-Appraisal Scale (M=3.85, SD=.66), while the Problem-Solving scale (M=3.48, SD=.69) attained the lowest mean score, just as Taylor and Betz (1983) had found with their normative sample of 346 participants. It should be noted that since each subscale of the CDSE-SF consists of 5 items, the mean item response was in the range of 3.4 to 3.9. Thus,
the present sample indicates considerable confidence in their ability to perform the tasks necessary to effective career decision-making.

There were no significant differences found between male and female students for neither CPK scores \(t(166)=-1.80, p=.08, \eta^2=.168\) nor CDSE scores \(t(166)=-1.22, p=.23, \eta^2=.74\).

Table 1. Career Planning Knowledge and Career Decision Self-Efficacy scores of male and female students.

<table>
<thead>
<tr>
<th></th>
<th>Male (n=33)</th>
<th>Female (n=154)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Planning Knowledge</td>
<td>27.07 4.48</td>
<td>28.75 5.08</td>
<td>-1.66</td>
</tr>
<tr>
<td>Career Decision Self-efficacy</td>
<td>17.80 2.96</td>
<td>18.54 3.00</td>
<td>-1.21</td>
</tr>
<tr>
<td>Accurate self-appraisal</td>
<td>3.72 .67</td>
<td>3.88 .666</td>
<td>-1.15</td>
</tr>
<tr>
<td>Gathering occupational information</td>
<td>3.52 .65</td>
<td>3.74 .70</td>
<td>-1.52</td>
</tr>
<tr>
<td>Goal selection</td>
<td>3.57 .65</td>
<td>3.66 .68</td>
<td>-1.67</td>
</tr>
<tr>
<td>Making plans for the future</td>
<td>3.60 .75</td>
<td>3.70 .69</td>
<td>-.72</td>
</tr>
<tr>
<td>Problem solving</td>
<td>3.38 .68</td>
<td>3.50 .70</td>
<td>-.88</td>
</tr>
</tbody>
</table>

Table 1 presents the total career planning knowledge and career decision self-efficacy scores for male and female students; means standard deviations, and results of the \(t\) tests for the significance of sex differences are provided. As Table 1 indicates, the results show very similar means for both male and female students in their career planning knowledge and their career decision self-efficacy.

As shown in Table 1, there were no significant sex differences in career planning knowledge or career decision self-efficacy. The results of the independent samples \(t\) test analyses used to decipher whether or not there is a significant difference between the means of male and female students’ career planning knowledge and career decision self-efficacy, found no significant difference.

Table 2. Career Planning Knowledge and Career Decision Self-Efficacy scores of students in the 16-21 and 22-50 age groups.

<table>
<thead>
<tr>
<th></th>
<th>16-21 (n=101)</th>
<th>22-50 (n=40)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Career Planning Knowledge</td>
<td>27.96 5.45</td>
<td>28.30 3.61</td>
<td>-431</td>
</tr>
<tr>
<td>Career Decision Self-efficacy</td>
<td>17.97 3.01</td>
<td>18.89 2.68</td>
<td>-1.69</td>
</tr>
<tr>
<td>Accurate self-appraisal</td>
<td>3.77 .68</td>
<td>3.93 .58</td>
<td>-1.31</td>
</tr>
<tr>
<td>Gathering occupational information</td>
<td>3.64 .69</td>
<td>3.78 .70</td>
<td>-1.09</td>
</tr>
<tr>
<td>Goal selection</td>
<td>3.56 .65</td>
<td>3.73 .68</td>
<td>-1.41</td>
</tr>
<tr>
<td>Making plans for the future</td>
<td>3.56 .69</td>
<td>3.85 .62</td>
<td>-2.33*</td>
</tr>
<tr>
<td>Problem solving</td>
<td>3.37 .74</td>
<td>3.58 .62</td>
<td>-1.58</td>
</tr>
</tbody>
</table>

The results of the independent samples \(t\) test analyses used to decipher whether or not there is a significant difference between the means of the 16-21 and 22-50 student age groups’ career planning knowledge and career decision self-efficacy, found significant differences in the career decision self-efficacy’s (CDSE) plans for the future subscale \(t(139) = -2.33, p=.02, \eta^2=.29\). However, there was no significant difference found between the mature and young age group students’ career planning knowledge \(t(107) = -1.34, p=.67, \eta^2=.34\), nor their overall career decision self-efficacy \(t(139) = -1.69, p=.09, \eta^2=.92\).

Table 3 presents the total career planning knowledge and career decision self-efficacy means standard deviations, and results of the \(t\) tests for the significance of the number of years spent in the degree programme for junior (first year) and senior (2 or 3 years) students. The results of the independent samples \(t\) test analyses used to decipher whether or not there are significant differences between the means of the two groups of students’ career planning knowledge and career decision self-efficacy, found significant differences in the career decision self-efficacy, more specifically in the accurate self appraisal \(t(166) = -2.04, p=.04, \eta^2=.22\), plans for the future \(t(166) = -2.55, p=.01, \eta^2=.29\), and problem solving \(t(166) = -2.02, p=.04, \eta^2=.23\) subscales of the CDSE and the overall career decision self-efficacy \(t(142) = -2.23, p=.03, \eta^2=.98\). However, there were no significant difference found between the groups of students’ career planning knowledge \(t(166) = -.65, p=.52, \eta^2=.53\).
Table 3. Career Planning Knowledge and Career Decision Self-Efficacy scores of students in the junior year and senior years of degree programme.

<table>
<thead>
<tr>
<th></th>
<th>Junior (n=112)</th>
<th>Senior (n=56)</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Career Planning Knowledge</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>28.28</td>
<td>28.82</td>
<td>-65</td>
</tr>
<tr>
<td>SD</td>
<td>5.33</td>
<td>4.34</td>
<td></td>
</tr>
<tr>
<td><strong>Career Decision Self-efficacy</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>M</td>
<td>18.08</td>
<td>19.06</td>
<td>-2.23*</td>
</tr>
<tr>
<td>SD</td>
<td>3.22</td>
<td>2.39</td>
<td></td>
</tr>
<tr>
<td>Accurate self-appraisal</td>
<td>3.78</td>
<td>4.00</td>
<td>-2.04*</td>
</tr>
<tr>
<td>Gathering occupational information</td>
<td>3.64</td>
<td>3.83</td>
<td>-1.65</td>
</tr>
<tr>
<td>Goal selection</td>
<td>3.61</td>
<td>3.72</td>
<td>-1.04</td>
</tr>
<tr>
<td>Making plans for the future</td>
<td>3.59</td>
<td>3.88</td>
<td>-2.55*</td>
</tr>
<tr>
<td>Problem solving</td>
<td>3.41</td>
<td>3.63</td>
<td>-2.02*</td>
</tr>
</tbody>
</table>

**Validity testing**

Results indicated relatively high internal consistency reliability with a coefficient alpha of .80 for CPK and .93 for CDSE, with the subscales of CDSE ranging from .72 (Problem Solving) to .77 (Planning & Self-Appraisal).

Results assessing whether or not the Pearson product-moment correlation coefficients between the continuous variables used in the study are different from zero reveal that the CPK is positively related to university student’s age (r=.145, p<.05) but not related to the number of years they have been at university (r=.061, p>.01). The CPK correlated with the career decision self-efficacy (r=.56, p<.01) and all of the CDSE subscales (SA= .49, OI=.46, GS=.47, Plan=.55, PS=.47 at p=.001). The “making plans for the future” subscale of the CDSE has the strongest positive correlation with the career planning knowledge (CPK) (r=.55, p<.01).

**Confronting multiple realities**

Reality is seldom unvaried and our research suggests that there are multiple realities which need to be engaged when we speak of quality education for all. One reality expressed in the data is that the university experience for the most part is congruent with the criteria established in the ‘fitness for purpose’ definition (Beckles et Al, 2002). Students in the study displayed high levels of career decision self-efficacy and career planning knowledge. We hypothesized that senior students will exhibit high career decision self-efficacy and possess good career planning knowledge. Our research findings were consistent with this hypothesis.

However one must be cautious with respect to attributing these findings to any one factor and in particular to the quality of the university programme that students are exposed to at the University of the West Indies, this was not investigated in the present study. Other factors can also account for the positive results seen in the data, these include the students’ prior employment experience and life experiences all of which may be playing an important role in shaping their psychological identity, their ability to make future plans, accurately appraise themselves and be problem solvers (Crites, 1978). It was not surprising therefore to also find that students in the more mature age groups indicated a significantly higher level of confidence with regards to making plans for the future (Luzzo, 1993; Healy and Mourton, 1987; Healy, O’Shea and Crook, 1984). In addition the study also indicated that senior students i.e. those who have spent two to three years at university, demonstrated a significantly higher level of career decision self-efficacy than their junior counterparts. Supported by past research (Luzzo, 1993) we did not find any significant gender differences with regards to CDSE or CPK.

Another reality is that documents like the Fields Report (2006) have suggested that the university is not producing graduates who are ready to function in the labour market. This raises a number of questions such as: What do we mean by ready? We want to argue that students who graduate from Cave Hill are psychologically ready to function in a work environment based on the high career decision self-efficacy scores referred to earlier. We also want to suggest that the work environment must then shape the student for the occupation in which he or she has been employed.

**Considering options**

Our findings suggest that students in the junior year of university and those who are younger exhibited lower scores on career decision self-efficacy than seniors and more mature students. Given the results we can concur with Beckles et al (2002) and Leo-Rhynie (2006) that the university is indeed providing quality education in terms of psychological preparation for employment. What the university can do is introduce a career counselling course at the orientation sessions or in students’ junior year in the programme in order to help them build a personal sense of agency and clarify their career goals.
The university could integrate internship and work experience programmes which would assist those persons who might be ambivalent about engaging in the career process or whose academic programme seem not to be meeting their expectations for their chosen vocation.

Further research is needed to understand how the course of study which students are engaged in influences their career choices and how this impacts on their career decision self-efficacy. In addition the views of students at the university with respect to the quality of their programme and whether it is preparing them for their future employment is in need of further investigation.

References


Inclusive education in South Africa: Using the lenses of disabled learners

Nancy Mutshaeniaa, Chris Denhereb and Pilot Mudhovozi

aDepartment of Curriculum Studies, University of Venda, Thohoyandou, Limpopo Province, RSA; bDepartment of Early Childhood Education, University of Venda, Thohoyandou, Limpopo Province, RSA; cDepartment of Psychology, University of Venda, Thohoyandou, Limpopo Province, RSA

This study sought to find out the perceptions of the disabled learners towards an Inclusive program. The study utilized the Case study design to collect data from the 29 participants sampled through the stratified sampling technique to ensure that all disabilities were represented. The major findings were that: (1) the majority (90%) of the disabled children had positive perceptions towards the inclusive program; (2) 80% of the disabled learners reported that they were accepted by non disabled children; (3) the resources were adequate; and (4) 90% of the participants reported that the facilities were not adequate. The study made the following recommendations: (1) the school must be adequately resourced; (2) the resources should suit the individual learners’ needs; (3) teachers needed further training to increase their competence level; and (4) the school can be used as a model for schools yet to introduce Inclusivity.

Introduction

In the Apartheid era in South Africa people with disabilities endured a history of rejection and segregation in the disabilist society and in education. That era denotes a history of gross human rights violation denying disabled people their rights to education. Paradoxically, section 29 (1)(a) of the democratic South African Constitution declares that “everyone has the right to basic education”. After the demise of Apartheid the new and democratic government sought to remove all barriers to education through a series of reforms to redress past imbalances, discriminatory practices, and prejudice. South Africa introduced, reforms introduced to eliminate exclusive practices for children with special needs arising from social, economic, psychological and physical conditions. A number of initiatives and policies have been put in place with regard to the introduction of inclusive education in the schools. The South African Education White Paper 6 (EWP6) was fundamentally an initiative to provide the framework and strategies for an inclusive education.

In the EWP6 the Department of Education explicitly defines inclusive education within the South African context as: (1) Acknowledging that all children and youth can learn and that all children and youth need support; (2) Enabling education structures, systems and learning methodologies to meet the needs of all learners; (3) Acknowledging and respects differences in learners, whether due to age, gender, ethnicity, language, class disability, HIV or other infectious diseases; (4) Changing attitudes, behaviour, teaching methods, curricula and environment to meet the needs of all learners; and (5) maximizing the participation of all learners in the culture and curriculum of educational institutions and uncovering and minimizing barriers to learning (Naicker, 2009).

Policies may be put in place but the desired results may not be achieved unless crucial issues are sufficiently addressed. Successful inclusion which the democratic government so desires to implement is dependant upon: (i) the non-disabled learners and teachers’ attitudes towards learners with disabilities (Burgess, 2003); (ii) acceptance of disabled learners by teachers (Olson, 2003); (iii) support for disabled learners by the school (Olson, 2003; Viltz, Brazil and Ford, 1999; Center & Ward, 1987); (iv) resource provisioning for all learners (Center & Ward, 1987); (v) accessibility of facilities by disabled learners; and (vi) involvement of all learners in the mainstream.

Acceptance by teachers and non-disabled learners

Acceptance of disabled learners on the part of the classroom teacher who has the responsibility for mainstreaming is considered to be crucial for the successful integration of disabled children (Hurley, 1995). A self report of
mainstream experiences by Bellin (2006) indicate that she experienced suffocation, rejection and had a strong feeling that nobody understood her disability as a blind person. Attesting Bellini’s claims Clark (2006) submits that disabled children in inclusive classes are predisposed to abuse.

However, a study by UNICEF (2000) in Gambia seem to dismiss the above claims as it found that there was virtually no socio-cultural or psychological barrier between disabled children and their non disabled classmates in mainstream schools. The study dismisses serious bullying claims made by some pessimists as it found that peer harassment and discrimination against disabled children in mainstream schools is not as serious.

Nederlof’s (2006) study implicated negative attitudes of teachers as main barrier to inclusive education. Also Whitting and Young (1995) suggest that teachers perceive inclusion of learners with disabilities into mainstream settings as difficult and stressful. The debilitating stress experienced by teachers is attributable to the need to adjust their teaching style to suite inclusive class. Research shows that exposure to learners with disabilities may result in regular classroom teachers feeling more positively disposed to inclusive education (Wall 2002, Subban & Sharma, 2006).

Support
According to Morton (2004) young disabled people reported that they received insufficient support in the school. This is also corroborated by a self-report by Bellini that she did not receive support from other learners rather she was bullied and isolated. It seems disabled learners may not be comfortable in the mainstream due to the system that is not supportive, a system that lacks encouragement and flexibility, a system that makes learners feel that they do not fully belong or a system that rejects learners with disabilities.

Resource provision
The successful implementation of the inclusive education program anchors on the institutional logistical arrangements that include the provision of specialized assistive devices, accessible and appropriate venues, audio and video equipment among others (South African Department of Education (2005).

A study by Burgess (2003) of secondary school children revealed that 36% of young disabled people in United Kingdom could not study subjects of their choice due to poor access to the curriculum. Learning resources are part of the curriculum. Disabled learners need tools such as Braille, technical aid to enable them to participate fully.

Facilities
If education is every learner’s right then every learner must have access to facilities that enhance quality education. This may not be the case as a report by South African OECD shows that only 2% of learners have suitable facilities while 62% do not have toilets on site. A survey carried out by UNICEF (2000) in Gambia revealed that there is a total lack of special facilities and services to enhance the educational environment of the disabled children in the mainstream schools. The facilities include lack of ramps for children with physical disabilities and toilets to suit the needs of the disabled.

Participation
A school with inclusive culture and policies ensures that classroom and extra-curricular activities encourage full participation of learners with disabilities (South African Department of Education, 2005). Such inclusive culture and policies must be fully embraced by both staff and learners.

In an effort to avoid disastrous impacts that at times accompany fast tracked radical change the Department of Education took the reasonable and cautious route of piloting inclusivity in a few identified schools that would act as models for other schools.

Background
Thohoyandou Public Primary (pseudo-name) school is located 5 kilometers from Thohoyandou Town. The school has an enrolment of 925 learners attending from Grade One up to Grade Seven. Five percent of the students are identified as having disabilities. The typology of disabilities at the school is as follows: physical disabilities (7 learners), intellectually challenged (22 learners), hearing impairment (1 learner), mild visual impairment (6 learners), speech disorders (3 learners), and multiple impairments (7 learners).
The government of South Africa sought to test the waters by identifying a few schools to pilot the inclusion program. In 2007, the school was chosen as one of the schools to pilot the introduction of the inclusion programs. To ensure successful implementation of the inclusion program the school staff works together inclusively. The school has developed effective strategies to prepare and accommodate the disabled learners in the mainstream. This meant among other things: (1) Organizing seminars so as to provide extra training for the regular teachers; (2) Shaping non-disabled learners and staff members including support staff’s attitudes towards learners with disability; (3) Procuring resources suitable for individual needs of learners; (4) Making classrooms, offices and toilets accessible to learners with disabilities; (5) Applying suitable instructional methods suitable for inclusive settings; (6) Creating a flexible core educational curriculum responsive to individual students ‘s needs; and (7) Creating a learning environment conducive to learners with a diversity of educational needs.

Seemingly the school is making enormous efforts to include the special needs students in the mainstream. It remains to be seen however, whether these efforts are yielding the desired and expected results. A multiple of studies have focused on the perceptions of teachers and parents on inclusivity. But the disabled learners have not been given space to give self reports on their perceptions of Inclusive program. This study therefore sought to look at inclusion through the lenses of the disabled learners. The following questions emerged: (1) How do the disabled learners perceive the mainstream education? (2) Have they been accepted by the non disabled children? (3) Do teachers have positive attitudes towards them? (4) Are the resources suitable for use by children with disabilities? (5) Are the facilities accessible by children with disabilities?

Methodology
The study utilized the case study design to gather data from a school chosen to pilot an inclusion program in the Vhembe District.

Participants
A total of 29 disabled learners (F=15, M=14) where M stands for male learners and F stands for female learners, whose average age was 13 years were chosen to participate in the study using stratified random sampling techniques that considered and ensured that the following disabilities were represented: mentally challenged, visually impaired, hearing impaired, speech disorders and multiple impairments.

Instrumentation
A self-designed 19 item questionnaire was used to collect data from the participants. The items though initially written in English were translated into Tshivenda, the language spoken and understood by all the participants. Translation of the questionnaire was done by an expert teaching the language at a local high school. Another Venda language expert at the university concurred that the translation was correct. The questionnaire had two parts (A and B). Part A elicited biographical data from the respondents. Part A contained 19 items divided into the four categories as follows: (1) attitudes of the school (teachers, non disabled learners, support staff); (2) participation/involvement; (3) accessibility to the facilities (classrooms, offices, toilets); and (4) availability and suitability of resources (hearing aids, computers).

Procedure
Permission to conduct the study in the schools was sought from the District Education Manager. Parental consent was also sought through the Principal. Two research assistants and one researcher administered the questionnaire on the participants. They read questionnaire items to the participants and recorded the responses on the form. The Venda language teacher again translated the responses into English.

Data analysis
The collected data were analyzed using simple descriptive statistics such as percentages and means. The SPSS package version 15.0 was used.

Results of the study
The results of the study were as indicated in Table 1. The table below shows that the attitudes of both teachers and non-disabled pupils toward children with disabilities at the school were positive. This is evidenced by 86 percent of disabled learners who indicated that they were accepted in the mainstream school by non-
disabled learners while 93% said that they enjoyed being in the mainstream. They also reported that the teachers liked them (90%) and gave them the attention (83%) that they expected. All (100%) the participants said that they got help from their non-disabled peers. Proportionately fewer (28%) participants revealed that they were once labeled and viewed as objects of pity (34%). Most (93%) of the disabled learners reported that they enjoyed being at a mainstream school with an equally high number (86%) further indicating that every school must introduce inclusive education.

Table 1. Disabled Children’s Perceptions of Inclusive Education (n=29)

<table>
<thead>
<tr>
<th>Item</th>
<th>Children’s Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Are you accepted in the mainstream school by non-disabled children?</td>
<td>Yes: 25 (86%), No: 4 (14%)</td>
</tr>
<tr>
<td>2. Do you think every school must introduce inclusive education?</td>
<td>Yes: 25 (86%), No: 4 (14%)</td>
</tr>
<tr>
<td>3. Do you enjoy being at a mainstream school?</td>
<td>Yes: 27 (93%), No: 2 (7%)</td>
</tr>
<tr>
<td>4. Do the teachers like you?</td>
<td>Yes: 26 (90%), No: 3 (10%)</td>
</tr>
<tr>
<td>5. Have you ever been labeled?</td>
<td>Yes: 8 (28%), No: 21 (72%)</td>
</tr>
<tr>
<td>6. Are you seen as an object of pity?</td>
<td>Yes: 10 (34%), No: 19 (66%)</td>
</tr>
<tr>
<td>7. Do teachers give you the attention that you need?</td>
<td>Yes: 24 (83%), No: 5 (17%)</td>
</tr>
<tr>
<td>8. Do you get help from non-disabled children?</td>
<td>Yes: 29 (100%), No: 0 (0%)</td>
</tr>
<tr>
<td>9. Are you involved in sport?</td>
<td>Yes: 28 (97%), No: 1 (3%)</td>
</tr>
<tr>
<td>10. Do non-disabled children interact with you?</td>
<td>Yes: 24 (83%), No: 5 (17%)</td>
</tr>
<tr>
<td>11. Does the school have the resources that you need?</td>
<td>Yes: 18 (62%), No: 11 (38%)</td>
</tr>
<tr>
<td>12. Do you find facilities suitable to you?</td>
<td>Yes: 3 (10%), No: 26 (90%)</td>
</tr>
</tbody>
</table>

On participation, most of learners with disabilities (97%) participated in an assortment of sporting activities. More so, the majority (83%) indicated that their non-disabled counterparts interacted with them. Though more learners (62%) with disabilities reported that the school had resources that they needed, only a few (10%) of them said that the facilities were suitable.

Discussion

The purpose of the study was to investigate the learners with disabilities’ perceptions of inclusive education. The major finding of the study was that the majority of the participants reported very positive perceptions of inclusive education. Ninety percent of the participants indicated that they enjoyed being in the mainstream. This maybe attributable to the welcoming environment the school has managed to create. It shows that the school ethos and vision are in tandem with the philosophy of inclusivity. Indeed the school is a success story in the implementation of inclusivity. This somewhat put paid to negative argument on the usefulness of inclusivity by people who claim to speak on behalf of the children with disabilities. The children at this school have spoken in preference of inclusivity. It is prudent to consider their views.

The other interesting finding of this study is the positive attitudes that the school has towards the disabled children. Teachers’ attention to disabled children (83%), help from non disabled children (100%) and acceptance of disabled learners by non disabled (86%) are significant indicators of positive attitudes that teachers and learners without disabilities have towards inclusivity. This suggests that the majority of teachers and non disabled learners’ attitudes are quite favourable in attempting to include students with disabilities at the school. Literature shows that social support which the disabled children are enjoying at the school is crucial in making inclusive education successful.

Success of inclusion is gauged by the level of disable learners’ participation in the curriculum (academic and sport activities). Interestingly in this study the majority of learners with disabilities reported being satisfied by the nature of their academic (95%) and sports (97%) involvement as well as participation in the main stream. Those who are not happy with the degree of involvement might be the learners who find resources unsuitable for their use. It is not just about maintaining the presence of students in school but it is about maximizing their participation (Barton, 2003).

The finding that resources are not suitable for 38 % of the disabled learners are unsurprising though quite disturbing. This finding is consistent with OECD findings that revealed that South African schools were not sufficiently resourced Resource provision is always a crucial issue in mainstream classes. However, failure to source for the needed resources may relegate inclusive education to mere placement or social inclusion or child
minding perhaps giving credence to the argument that children benefit more in special education that are properly resourced. Resource provision is a function of funding. An enormous budget is needed to for resources procurement. It is apparent that lack of resources excludes and debars disabled persons from accessing mainstream education.

An unanticipated result of the study is that the facilities are unsuitable (90%). This finding is in tandem with OECD’s finding that shows that only 2% of the South African schools have paved access, ramps and appropriate toilet facilities for disabled learners. This finding generates enormous concern as it affects quality of teaching and learning. Reconstruction of facilities which is currently going on is absolutely necessary for the conversion of a regular school into a full-service school or an inclusive one. Perhaps the scale of the challenge is so phenomenal and costly but equally the disabled people continue to face insurmountable challenges too. The authorities have to talk the talk and walk the walk.

Lastly, a few participants expressed dissatisfaction regarding acceptance, attitudes, participation, resource provision and inaccessibility to facilities. It is prudent to take these concerns seriously as it is a fact that individual learners have different needs. A school cannot provide quality education if it fails to take cognizance of all its learners’ needs. Those needs must be identified and attended to as well.

Conclusion and recommendations
It is apparent from the findings that the majority of the participants are in support of inclusive education. They perceive it positively. These perceptions arise from the fact that the disabled learners have been successfully integrated in the mainstream. The results have shown that inclusivity is a success story at the school. The following recommendations are made for improvement: (1) The school should be adequately funded to improve its resource provision. Government efforts could be complimented by sourcing for funds by engaging NGOs and UNICEF; (2) The resources must meet the needs of individual learners; (3) The facilities must be reconstructed to allow accessibility and easier use by disabled learners; (4) The teachers need continuous training (locally or abroad) to enable them to handle inclusive classes efficaciously; (5) The school could be used as a model for schools that are yet to introduce inclusivity; and (6) Lastly a more protracted study involving a representative and sample of pilot schools in the province is recommended.

References


Improving literacy acquisition skills of adolescents from at-risk populations

Michelle J. McCollin

Slippery Rock University, Slippery Rock, Pennsylvania

Students who have not mastered early literacy skills by the end of third grade are likely to continue to struggle with reading. The performance gap will persist for students who remain in secondary schools as expectations for proficiency in textbook-driven content area curriculum become the norm. Because secondary-level curriculum depends greatly on competent reading of content-area textbooks, these students tend to fall behind in all academic areas. Moreover, their problems persist beyond school. Adult outcomes for poor readers are bleak; they face unemployment, low wages, poverty and low self-esteem. It is critical that secondary-level teachers are able to provide effective reading interventions for adolescent at-risk learners.

Introduction

Unacceptable proportions of secondary students are struggling to read and comprehend content area textbooks. This new class of “struggling readers” includes high numbers of students from culturally and linguistically diverse (CLD) backgrounds, students identified with language-based learning disabilities, English language learners (ELL), as well as other underachieving or “at risk” students who may simply have never received appropriate reading instruction in the early grades. All of these students require effective, research-based interventions provided in culturally responsive ways and which put them on the trajectory to developing the higher-level literacy skills needed to succeed in an information-based society (McCollin & O'Shea, 2005). Moreover, adolescent readers from at-risk backgrounds face obstacles in the unfriendly nature of most content-area textbooks. Content textbooks typically do not present culturally appropriate material in a reader-friendly fashion, but instead contain densely worded paragraphs that include an overwhelming number of concepts, facts, and details with insufficient explanation. Researchers have reported that textbooks are often randomly organized from chapter to chapter, lack good organization, provide insufficient definitions of critical vocabulary, and require inappropriate skill demands of learners (Mastropieri, Scruggs, & Graetz, 2003). Many secondary students, particularly those from at-risk backgrounds, do not receive the optimal instruction in these content because many teachers’ lack of knowledge about how to teach diverse students effectively (Mastropieri, Scruggs, & Graetz, 2003; McCollin & O'Shea, 2005).

As students move through the grades, and especially as they enter middle and high school, their motivation to read declines sharply (Guthrie & Wigfield, 2000). Incorporating authentic texts, such as newspapers and trade books, as well as allowing student choice in selecting reading materials, are helpful strategies for teachers to generate interest and motivation among adolescents. Embedding skills instruction along with teacher scaffolding help struggling students participate in authentic literacy activities in the classroom. In addition, a climate of respect for cultural and linguistic diversity provides a motivating context for literacy learning (Cummins, 1986).

Recent advances in research and practice pertaining to literacy acquisition skills and the performance of secondary school students on national assessments (National Institute of Child Health and Human Development: NICHD, 2000), combined with federal policy mandates (e.g., Individuals with Disabilities Education improvement Act [IDEIA], 2004; No Child Left Behind Act [NCLB] 2001), have stimulated interest in providing intensive intervention services to students at risk of persistent academic failure. In today’s technologically-driven knowledge-based culture, young people need to be expert readers, writers, and thinkers to contend, compete, and succeed in the global economy. Moreover, persistent low national and international literacy standings...
substantiate that an investment in the education of secondary students is not just important—it is a world-wide imperative (Biancarosa, & Snow, 2004).

For students who are reading below grade level, systematic and explicit reading instruction that incorporates the five elements will need to be a vital part of a comprehensive program which places students and their diverse histories and experiences at the center of the learning process. Furthermore, these five essential skills need to be taught within the context of secondary-level academic tasks and demands. Success in middle and high school requires students to master new content-specific vocabulary, to analyze and synthesize ideas, and to organize and recall information, as well as to present their knowledge and understanding in a variety of ways. Skills needed include: the ability to decode multisyllabic words, read fluently, use contextual clues and prior knowledge to decipher meaning and employ metacognitive skills to monitor one’s own learning (McQuiston, O’Shea, & McCollin, 2009).

The struggling reader
Adolescents from at-risk populations frequently struggle with the literacy demands of the secondary school curriculum. In order to improve the reading achievement of these students and promote their success in content area classes, teachers must apply best practices, those supported by reading research, to help these students to close the gap between them and their normally-achieving peers. Teachers who use direct and explicit instructional strategies that are both developmentally appropriate as well as culturally and linguistically responsive are most likely to be effective with students from at-risk populations. It is critical that the intervention match the student’s level of reading development. Opportunities to improve literacy acquisition will assist these students in building reading fluency, developing vocabulary knowledge, and enhancing comprehension.

Content area reading challenges
Typical secondary academic instruction involves teachers providing lectures by means of course content and students reading their textbooks to identify important facts and concepts in preparation for weekly tests. Therefore, the ability to understand text is critical due to the vast quantity of text that students must read, the specialized and technical vocabulary they need to learn, and the various text structures (i.e., cueing systems that refer to how ideas are interrelated to convey meaning) that are used to organize content area material (Dieker & Little, 2005). In content area comprehension, students interact with text to comprehend and construct meaning before, during, and after reading by engaging their prior knowledge employing strategies developed during early literacy instruction. Students, moreover, must use word identification strategies (e.g., structural analysis, syllabication) to decode unfamiliar multisyllabic words and context clues to figure out the definitions of technical terms (Pedrotty-Bryant, et. al, 2003). Furthermore, content area comprehension in science, history, and social studies involves students reading and comprehending expository (i.e., explanatory/factual) text—which includes multisyllabic technical words, various expository text structures (e.g., cause/effect, compare/contrast), but also complex concepts and facts. This is particularly problematic for students from at-risk backgrounds who may not have had the opportunity to master early reading skills and who must cope with academic activities and assessments that are literacy-based.

Improving phonological awareness
Phonological awareness—the explicit understanding of a word’s sound structure—refers to the ability to hear and manipulate the sound structure of language. It involves an understanding of syllable and rhyme as well as sensitivity to the individual sounds of language, or phonemes (McCollin & O’Shea, 2005). Phonological awareness is critical for the efficient decoding of printed words and the ability to form connections between sounds and letters when spelling. Students need solid phonological awareness for decoding instruction to be effective.

Students with reading problems frequently struggle with these skills and can benefit from instruction in this area. For students who are not proficient in this area, teachers should provide explicit instruction, focusing on only one or two phonemic awareness skills at a time, such as segmenting and blending. Beginning with auditory phonemic activities, teachers can then link sounds to letters and provide opportunities for students to apply their knowledge of phonological awareness when reading and writing. As with other students who display phonological awareness difficulties, students from at-risk backgrounds can benefit from systematic instruction in identifying and manipulating the sounds of spoken language (Vaughn, Bos, & Schumm, 2005). Effective
instructional strategies that target phonological awareness can improve literacy learning. In addition, by utilizing culturally relevant materials and strategies that build upon students’ cultural funds of knowledge, educators can increase student learning and engagement.

**Improving word identification and decoding skills**

Word identification is the ability to recognize a specific (acoustic or visual) stimulus pattern and match it to the mental lexicon where the meaning of this word is stored. Word identification skills help individuals recognize unknown words accurately and rapidly. These skills include phonetic analysis, structural analysis, and contextual analysis. This ability to identify or decode unknown words rapidly and accurately is an important prerequisite for comprehension. At the secondary level, reading content area text requires an ability to identify (i.e., decode) unfamiliar, multisyllabic words (Carnine & Carnine, 2004). Many struggling secondary readers, particularly those from at-risk backgrounds, continue to struggle with word identification (e.g., syllabication, identification of affixes to help break words into parts). Research has found that students who expend great energy on decoding typically do not read extensively and consequently do not acquire the background knowledge that is essential for comprehending secondary level content area subject material (Pedrotty-Bryant et al, 2003).

According to findings by the National Reading Panel (NRP, 2000), instruction in word identification skills should be integrated with spelling (encoding) and should include the following: (a) letter-sound relationships, (b) high-frequency words, (c) word parts, (d) blending and segmenting sounds and word parts to read multisyllabic words, and syllable types and strategies for decoding multisyllabic words. For example, all key vocabulary words can be explicitly taught with daily exercises that include pre-testing, practice, and post-testing. Teachers can introduce multisyllabic words taken from the content-area materials that students have difficulty reading in the context of their classes. Secondary-level students, who are from at-risk populations, may need extensive decoding instruction. For these students, it will be necessary to begin with the basic phonetic rules of English. The use of developmentally appropriate and culturally relevant decodable books is an effective way for students to gain practice decoding words in text. When developmentally appropriate and culturally relevant decodable texts are not available, it may be necessary to encourage students to discuss ways in which they can relate the decodable text to their own experiences. Teachers can engage more capable readers by providing instruction in strategic work attack skills, including syllabication and morphemic analysis of words.

Students who have failed to succeed in reading are capable of learning to read when they are offered sufficient time and intensity for interventions as well as the appropriate instructional practices. When secondary-level students from at-risk populations struggle with reading, teachers need to provide systematic and explicit instruction in foundational skills with sensitivity to the cultural and linguistic experiences of those students. Teachers can create classroom structures that provide more socially interactive environments and tap into the cultural and linguistic resources within students’ communities to connect school literacy practices with these students own histories and experiences. Utilizing culturally relevant materials and methods is one way of engaging students of diverse backgrounds, motivating them to continue the hard work needed to close the gap between them and their normally-achieving peers.

Many secondary level students, from at-risk populations, need to nurture their ongoing literacy growth in order to become independent, tenacious readers. Middle and high school teachers’ use of direct and explicit strategies (e.g., use of relevant texts and other instructional materials, teaching strategies targeting fluency building skills, and instructional grouping considerations), focused on culturally relevant practices can facilitate improved reading behaviors. Classroom fluency opportunities encourage and strengthen vocabulary, reading comprehension, and higher-level thinking. In order to synthesize how teachers can improve fluency skills of secondary-level students from at-risk populations, it is necessary to articulate the process involved when readers become fluent. Additionally, deciding what and how to teach students who are at-risk requires a most important consideration of valuing and accepting students’ backgrounds and readiness to reach accuracy and fluency with connected text, or the facile and seemingly effortless recognition of words in connected text (McCollin & O’Shea, 2005).

**Improving fluency for adolescents from at-risk backgrounds**

Fluency, a developmental and complex construct, encompasses both the process and product of the reading act (Chard, Vaughn, & Tyler, 2002; Fuchs, Fuchs, Hosp, & Jenkins 2001; Kame’enui & Simmons, 2001; Stahl, & Kuhn, 2002; Vaughn, Bos, & Schumm, 2005; Wolf & Katzir-Cohen, 2001). Fluency holds critical importance for
reading because it bridges word recognition and comprehension (The National Institute of Child Health and Human Development, 2000). Developing the oral and written language skills and vocabulary, of adolescents from at-risk populations presents a special challenge to secondary educators. There are several strategies that secondary teachers can use with students from at-risk backgrounds to improve reading fluency. Some of these include echo reading, choral reading, and antiphonal reading, as well as partner reading, Reader’s Theater, and shared reading experiences across the curriculum. High quality, diverse, and multileveled reading materials should be used. Substantial practice in textual reading is necessary to build fluency (Adams, 1997; Lyon, Alexander, & Yaffe, 1997; O’Shea & O’Shea, 1994). Additionally, fluency training with a focus on component skills of phonological awareness and decoding can be an effective reading intervention for readers with learning disabilities (Mercer, Campbell, Miller, Mercer, & Lane, 2000). Instruction and practice in recognizing high frequency words, teaching chunks, and reinforcing spelling patterns to develop decoding strategies have been shown to be beneficial (Cunningham, et al., 1998; Lyon, et al., 1997; Moats, 2001; Nos, 1999).

Follow-up fluency activities designed to generalize increasing vocabulary and reading comprehension skills can target familiar reading practice in culturally responsive texts, oral or written reflections on text meaning and comprehension, and auditory or verbal comprehension reviews. Concurrently, as warranted, secondary teachers can plan, implement, and evaluate the effectiveness of directed discussions on text typography (e.g., punctuation and paragraph structure), integrated with subject-area content knowledge. When vocabulary and comprehension skills increase across secondary school content areas, teachers then cue readers to self-monitor and self-correct text with phrasing and speed (Cunningham, et al., 1998; Lyon, et al., 1997; Moats, 2001; Nos, 1999).

Consistent use of such explicit fluency building activities encourages adolescents from at-risk backgrounds to become independent and tenacious readers. Secondary-level students from at-risk backgrounds, who struggle with reading, will need strategies for aligning new information with their prior knowledge, obtaining essential information from the text, and retaining information. Therefore, content area reading instruction is an important component of all secondary curricula and must include strategy instruction in the areas of word identification, vocabulary, and comprehension skills.

The great vocabulary challenge
Secondary level students are faced with the daily challenge of having to learn new and complex concepts in subject area classes. Learning specialized vocabulary is a key component to understanding in the content areas (Anders & Bos, 1984; Beck, McKeown, & Kucan, 2002; McCollin & O’Shea, 2006). By the time most students graduate from high school, they will have encountered more than 88,500 word families (i.e., base words and its derivatives), with many of these words learned in the course of wide reading. 88,500 word families result in total volumes of nearly 500,000 graphically distinct word types, including proper names. Roughly half of 500,000 words occur once or less in a billion words of text (Nagy & Anderson, 1984). An average student in grades 3 through 12 is likely to learn approximately 3,000 new vocabulary words each year, assuming he or she reads between 500,000 and one million running words of text a school year (Nagy & Anderson, 1984). Research has shown that children who read even ten minutes a day outside of school experience substantially higher rates of vocabulary growth between second and fifth grade than children who do little or no reading (Nagy & Anderson, 1984).

Students from at-risk backgrounds tend to have poor vocabularies because of their limited involvement with reading activities (Beck, McKeown, & Kucan, 2002; McCollin & O’Shea, 2006). For students with limited vocabularies, teachers should provide explicit instruction in both the meanings of words and in word learning strategies. Teachers must actively involve students in making connections between concepts and new vocabulary in both oral and written language. Students need instruction in key vocabulary words, multiple opportunities to use new words, and activities that enhance retention of new words. Personal words banks, word analysis of morphological and semantic structures and multiple opportunities for students to read in and out of school are all ways teachers can promote vocabulary learning for adolescent readers from at-risk backgrounds. To be most effective, vocabulary study should occur daily and teachers are encouraged to deliberately use new words as often as possible in classroom conversation (Moats, 2001). Multiple encounters with new words are needed before a word is really known (Stahl & Fairbanks, 1986).
Improving comprehension

Comprehension strategies are conscious, deliberate processes used to self-regulate reading for the purpose of attaining a specific cognitive goal (Samuelstuen & Braten, 2005). It has been documented that the use of deeper-level strategies, like building a mental representation of the text and identifying the gist of the text, teaching of reading comprehension strategies, generating elaborative explanations, formulating and solving problems, and monitoring comprehension is linked to better remembering and understanding of a text. Yet, the most recent National Assessment of Educational Progress (NAEP, 2002) shows that many eighth and twelfth grade students do not have the capacity to perform the higher order cognitive work required for deep learning of content through reading (Kamill, 2003). For students with poor comprehension, teachers should explain, model, and teach comprehension strategies such as predicting, comprehension monitoring, summarizing, question answering and question generating. Teachers must provide comprehension instruction before, during, and after reading. Teachers should promote critical thinking and extended discourse by asking questions and encouraging student questions and discussions.

Summary

At-risk readers at the secondary level need assistance in content-area reading to integrate new information with their prior knowledge, to remember what they have read, and to obtain important information from the text. Content area reading instruction is an important component of all secondary school curricula and includes strategies such as word identification, vocabulary strategies and comprehension techniques. Students benefit from strategy instruction that includes teachers modeling the use of the strategies and students having authentic opportunities to practice strategies within content area contexts.

References


Quality Education for All: The impact of Disruptive Classroom Behaviour (DCB)

Benita P. Thompson

Education Evaluation Centre, University of the West Indies, Cave Hill Campus, Barbados

This paper examines the nature, level and causes of disruptive classroom behaviour, as well as the impact on teaching and learning as perceived by teachers and students. Disruptive classroom behaviour is also examined within the context of school type; newer and older secondary. Results of the study indicate that the majority of disruptive behaviour is generally mild and primarily consists of negative student to student interactions. Evidence also highlights some disparity in the perceived causes and impact of disruptive behaviour as expressed by students and teachers. Teachers were of the view that school related issues was the most probable cause of DCB while students considered issues pertaining to the home as the most credible cause. Moreover, research indicates that disruptive classroom behaviours exist in all school types but the prevalence of such behaviours is more evident in a few of the newer secondary schools.

Introduction

The concept of ‘Quality Education for All’

The concept of ‘Quality Education for All’ is in keeping with the expectations of most if not all nations for their citizenry and Barbados is certainly not the exception. In fact, the concept of ‘Quality Education for All’ is indeed the very principle on which the Barbados’ White Paper on Education Reform is based. This document speaks of quality education as a necessity for Barbados’ education system and states that, “the delivery of quality education to each person is central to a system that has achieved 100% access” (p. ii). The White Paper further explains that, “the challenge for Barbadian education is therefore one of quality rather than access” (p. 6). The delivery of quality education is also viewed as necessary for students’ acquisition of the necessary knowledge, skills and attitudes to compete in the global market economy. Further, quality education “must prepare them [students] not only to have appositive approach to change but also to be thinkers, innovators and problem solvers. Moreover, it inculcates the best social values, promotes human understanding and appreciation of the dignity in all labour” (ibid; p.5).

Another perspective of quality education is documented in ‘Quality Education for All: A Human Rights Issue’ (UNESCO, 2007). Here the multiple dimensions of quality education refer to: relevance, pertinence, efficacy, efficiency, and equity. Quality education is also viewed as “locally relevant and culturally appropriate. It is informed by the past and relevant to the present, and prepares individuals for the future.” Yet another viewpoint is expressed by Dr. Compton Bourne (2007). His concept of quality education refers to the appropriateness of the curricula, adequacy of library resources, capital stock and equipment, modernity of technological resources, the quality of teaching staff and the high academic standard set by the educational institution.

Based on the varying perspectives it is evident that any education system which embraces quality education would benefit significantly. Quality education is especially important to the Caribbean and indeed Barbados since it is considered as a means of eliminating poverty and promoting economic global success. The government of Barbados cognizant of this fact continues to invest heavily in the education system. In fact, quite recently the Prime Minister of Barbados announced that government intends to spend at least half billion dollars on education (Adams, 2005).

Given the huge investment made one would expect that Barbadian students should benefit from a high quality of education. However, the reality is that there are a number of constraints which derail the delivery of quality education. These constraints include but are not limited to irrelevant curricula, inappropriate pedagogies, teacher and student absenteeism, schools’ poor management skills and students’ disruptive classroom behaviours.
Although each constraint mentioned can be detrimental to the delivery of quality education and merits discussion, the latter will be the focus of this paper.

**Disruptive Classroom Behaviours (DCB)**

The classroom is essentially the focal point for educational instruction and as such should be an environment conducive to quality teaching and learning. However, myriad behaviours impede the teaching-learning process and consequently the delivery of quality education is ever present in many secondary school classrooms. Corrie (2000) presents a number of these disruptive behaviours which are usually of concern to teachers. They include the need for constant supervision, not listening to directions, often playing with pens, pencils, and other items, slow getting started to begin work, talking out of turn, being unmotivated, getting distracted from work easily, often seeking attention and preventing others from learning by talking to them, touching them, or interfering with their books, materials and equipment (p.4).

These behaviours are considered disruptive based on the fact that they interrupt the teaching learning process by impeding student learning and adversely impacting on teacher morale. As noted by Corrie (2000), “At times, children’s behaviours disrupt teaching and learning and fill classrooms with tension. Teachers find it hard to stay enthusiastic when they spend precious time managing children’s behaviour. They feel frustrated when, despite their best efforts, nothing seems to change” (p.4). This type of classroom situation would hardly lend itself to the delivery or acquisition of quality education.

Managing DCB on a daily basis means less teaching time since teachers spend an inordinate amount of time averting classroom chaos. Consequently, teachers become stressed, annoyed, exhausted, frustrated and dissatisfied. As stated by Corrie (2000) “Too many days were filled with repeating instructions, giving warnings, sorting out skirmishes, and managing incompliant behaviour” (p.7). He further explained that often one feels “more like police officers engaged in crowd control rather than helping children to learn” (ibid, p.7).

The effects of such behaviours have created school climates where some teachers have become quite apathetic to school in general and more specifically to the quality and impact of their teaching. The school climates which result from students’ disruptive classroom behaviours are not favourable to the promotion of quality education, but rather derail it. Students and teachers need to be in a teaching-learning environment where they are not threatened, constantly interrupted by skirmishes and where students show keen interest and are attentive to what is happening in their classrooms.

**Methodology**

To explore disruptive classroom behaviour in Barbadian secondary schools the data were collected from students and teachers in twelve schools; four older secondary (grammar) and eight newer (comprehensive) secondary schools. Data were collected in two phases. In the first phase, questionnaires were administered to the 328 fourth form students and 95 teachers. These instruments were designed to gather information on the participants’ perceptions of the nature and frequency of disruptive behaviour in the classroom as well as the impact on the teaching-learning process. In the second phase, data were collected from 60 students (5 from each of the 12 schools) deemed deviant by school administration. These students were asked about their own activities in relation to disruptive classroom behaviours. It must be noted however, that although the views of a wide cross section of school personnel were examined, only the perceptions of students and teachers will be highlighted in this paper.

**The nature and level of Classroom Disruptive Behaviours: Perceptions of students and teachers**

The student and teacher surveys on disruptive classroom behaviours sought responses to forty-nine (49) specific disruptive classroom behaviours divided into nine categories. The level and frequency of disruptive classroom behaviour was measured on a Likert scale which ranged from (1) Never, to (5) Very often. Based on a perfect mean of 5.0, the researcher considered means of 4.00 (often) to 5.00 (very often) as indicators of relatively high occurrence of disruptive classroom behaviours. Means of 3.00 to 3.99 were considered as moderate and 2.99 and below were deemed as relatively low in occurrence.

The behaviours presented in Table 1 are those which the majority of students and teachers rated as occurring ‘very often’. In the case of the students, the majority rated thirty-one behaviours as occurring ‘very often’. However, only five behaviours are included in Table 4 because more than half of the students indicated that these behaviours had a high frequency of occurrence.
Table 1. Frequencies and Percentages of the Most Frequently Occurring Disruptive Classroom Behaviours.

<table>
<thead>
<tr>
<th>Disruptive Behaviours</th>
<th>Students (n=328)</th>
<th>Teachers (n=95)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Cursed their classmates</td>
<td>214 (65%)</td>
<td>30 (32%)</td>
</tr>
<tr>
<td>2. Shouted at classmates</td>
<td>183 (55%)</td>
<td>28 (30%)</td>
</tr>
<tr>
<td>3. Written on classroom furniture</td>
<td>173 (53%)</td>
<td>30 (32%)</td>
</tr>
<tr>
<td>4. Teased classmates</td>
<td>174 (52%)</td>
<td>34 (36%)</td>
</tr>
<tr>
<td>5. Talked while teacher is talking</td>
<td>169 (51%)</td>
<td>41 (43%)</td>
</tr>
</tbody>
</table>

Of importance also, is the fact that the majority of teachers only ranked six behaviours as occurring very often. Of these six, five are represented in Table 1. The behaviour not represented is ‘students are easily distracted by classmates’. For this behaviour 30 of the 95 (32%) teachers indicated a response of ‘very often’ for frequency.

Table 1 clearly illustrates that students deemed the *cursing of classmates* as the most frequently occurring disruptive classroom behaviour. In fact, it is the only behaviour that more than sixty percent (214 of 332) of students classified as occurring ‘very often.’ In contrast and of importance is that a substantially higher proportion of students considered the ‘cursing of classmates’ as a frequently occurring behaviour. The majority of teachers however, considered that ‘students talking while the teacher is talking’ as the most prevalent disruptive classroom behaviour.

Also of significance are the four behaviours listed 2 to 5 (Table 1), where more than 50% of the students reported that these behaviours took place ‘very often’. Again, the percentages for teachers on these four behaviours are significantly lower than those recorded for the students.

As indicated in Table 2 a number of disruptive classroom behaviours occurred quite frequently in 3 of the 8 newer secondary schools as evidenced by mean scores of 4.00 or above. Of particular interest is the fact that 3 categories of behaviours; defiance of authority, task avoidance and inconsiderate interpersonal relationships occurred frequently in three of the newer secondary schools: N3, N4 and N6. Of significance also, are the highest means of 4.31 recorded for task avoidance and verbal or physical hostility towards peers for schools N4 and N6. Most notable, however, is one of the newer secondary schools N6, where 5 of the 9 categories (56%) of disruptive classroom behaviours recorded means of over 4.00, indicating a relatively high occurrence of these behaviours.

In discussing the extent to which disruptive classroom behaviours occur in our secondary schools, it is interesting to compare the occurrence of such behaviours in the ‘newer’ and ‘older’ secondary schools. A stark comparison is evident with regards to the behaviour of ‘walking around the classroom without permission’. Fifty-three percent (53%) of the students in the newer secondary schools reported the prevalence of this behaviour while only 19% reported similarly. This represents a percentage difference of thirty-four (32) percentage points.

Table 2. “Disruptive” students’ self-report mean scores for categories of Disruptive Classroom Behaviours.

<table>
<thead>
<tr>
<th>Categories of disruptive classroom behaviours</th>
<th>Older and Newer Schools</th>
</tr>
</thead>
<tbody>
<tr>
<td>N1</td>
<td>N2</td>
</tr>
<tr>
<td>Classroom Conformity</td>
<td>3.54</td>
</tr>
<tr>
<td>Verbal/physical hostility towards teachers</td>
<td>2.81</td>
</tr>
<tr>
<td>Verbal/physical hostility towards peers</td>
<td>3.78</td>
</tr>
<tr>
<td>Defiance of authority</td>
<td>3.74</td>
</tr>
<tr>
<td>Task avoidance</td>
<td>3.77</td>
</tr>
<tr>
<td>Inappropriate Use of School Property</td>
<td>3.22</td>
</tr>
<tr>
<td>Inconsiderate Interpersonal Relationships</td>
<td>2.45</td>
</tr>
<tr>
<td>Over reactions to normal situations</td>
<td>3.33</td>
</tr>
<tr>
<td>Technological related factors</td>
<td>2.37</td>
</tr>
</tbody>
</table>

Key * N1-N8 = Newer secondary schools  
* O1-O4 = Older secondary schools
Finally, it is also significant to note that none of the older secondary schools reported means of above 4.00. In fact, only 6 of the mean scores were above 3.50 and of these 3 were recorded for task avoidance in each of three older secondary schools O1, O2 and O3.

Further analysis on the mean scores for the newer and older secondary schools was conducted as represented in Table 3. Mean scores for the eight (8) newer and four (4) older secondary schools were calculated for each of the nine (9) categories of disruptive classroom behaviours.

Table 3. Mean scores for categories of Disruptive Classroom Behaviours for newer and older secondary schools.

<table>
<thead>
<tr>
<th>Categories of Disruptive classroom behaviours</th>
<th>Newer Secondary</th>
<th>Older Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Classroom Conformity</td>
<td>3.6</td>
<td>3.1</td>
</tr>
<tr>
<td>Verbal/physical hostility towards teachers</td>
<td>2.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Verbal/physical hostility towards peers</td>
<td>3.6</td>
<td>3.5</td>
</tr>
<tr>
<td>Defiance of Authority</td>
<td>3.7</td>
<td>3.1</td>
</tr>
<tr>
<td>Task Avoidance</td>
<td>3.9</td>
<td>3.6</td>
</tr>
<tr>
<td>Inappropriate Use of School Property</td>
<td>3.4</td>
<td>3.1</td>
</tr>
<tr>
<td>Inconsiderate Interpersonal Relationships</td>
<td>3.3</td>
<td>2.7</td>
</tr>
<tr>
<td>Over Reactions to Normal Situations</td>
<td>3.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Technological related factors</td>
<td>2.2</td>
<td>2.0</td>
</tr>
<tr>
<td>Overall Average Mean</td>
<td>3.3</td>
<td>2.9</td>
</tr>
</tbody>
</table>

On average none of the nine categories of behaviour occur with a high level of frequency when the twelve schools are analysed collectively as illustrated by Table 3. However, in the newer secondary schools four categories of behaviours: task avoidance (3.9), defiance of authority (3.7), classroom conformity (3.6) and verbal/physical hostility towards peers (3.6) occur most frequently. In the case of the older secondary schools, task avoidance (3.6) and verbal/physical hostility towards peers (3.5) recorded the highest mean scores for frequency. Table 3 also shows that verbal/physical hostility towards peers occurs with similar frequency in both the newer and older secondary schools with means of 3.6 and 3.5 respectively. The overall mean score for the newer secondary (3.3) and the older secondary (2.9) schools indicate a higher occurrence of disruptive classroom behaviours in the newer secondary schools.

Based on the findings it is quite evident that students’ disruptive classroom behaviours can indeed hinder the delivery of quality education. Frequently occurring behaviours such as task avoidance, classroom non-conformity, verbal/physical hostility towards peers and the cursing of classmates will certainly not facilitate student learning and by extension the delivery of quality education.

The impact of Disruptive Classroom Behaviours on teaching and learning: Perceptions of teachers and students

The impact of disruptive classroom behaviour on the teaching-learning environment was also investigated. Table 4 shows the mean scores for teachers and students, indicating their perceptions of the impact of disruptive classroom behaviour on teaching and learning. From the relatively low mean scores it is evident that teachers and students do not consider the majority of the behaviours under investigation as impacting greatly on classroom teaching and learning. In fact, the highest mean score of 3.0 (moderate occurrence) was recorded for teachers with respect to the category of ‘defiance of authority’. Interestingly, the students highest mean score 2.5 (relatively low occurrence) was also recorded for the said category of behaviour.

Examination of the student and teachers’ mean scores (Table 4) also reveal that teachers recorded slightly higher mean scores for six of the nine categories of behaviours. This implies that teachers consider the students’ DCB to have a slightly higher impact on teaching and learning than do students. However, the difference in mean scores is relatively small and therefore this conclusion is tentative at best.

Frequencies and percentages were also calculated to ascertain which of the behaviours students and teachers considered as having the greatest impact on teaching and learning (Table 5 and 6). The impact scale for these behaviours ranged from (1) not at all to (4) a great extent. The behaviours represented in Table 4 are those which the majority of students rated as having the greatest impact on teaching and learning. It must be borne in mind that in some cases the responses were quite evenly distributed among the response options, hence the relatively small percentages for the responses coded as ‘to a great extent’.
Table 4. Students’ and teachers’ perceptions of the impact of Disruptive Classroom Behaviours on teaching and learning.

<table>
<thead>
<tr>
<th>Disruptive Classroom Behaviour Categories</th>
<th>Students n=332</th>
<th>Teachers n=95</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Means</td>
<td>Means</td>
</tr>
<tr>
<td>Classroom Conformity</td>
<td>2.5</td>
<td>2.6</td>
</tr>
<tr>
<td>Verbal/physical hostility towards teachers</td>
<td>2.1</td>
<td>2.2</td>
</tr>
<tr>
<td>Verbal/physical hostility towards peers</td>
<td>2.4</td>
<td>2.7</td>
</tr>
<tr>
<td>Defiance of Authority</td>
<td>2.5</td>
<td>3.0</td>
</tr>
<tr>
<td>Task Avoidance</td>
<td>2.2</td>
<td>2.7</td>
</tr>
<tr>
<td>Inappropriate Use of School Property</td>
<td>2.3</td>
<td>2.2</td>
</tr>
<tr>
<td>Inconsiderate Interpersonal Relationships</td>
<td>2.3</td>
<td>2.6</td>
</tr>
<tr>
<td>Over-Reactions to Normal Situations</td>
<td>2.3</td>
<td>2.3</td>
</tr>
<tr>
<td>Technological related factors</td>
<td>1.7</td>
<td>1.2</td>
</tr>
</tbody>
</table>

Table 5. Students’ perceptions on the impact of Disruptive Classroom Behaviours on teaching and learning.

<table>
<thead>
<tr>
<th>Disruptive Classroom Behaviours</th>
<th>Students n=332</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq.</td>
</tr>
<tr>
<td>Talked while teacher is talking</td>
<td>115</td>
</tr>
<tr>
<td>Clown around in class</td>
<td>108</td>
</tr>
<tr>
<td>Cursed classmates</td>
<td>104</td>
</tr>
<tr>
<td>Thrown objects across the classroom</td>
<td>98</td>
</tr>
<tr>
<td>Distracted easily by classmates</td>
<td>94</td>
</tr>
<tr>
<td>Enter classroom with loud aggressive behaviour</td>
<td>84</td>
</tr>
<tr>
<td>Stopped classmates from working</td>
<td>81</td>
</tr>
</tbody>
</table>

As shown in Tables 4 and 5, both students and teachers consider students ‘talking while teacher is talking’ and ‘clowning around in the classroom’ as having a great impact on teaching and learning. It is important to note that the highest percentage of students and teachers considered ‘talking while teacher is talking’ to have the greatest impact on teaching and learning. However, the proportion was higher for teachers (43%) than for students (35%).

A slightly higher percentage of teachers (35%) than students (33%) also considered students clowning around as having a great impact on teaching and learning. One hundred and four of the three hundred and thirty-two students (31%) students considered the cursing of classmates as having a negative effect on teaching and learning.

Table 6. Teachers’ perceptions on the impact of Disruptive Classroom Behaviours on teaching and learning.

<table>
<thead>
<tr>
<th>Disruptive Classroom Behaviours</th>
<th>Teachers n=95</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Freq.</td>
</tr>
<tr>
<td>Talked while teacher is talking</td>
<td>41</td>
</tr>
<tr>
<td>Refused to do homework set by the teacher</td>
<td>38</td>
</tr>
<tr>
<td>Clown around in class</td>
<td>23</td>
</tr>
</tbody>
</table>

Students being easily distracted by classmates (28%) and entering classes with loud aggressive behaviour (25%) were also deemed as affecting teaching and learning to a great extent.

Of interest is the teachers’ perception of the importance of homework on teaching and learning and the fact that this was not chosen by the majority of students. Thirty-eight of the 95 teachers (40%) considered that students’ refusal to complete homework would impact teaching and learning to a great extent. In contrast, only 66 students (20%) were of the opinion that this behaviour would impact teaching and learning to a great extent.

In concert with the literature, students and teachers are of the opinion that students’ disruptive behaviours can negatively affect the teaching-learning process. However, the extent to which they consider the impact of such behaviours is surprisingly low.
The causes of Disruptive Classroom Behaviours: Perceptions of students and teachers
To ensure that the quality of education is not jeopardized it is necessary to examine the causes of such behaviours. To this end students and teachers were asked to respond to an open ended question which sought their opinions on the causes of disruptive classroom behaviours. Based on the results of content analysis, five major themes emerged: home, school, peers, student and societal issues.

Table 7.    Frequencies and Percentages of Perceived Causes of Disruptive classroom behaviours.

<table>
<thead>
<tr>
<th>Emergent Themes</th>
<th>Students’ Responses (N= 218)</th>
<th>Teachers’ Responses (N=68)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Frequency</td>
<td>Percentages</td>
</tr>
<tr>
<td>Home</td>
<td>73</td>
<td>33</td>
</tr>
<tr>
<td>School</td>
<td>61</td>
<td>28</td>
</tr>
<tr>
<td>Student</td>
<td>49</td>
<td>22</td>
</tr>
<tr>
<td>Peers</td>
<td>23</td>
<td>11</td>
</tr>
<tr>
<td>Societal</td>
<td>12</td>
<td>6</td>
</tr>
</tbody>
</table>

Home-related issues
A higher percentage of students referred to home related issues as the perceived cause of disruptive classroom behaviour but the comments expressed by both students and teachers were quite similar in nature. The breakdown in the home in respect to instilling acceptable standards of behaviour was the main focus. Respondents also mentioned the lack of love, care and attention given in the home.

“They do what they like at home like talk back to their parents and curse them and then they think they can do the same at school and get away with it.” *(Student)*

“In my opinion I believe that the main cause of students behaving badly comes back from the home as some parents don’t give their children the correct amount of love and affection and they don’t spend time to sit down and talk to them so the children feel left out and so do deviant things to get attention.” *(Student)*

“Some moral and social values are not instilled in students from the primary institution i.e. home and hence they don't know how, when or where in terms of their inappropriate bad behaviour.” *(Teacher)*

“Too many children have to take care of themselves, they are asked to care for younger siblings, poor (attracted to selling drugs, Valentine’s day flowers, fish, candy) to get money.” *(Teacher)*

Overall, the responses from the participants indicated that the home significantly contributes to the students’ disruptive behaviour. It was generally felt that parents needed to make a greater effort in inculcating positive values, especially as they relate to discipline and the importance of education.

School-related issues
Teachers and students focused primarily on teachers’ instructional practices and inappropriate attitudes and behaviours towards students as possible causes of students’ disruptive classroom behaviours.

“[Students]” do not enjoy the classes and do not like the teachers’ teaching style.” *(Student)*

“In my opinion teachers do not listen to you and they teach too fast.” *(Student)*

“The teaching methods used may not appeal to the students. Sometimes the subject matter is not attractive to them; lessons do not have a variety of activities; presenter may be boring and uninteresting.” *(Teacher)*

[Teachers’] “Poor instructional methods fail to capture students’ attention hence lack of motivation.” *(Teacher)*

Students were also very critical of their teachers’ inappropriate attitudes and behaviours. In fact some of the students’ comments were quite lengthy and quite explicit revealing a somewhat antagonistic relationship with their teachers.
“The teachers are also to blame because they tend to be very rude at times and provoke the students with their ‘holier than you’ attitudes. Give respect and you get it in return.” (Student)

“Teachers who are not caring or sensitive enough to understand students' needs or concerns [may be the cause].” (Teacher)

Students were rather explicit in the manner in which they expressed how teachers’ unsuitable attitudes and behaviours were to blame for students’ disruptive classroom behaviours. Students openly rebuked teachers for their disrespect, insensitivity and double standards.

Other issues related to the school and expressed solely by students refer to boredom at school and teacher favouritism. One student was of the opinion that, “Classes are sometimes boring so students tend to engage in mischief. With respect to favouritism the view was expressed that “Teachers pay more attention to their favourites than the whole class and pick on certain children for no reason.”

Views expressed solely by teachers include matters related to school allocations and school administrative matters. Teachers were of the opinion that the allocation policy, which placed large groups of academically weak students together at a number of secondary schools, could be a determining factor. They also highlighted school administrative matters such as inappropriate student disciplinary policies, ineffective decision making, inadequate resources and plant facilities, ineffective curriculum and the absence of corporal punishment as causes of students’ disruptive classroom behaviour:

“Since corporal punishment by non-senior teachers is not supported, some students see this as a license to do as they please.”

Another teacher expressed the view that the schools’ reluctance to deal with problems openly and in a timely manner also caused students’ disruptive classroom behaviour:

“The refusal of the administration of the schools to deal with problems affecting the school and covering up problems to avoid public scrutiny and pressure from the Ministry of Education.”

Other issues identified included the inadequacy of the curriculum, lack of school resources such as inadequate teaching materials and uncomfortable classroom surroundings.” Students and teachers agreed on a number of school related issues as causes of students’ disruptive classroom behaviours and also expressed varying yet relevant views. The common sentiment conveyed, however, is that the school as an institution contributes to students’ disruptive classroom behaviour.

**Student-related issues**

A number of student issues were also identified as causes of disruptive classroom behaviours. These comments were primarily related to the students’ lack of interest in academic education and attention seeking behaviours. In reference to disinterest in education the following views were expressed:

“Children just do not care about nothing. It seems that that all they care about is men, drugs, bad behaviour, and sex. They get vex at everything. They just do not care. But the truth is most of them about 90% do not care so please save the other 10% please.” (Student)

“They [Students] just don’t want to learn. They just come to school to see their friends, play, eat, quarrel, fight and ride in the vans before they go home.” (Student)

[Students are] “Not interested in learning; priorities need to be readjusted so that academic achievement is their goal.” (Teacher)

[There is a] lack of interest in school work, [there are] distractions such as relationships and personal problems.” (Teacher)

With reference to attention seeking behaviours, students and teachers were of the opinion that students engage in disruptive behaviours in an effort to gain attention from their peers and teachers because of the lack of attention at home. One of the teachers’ comments also pointed to students using attention seeking behaviours as a way of covering up their academic inabilities.
“Every student loves to receive attention. Some think that by being loud and disruptive, they will certainly attract attention. Others, mainly boys, think that by being loud and disrupting the class, they impress the girls.” (Student)

“They are not loved at home and they just feel that doing something wrong will get them attention.” (Student)

“Students seek attention which they may not be receiving at home. This is not only from peers but from the teacher who is seen as a role model or mother/father figure.” (Teacher)

Attention seeking [behaviours] mask their inability to complete specific tasks.” (Teacher)

The comments of both students and teachers suggest that there are some secondary school students who are more interested in non-school related matters such as “men, drugs, bad behaviour and sex.” One of the students’ comments was especially emphatic, calling for the rescue of students who wanted to learn from those who were bent on disrupting the teaching-learning process. Of significance is the fact that the student identified 90% of students as those not interested in school learning activities.

Mental and psychological problems were also cited as reasons for students’ misbehaviour in the classroom. Teachers’ comments primarily referred to undiagnosed psychological conditions, mental illnesses and Attention Deficit Hyperactivity Disorder (ADHD). One of the teachers commented that, “There are a number of students who have attention disorders or learning difficulties which cause them to act out because they do not know any better or they cannot express themselves.”

The majority of the comments indicate that issues related to students significantly contribute to their disruptive behaviours. Respondents mainly emphasized the students’ lack of interest in education and their attention seeking behaviours as contributors to such behaviour.

Societal issues
A relatively small percentage of comments focused on societal issues. In fact, six and seven percent of the student and teacher responses respectively referred to societal issues. Presented are the views expressed by students and teachers who identified societal issues as contributors to students’ disruptive behaviours in the classroom.

“They smoke, engage in sexual activities, watch too much crime pictures, and gamble in class.” (Student)

“I also think it depends on the sort of surroundings, if they live around druggies, and warlords it is possible they could adopt the same attitude. Children today are studying more material things like cell phones. This causes a lot of trouble in schools. Brand name also possesses the young people’s mind. So I think the bad attitudes, the children have today are really because of material things and their surroundings at home. (Student)

“There is a persuasive influence of a counter culture which places little value on discipline.” (Teacher)

“The effects of the use of narcotic drugs by their parents while they (the children) were still in the womb and the abuse of drugs by the children themselves” [may cause DCB]. (Teacher)

“The child's behaviour in the classroom is to some extent a mirror of the declining morals and standards within the general society.” (Teacher)

These comments seem to imply that disruptive classroom behaviour result from the negative influences of the students’ immediate environments and from varying perceived ills in the society.

Peer-related issues
Of interest is the fact that very few teachers considered the influence of peers as a cause of students’ disruptive classroom behaviour. In fact only 4% of the teachers’ responses referred to the influence of peers. Moreover, the teachers’ comments were very concise. In contrast, the students were more explicit.

“Peer pressure where students are pushed into behaving those ways. Also they are not strong enough to back out of these situations so they go astray and do whatever they are being pushed into. Also when we behave this way some students try to impress their classmates.” (Student)
“They may also be trying to get into certain groups and are being deviant to prove to others that they are worthy to be in that group.” (Student)

“Not wanting to look silly in front of their peers.” (Teacher)

“Peer pressure” (Teacher)

These comments implied that some students were generally weak in character and hence were easily led astray by peer pressure. The influence of teasing was mentioned as one method by which peer pressure was applied. It was also further suggested that students engaged in disruptive behaviours to prove themselves worthy of membership to deviant peer groups since they felt rejected and desired to be part of the group. The responses tend to suggest that the influence of peer pressure is very strong and many students succumb to such pressure.

Overall, issues pertaining to the home and school were identified as the predominant causes of disruptive classroom behaviour. These results indicate that students considered home related issues (33%) followed by school (28%) and student issues (22%) as the leading causes of disruptive classroom behaviour. For the teachers, the main causes of DCB were issues related to the school (22%) and student issues (18%). Of note also, is the fact that students and teachers alike, considered issues related to peers and the society least important in explaining students’ disruptive classroom behaviours.

The major findings of this study suggest that students and teachers perceive that (1) disruptive classroom behaviour is generally mild and is concentrated in a few of the newer secondary schools and (2) home and school issues are the leading causes of DCB. In light of this, it is necessary to examine these findings further and find ways and means to counteract these perceived causes to ensure quality education.

Conclusion

The attainment of universal education is commendable but not sufficient to fully contribute to the development of the Barbadian society. We need to go beyond access and concentrate on quality. As declared in the ‘Dakar Framework for Action’ (2000), quality education is the right of every child and “is the heart of education”--a fundamental determinant of enrolment, retention and achievement (p.29). Moreover, quality education is a determinant of whether’ Education for All’ is achieved (ibid; p.28). Further, the UNESCO-EFA Global Monitoring Report (2005) indicates that quality education is significant since education in itself develops children emotionally, creatively, emotionally and leads to the students’ acquisition of skills, knowledge, values and attitudes necessary for responsible, active and productive citizenship (ibid;p.28). The promotion and implementation of quality education can therefore be considered as an integral component of any country’s education system. This is even more crucial for Caribbean nations when one considers the economic benefits which can be derived from a system of quality education.

To achieve a standard of quality within our education system our schools must have a healthy environment. That is, an environment where students’ performance is not adversely affected with indiscipline such as disruptive classroom behaviours as described in this paper. Moreover, the use of instructional time must be optimized; ensuring that the majority of classroom time is spent on instruction and not preventing or managing classroom skirmishes. As indicated by UNESCO-EFA Report (2005), “the lack of instructional time is a major constraint on improving quality” (p. 151).

Given the findings of this paper and the seemingly negative association between disruptive classroom behaviour and a loss of teaching time, it is imperative that disruptive classroom behaviour is quelled so as to advance quality education. In light of this, the following suggestions should be taken into consideration.

- **Carry out** individual school inspections to assess the specific needs of individual schools since the level of deviance in all schools varies in nature and intensity.
- **Conduct** a thorough examination of deviance in the newer secondary schools especially in the schools which have been found to have a high occurrence of disruptive classroom behaviour.
- **Establish** an individual school approach. The results from the individual schools should then be used to inform policies and strategies to alleviate the problem of deviance peculiar to the individual school.
- **Establish** positive and effective communication between the school and the home. Every effort should be made to reiterate the values of the school and the role which parents must play to facilitate their children’s success at school.
• **Sensitize** and train parents in effective parenting. School administrators and other stakeholders need to embark on facilitating relevant and timely parent education programs. In too many cases students have commented on the lack of love, care and attention in the home.

• **Pay** special attention to student interactions; especially the manner in which they communicate with each other. As indicated by this research the students choice of vocabulary tends to be very abusive and often disruptive.

  ▪ **Forge** positive relationships between students and teachers to retard student disruptive behaviours and facilitate an environment conducive to effective teaching and learning.

  ▪ **Focus** teacher training on effective classroom management where emphasis is placed on dealing with disruptive behaviours. Conflict resolution and stress management should also be emphasized.

  ▪ **Implement** a whole school policy where school rules and regulations are disseminated, discussed and agreed upon by all school personnel.

  ▪ **Develop** policies and inculcate a team approach where each member of staff feels supported in their efforts to combat disruptive behaviour.

  ▪ **Equip** teachers with the necessary skills and resources to function effectively in a constructivist environment.

  ▪ **Ensure** that time is allotted to teachers for corroboration and mentorship, especially the younger inexperienced teachers.

Consideration of these suggestions should assist with inhibiting the level of disruptive classroom behaviours exhibited in our secondary schools and hence facilitate the delivery of quality education. Achieving high quality education is not only beneficial to individual students but to the country as a whole. As suggested by UNICEF (2008) quality education is a key predictor of a country’s economic growth and development, stability and health.

**References**


Predictors of computer attitudes of secondary school science teachers in Ogun State, Nigeria

Babalola J. Ogunkola* and R. Ademola Olatoye

*a School of Education, University of the West Indies, Cave Hill Campus, Barbados; b Olabisi Onabanjo University, Ago-Iwoye, Nigeria

This study investigated how computer literacy, ownership, frequency of usage and experience and gender jointly and relatively predict attitude towards computer among secondary school science teachers in Ogun State, Nigeria. Expost-facto research design was employed and a total of two hundred and forty (240) science teachers were selected from the four administrative divisions of the state using stratified random sampling to participate in the study. Two validated instruments called Computer-related Variables Scale (CRS) and Computer Literacy Self Assessment Scale (CLSAS) were used for the purpose of data collection. Data generated were analyzed using multiple regression and analysis of variance statistical tools. The findings indicated that a combination of the five variables (gender, computer literacy, frequency of usage, ownership and experience) in predicting science teachers’ attitude towards computer yielded a coefficient of multiple regression (R) of 0.379 accounting for 14.4% of variance in computer attitude (R²=0.144). This percentage appears to be low but it was found to be significant. This indicates that the effectiveness of the predictor variables in predicting teachers’ attitude to computer could not have occurred by chance. Also, in terms of relative effects of the predictor variables on science teachers’ attitude to computer, the variables could be arranged in descending order of influence thus: computer ownership, literacy, frequency of usage, experience and gender. It is then suggested in this paper that science teachers should be encouraged to own computer, be proficient and frequently use computer in order to have better attitude towards computer. This will improve the teachers’ quality of delivery of instruction in science classrooms.

Key words: computer attitude, literacy, ownership, experience, frequency of usage, gender, science teacher.

Background to the problem

Of particular importance and interest in matters of educational quality is the teacher factor. This is so because in the final analysis, teachers are the ones that translate the thoughts in an educational system to actions. Consequently, there have been recommendations to support teachers in professional development for both pedagogy and content (Ogunkola & Olatoye, 2008). This issue of professional development of teachers has become more necessary than ever because of the introduction of the use of computers in teaching and learning processes in science classrooms, which demands new skills of science teachers in handling modern instructional materials and equipment which are aimed at enhancing quality in science education. This posits a whole new set of requirements on the teachers. According to Hostmark (2007), in future, teachers will have an even more important role as they increasingly function as learning facilitators, helping students to grasp and select among all the information available.

The general standard for all teachers therefore has to do with the competency of developing the knowledge and skills in learning technologies to be able to appropriately and responsibly use the tools, resources, processes and systems and to be able to retrieve, assess and evaluate information from various media. The competent science teacher will use that knowledge along with the necessary skills and information to assist learners in solving problems, communicating clearly, making informal decisions and in constructing new knowledge, products or systems in diverse learning environments (Kadijevich, 2002). As a result of this,
B. J. Ogunkola and R. A. Olatoye

computer-based instructional applications are considered an effective alternative to traditional teaching methods (Larkin, 2003; Leigh, 1996). Today, in numerous educational and training sessions, interactive computer programmes are used to teach young and adult students.

However, in his meta-analysis of the factors that are instrumental in promoting the use of computer aided learning, Griffin (1998) found that teacher attitudes towards computer is an important factor related to the teacher’s role towards the effective use of computers in education. According to Yushau (2006), previous correlation studies have long forecasted that the use of computers in education would very much depend on how teachers integrate the stated factors in everyday activities. Therefore, the question of teacher attitudes towards computers is central to any successful use of computers in education (Yuen & Ma, 2001). The questions now are what the meaning of attitude is and what factors affect teachers’ attitudes towards computer?

According to Kerlinger (1986), an attitude is an organized predisposition to think, feel, perceive, and behave towards a referent or cognitive object. It is an enduring structure of beliefs that predisposes the individual to behave selectively towards, attitude referents. Therefore, some studies such as Busch (1995) and Chen (1986) have found out that computer literacy is significantly related to a positive attitude towards computer among teachers, while other studies like Yushau (2006) just stated that teachers need to improve their attitude in order to be sufficiently competent to make personal use of Information and Communication Technology (ICT), as a mind tool, to become masters of a range of educational paradigms that use ICT, and also to become sufficiently competent to make use of ICT as a tool for teaching. Also Kadijevich (2002) identified four issues as critical to proper and effective use of computer technologies in the classrooms. Top among them is computer attitude, followed by software selection, a proper utilization direction, and web–based professional development of teachers.

In this regard, computer ownership and computer experience are also two very important and interrelated factors that can help in removing fear and anxiety about computers from the minds of teachers and help to develop their confidence. With computer ownership, the teacher is able to have total access and freedom to experiment with the use of a computer as the machine or tool that it is (Yushau, 2006). With ownership, there comes the reciprocal relationship of computer experience that provides the technical–know–how and the intellectual ability to manipulate and discover the pedagogical power of the machine.

As for gender influence, it is very important in research on computer attitudes of teachers and computer education because of the gender differences with lower female participation, which are widely documented for both science and technology and particularly for computer education (Ogunkola, 2007). Usually, computers are linked with mathematics and thus the vast majority of teachers of computing are male. Not only that, most specialist computer studies teachers are more likely to be male than female. Furthermore, teachers of other subjects who use the computer as a learning tool are more likely to be men than women (Culley, 1988). Even as early as age six or seven boys are likely to dominate over girls when mixed sexes are working on computer (Kirkpatrick & Cuban, 1998).

The background provided so far indicates how important teachers and computer technology are in education. Moreover, literature has established particularly foreign authors that some teacher variables such as computer literacy, gender, computer use, computer ownership and computer experience can affect the attitude of teachers towards computer. There is need for a study that provides local empirical data in relation to science teachers’ variables as predictors of computer attitude in secondary schools in Ogun State. It becomes crucial to provide information along this line in order to be able to make recommendations that will improve computer attitudes of science teachers in Nigeria. This certainly will encourage the use of computer–aided teaching strategies in science classrooms in Nigeria.

This study therefore seeks to examine the extent to which science teachers’ computer literacy, computer ownership, computer experience, frequency of computer use and gender can jointly and individually predict the computer attitudes of science teachers in secondary schools in Ogun State of Nigeria.

Research questions
Specifically, this study provided answers to the following research questions:

1. To what extent do the science teachers’ variables (computer literacy, computer ownership, computer experience, frequency of computer use and gender jointly predict computer attitudes?
2. To what extent does computer literacy individually predict teachers’ attitude towards computer?
(3) To what extent does computer ownership individually predict teachers’ attitude towards computer?
(4) To what extent does computer experience individually predict teachers’ attitude towards computer?
(5) To what extent does computer usage individually predict teachers’ attitude towards computer?
(6) To what extent does gender predict the teachers’ attitude towards computer?
(7) What are the relative contributions of the teachers’ variables (gender, computer usage, computer ownership, computer experience and computer literacy) to the computer attitudes of the teachers?

Methodology

Design
This study employed ex post–facto or causal–comparative research design in carrying out the study. Here, there is no manipulation of variables but seeks to establish cause–effect relationship based on existing observations.

Sample and sampling technique
The sample for this study consists of two hundred and forty (240) science teachers. Thirty (60) science teachers were randomly drawn from each of the four political divisions of Ogun State, Nigeria namely, Ijebu, Remo, Yewa and Egba divisions. Each of the teachers selected teaches at least a science subjects in any of the senior secondary school classes.

Instruments
Two instruments were constructed and used in collecting data for this study.

(a) Computer-related Variables Scale (CRS):
This scale was used to collect needed data on computer attitude, ownership and frequency of computer use, computer experience, computer literacy and gender from the science teachers. CRS has two sections. Section I elicited information on the computer attitudes of the science teachers. This section has four (4) sub-scales: (a) computer anxiety, (b) computer confidence, (c) computer liking and (d) computer usefulness. The science teachers were required to indicate their level of agreement or disagreement with the statements listed. Strongly Agree attracted 4 points, Agree, Disagree and Strongly Disagree attracted 3, 2, and 1 respectively. Section II elicited information from the science teachers on their gender, whether they own computer or not, how long they have been using the computer and frequency of computer usage.

The validity of the items was ensured through rational logical analysis of the experts in questionnaire construction. A reliability index of 0.76 was established through test – retest method of two weeks interval for the instrument. This confers a high level of reliability on the instrument.

(b) Computer Literacy Self Assessment Scale (CLSAS):
This instrument is used for collecting data on the level of computer literacy of the science teachers under study. The instrument is divided into two sections. Section I asks for the background variables such as sex, class, taught science etc. Section II has a list of common software and the science teachers were asked to rate themselves on their level of competence in handling the operations on the levels of Very Good (5 points), Good (4 points), Average (3 points), Poor (2 points) and Very Poor (1 point). The computer operations included are file management, word processing, spreadsheet, presentation and internet applications.

The validity of this instrument was ensured through thorough scrutiny by some computer experts while 0.73 was established as the reliability index of the instrument through test–retest method of two weeks interval indicating that the instrument was highly reliable to consistently measure what it purports to measure.

Data analysis
The data analysis employed in this study was multiple regression.

Results
Research question 1: To what extent do the science teachers’ variables (computer literacy, computer ownership, computer experience, frequency of computer use and gender) jointly predict computer attitudes?
Table 1. Joint contribution of the science teachers’ variables to computer attitudes.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>2057.409</td>
<td>5</td>
<td>411.482</td>
<td>7.847</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>12270.591</td>
<td>234</td>
<td>52.438</td>
<td>7.847</td>
<td>.000*</td>
</tr>
<tr>
<td>Total</td>
<td>14328.000</td>
<td>239</td>
<td></td>
<td>7.847</td>
<td></td>
</tr>
</tbody>
</table>

N=240 *significant (p<0.05)

Table 1 shows that the total variance accounted for by the combination of the teacher variables in predicting computer attitudes of the science teachers is 14.4% (R Square = 0.144) which was found to be significant at 0.05 confidence level. This implies that the combination of computer literacy, ownership, experience, usage and gender are important in determining the computer attitudes of science teachers.

Research question 2: To what extent does computer literacy individually predict science teachers’ attitude towards computer?

Table 2. Using computer literacy to predict science teachers’ attitude towards computer.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>240.422</td>
<td>1</td>
<td>240.422</td>
<td>4.062</td>
<td>.045*</td>
</tr>
<tr>
<td>Residual</td>
<td>14087.578</td>
<td>238</td>
<td>59.192</td>
<td>4.062</td>
<td>.045*</td>
</tr>
<tr>
<td>Total</td>
<td>14328.000</td>
<td>239</td>
<td></td>
<td>4.062</td>
<td></td>
</tr>
</tbody>
</table>

N=240 *significant (p<0.05)

Table 2 shows that the total variance accounted for by computer literacy alone in predicting computer attitudes of the science teachers is 1.70% (R Square = 0.017). Although this percentage is low but it was still found to be significant at 0.05 confidence level. This implies that computer literacy makes a significant contribution to computer attitudes of science teachers. In other words teachers that are computer literate are more likely to have positive computer attitudes that those that are not computer literate.

Research question 3: To what extent does computer ownership individually predict science teachers’ attitude towards computer?

Table 3. Using computer ownership to predict science teachers’ attitude towards computer.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>1396.364</td>
<td>1</td>
<td>1396.364</td>
<td>25.699</td>
<td>.000*</td>
</tr>
<tr>
<td>Residual</td>
<td>12931.636</td>
<td>238</td>
<td>54.335</td>
<td>25.699</td>
<td>.000*</td>
</tr>
<tr>
<td>Total</td>
<td>14328.000</td>
<td>239</td>
<td></td>
<td>25.699</td>
<td></td>
</tr>
</tbody>
</table>

N=240 *significant (p<0.05)
Table 3 shows that the total variance accounted for by computer ownership alone in predicting computer attitudes of the science teachers is 9.7% (R Square = 0.097) which was found to be significant at 0.05 confidence level. This implies that the computer ownership is important in determining the computer attitudes of science teachers. In other words, teachers that own computers are more likely to display positive attitudes towards computer.

**Research question 4:** To what extent does computer experience individually predict teachers’ attitudes towards computer?

Table 4. Using computer experience to predict science teachers’ attitude towards computer.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>34.483</td>
<td>1</td>
<td>34.483</td>
<td>.0574</td>
<td>.449</td>
</tr>
<tr>
<td>Residual</td>
<td>14293.517</td>
<td>238</td>
<td>60.057</td>
<td>.574</td>
<td>.449</td>
</tr>
<tr>
<td>Total</td>
<td>14328.000</td>
<td>239</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N=240, Not significant (p>0.05)

Table 4 shows that the total variance accounted for by computer experience alone in predicting computer attitudes of the science teachers is 0.2 % (R Square = 0.002) which was not significant at 0.05 confidence level. This implies that computer experience is not all that important in determining the computer attitudes of science teachers. In other words, teachers that have experience of using computers do not necessarily display positive attitudes towards computer.

**Research question 5:** To what extent does computer usage individually predict teachers’ attitude towards computer?

Table 5. Using computer usage to predict science teachers’ attitude towards computer.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>71.276</td>
<td>1</td>
<td>71.276</td>
<td>1.190</td>
<td>.276</td>
</tr>
<tr>
<td>Residual</td>
<td>14256.724</td>
<td>238</td>
<td>59.902</td>
<td>1.190</td>
<td>.276</td>
</tr>
<tr>
<td>Total</td>
<td>14328.000</td>
<td>239</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

N=240, Not significant (p>0.05)

Table 5 shows that the total variance accounted for by computer usage alone in predicting computer attitudes of the science teachers is 0.5 % (R Square = 0.005) which was not significant at 0.05 confidence level. This implies that computer usage is not all that important in determining the computer attitudes of science teachers. In other words, teachers that have high frequency of using computers may not necessarily display positive attitudes towards computer.
Research question 6: To what extent does gender predict the teachers’ attitude towards computer?

Table 6. Using gender to predict science teachers’ attitude to computer.

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Square</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>32.835</td>
<td>1</td>
<td>33.835</td>
<td>.563</td>
<td>.454</td>
</tr>
<tr>
<td>Residual</td>
<td>14294.165</td>
<td>238</td>
<td>60.060</td>
<td>.563</td>
<td>.454</td>
</tr>
<tr>
<td>Total</td>
<td>14328.000</td>
<td>239</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 6 shows that the total variance accounted for by teacher gender alone in predicting computer attitudes of the science teachers is 0.2 % (R Square = 0.002) which was not significant at 0.05 confidence level. This implies that teacher gender is not all that important in determining the computer attitudes of science teachers. In other words, whether a teacher is a male or female may not necessarily determine whether the teacher will display positive or negative attitudes towards computer.

Research question 7: What are the relative contributions of the teachers’ variables (that is gender, computer usage, computer ownership, computer experience and computer literacy) to the computer attitudes of the teachers?

Table 7. Relative contributions of the teacher variables to attitude towards computer.

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficient</th>
<th>Standardized Coefficient</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>53.031</td>
<td>-</td>
<td>2.256</td>
<td>.000</td>
</tr>
<tr>
<td>Computer literacy</td>
<td>-.647</td>
<td>-0.194</td>
<td>3.134</td>
<td>.002</td>
</tr>
<tr>
<td>Computer ownership</td>
<td>5.382</td>
<td>.347</td>
<td>5.550</td>
<td>.000</td>
</tr>
<tr>
<td>Computer experience</td>
<td>.430</td>
<td>.084</td>
<td>1.263</td>
<td>.208</td>
</tr>
<tr>
<td>Computer usage</td>
<td>.602</td>
<td>.092</td>
<td>1.381</td>
<td>.169</td>
</tr>
<tr>
<td>Teacher gender</td>
<td>7.852E-02</td>
<td>.005</td>
<td>.082</td>
<td>.934</td>
</tr>
</tbody>
</table>

Table 7 above shows the relative contributions of the teacher variables to prediction of computer attitudes. Actually, the beta values reveal the level effectiveness of each of the independent variables in predicting computer attitudes of science teachers. Therefore, the variables can be arranged in order of effectiveness in predicting computer attitudes of the science teachers thus: computer ownership (beta=0.347), computer literacy (beta=0.194), computer usage (beta=0.092), computer experience (beta=0.084) and teacher gender (beta=0.005).

Discussion

The major findings of this study are:

- The total variance accounted for by the combination of the teacher variables in predicting computer attitudes of the science teachers is 14.4% (R Square = 0.144) and was found to be significant at 0.05 confidence level.
- The total variance accounted for by computer literacy alone in predicting computer attitudes of the science teachers is 1.70% (R Square = 0.017). Although this percentage is low but was still found to be significant at 0.05 confidence level.
- The total variance accounted for by computer ownership alone in predicting computer attitudes of the science teachers is 9.7% (R Square = 0.097) and was found to be significant at 0.05 confidence level.
- The total variance accounted for by computer experience, usage and gender individually in predicting computer attitudes of the science teachers are 0.2 % (R Square = 0.002), 0.5%(R square=0.005) and 0.2%(R Square=0.002) respectively and were found not to be significant at 0.05 confidence level.
• The order of contribution of the teacher variables to computer attitudes is computer ownership > computer literacy > computer usage > computer experience > gender.

The fact that the teacher variables jointly significantly predicted computer attitudes is in consonance with submissions of earlier studies such as Ogunkola and Olatoye (2008) who confirmed how important and how interrelated science teacher variables are in considerations of computer attitudes. Moreover, Yuen and Ma (2001) also concluded that the science teachers’ variables such as literacy, ownership, experience are important to the teachers’ disposition to use of computers in classroom teaching. In line with the findings of this study, Chen (1986) and Busch (1995) found out that computer literacy is significantly related to a positive attitude towards computer among teachers.

Lending credence to the present study’s finding, Yushau (2006) affirmed that computer ownership has been found to be important and to relate with other factors to help to develop teachers’ confidence and that with computer ownership, the teacher is able to have total access and freedom to experiment with the computer as the machine or tool that it is.

That computer experience, usage and gender did not as individuals contribute to computer attitude of teachers can be explained by the fact that a teacher may have been using computer for long, be experienced in it but may not be positively disposed to its use for the purpose of aiding classroom teaching because computer can be used for different things by different people.

Conclusion

As this study has revealed that the combination of science teachers’ literacy, ownership, experience and usage has the potential of lifting attitude towards computer, it is now necessary to make regular seminars and workshops available for science teachers in order to make them improve in computer skills. Also it has become a necessity to ensure that science teachers are motivated to own their computers for the purpose of frequent interactions with the machine which can lead to improvement in using computer for educational purposes.

References


Social justice and the education of students with disabilities: Perspectives from two marginalized contexts

Dennis Conrad\textsuperscript{a}, Nicole Paul-Fraser\textsuperscript{b}, Margaret Bruce\textsuperscript{c}, Suzanne Charles\textsuperscript{c}, and Kirk Felix\textsuperscript{c}

\textsuperscript{a}State University of New York at Potsdam, Postdam, New York; \textsuperscript{b}Cascade School for the Deaf, Cascade, Trinidad and Tobago; \textsuperscript{c}Wharton Patrick School, Saint Ann’s, Trinidad and Tobago

This paper shares the perspectives and experiences of faculty from the Cascade School for the Deaf (CSFD) and the Wharton-Patrick Special School (WPS)--on how they are responding to national calls for inclusive education; and how their responses contribute to social justice. WPS serves students with severe emotional/behavioural and related learning difficulties (SEBD). Educators in Trinidad and Tobago remain unconvinced that policy makers are providing the means and ways to effectively meet the needs of inclusive education (Conrad & Brown, 2007). This has been viewed as a lack of will on the part of policy makers rather than a lack of money (Worrell, 2006; Conrad & Brown, 2007). Yet initiatives of the Ministry of Education (MOETT), expect regular and special schools to be partners in the inclusive process. This position is reasonable regardless of the resources provided for inclusive practice; it is the teachers and school leaders’ ability to generate a positive and responsive environment that determines the success of inclusion and social justice (Gause, 2008).

Key Concepts

Inclusive education
We describe inclusive education as a philosophy and process of organization and teaching that addresses and responds to the diverse needs of all learners. This is accomplished through “increasing participation in learning, cultures, and communities. It involves modifications in content, approaches, structures and strategies” (UNESCO, 2005). Inclusion involves the reducing and eliminating of exclusionary practices in education, by creating and sustaining of welcoming learning communities. Inclusion is not a place but a process that includes a continuum of student support services.

Social justice education
The increasing recognition that inclusive education is about democratizing learning environments and the facilitating of opportunities for all students makes it a key to social justice (UNESCO, 2008). While there is no single meaning for social justice, there are two main social justice theories, the individualistic or rights based and the communitarian. Individualistic philosophies consider whether a particular set of policies are acceptable and fair in serving a person. Communitarian philosophies consider whether policies serve the interests of a defined group with a shared sense of community. Neither of these two sets of social justice principles relate directly to students with disabilities. In an effort to address this, Christensen & Dorn (1997) argue for a relational approach. This perspective is based on a comprehensive understanding of the history of discrimination and privilege against people with disabilities and differences. The relational approach asserts that it is in the quality of relationships that we identify justice or the lack of it.

Understanding the contexts

The Special schools
Philanthropists and religious institutions led the journey towards social justice by addressing the special and educational needs of persons with disabilities as early as 1943. The MOETT in its 1966 Education Act included a
statement on provision; and in 1981 the Special Education Unit was formed. This Unit supervised the more established special schools like the CSFD (1943), Santa Cruz School for the Blind (1952), Princess Elizabeth School for the Physically Handicapped (1953), Wharton-Patrick (1958), Audrey Jeffers School for the Deaf (1967), and the Lady Hochoy Homes/Schools for the Mentally Retarded (1961). When the Pointe-a-Pierre Government Special School was developed in 1988, it was subsumed within the Unit’s authority (Conrad & Conrad, 2007).

Over the last decade, the Unit has been incorporated as part of the Student Support Services Division (SSSD). This comprises Guidance and Counselling, School Social Work and Special Education/Diagnostic Prescriptive Services (National Policy on Student Support Services Division, 2004). All institutional and private special schools are now supervised through the SSSD.

**Cascade School for the Deaf (CSFD)**
Reverend Frederick Gilby and a local team that included the then Anglican Bishop Arthur H. Anstey are identified as the visionaries responsible for the school’s founding. This followed the establishment of the Trinidad Association in Aid of the Deaf and Dumb in 1942. The CSFD was named for its location at Cascade Road, Cascade—a suburb of Port of Spain. It is a two-storied structure with an additional west wing that includes residential facilities, sewing, and information technology services. CSFD caters for approximately 114 students with hearing impairments (SWHI) and 25 special education teachers. The school and its related host institution, the Trinidad and Tobago Association in Aid of the Deaf, have contributed significantly to educational development nationally and have produced outstanding pioneers and educators. It has led the integration/inclusive movement in the Caribbean for over 30 years (Paul, 2008).

**Wharton Patrick School (WPS)**
This was established within the country’s only psychiatric hospital as the School for the Mentally Handicapped. It was subsequently named the Wharton-Patrick School after its two founders—Mildred Wharton, a volunteer, and Dr. Nesta Patrick, a celebrated pioneer in social work, education, and child welfare throughout the Caribbean.

Students attending WPS may be: (1) patients of the psychiatric hospital, (2) students from regular elementary schools on short term intervention, (3) children referred to by the Child Guidance Clinic, or (4) from a growing number of walk-ins. Students generally exhibit serious emotional/behavioural disorders (SEBD) and related mild to moderate learning difficulties, and/or pervasive developmental disorders.

In 1990 WPS was relocated outside of the hospital to better serve regular schools with, or at risk of, SEBD. The original building has undergone significant redesign, and now is a two stori ed building with two additional annexes. WPS has established itself as a Resource Centre for behaviour and classroom management. As with Cascade School for the Deaf it has earned a reputation for outstanding faculty and pioneering efforts.

**National efforts**
The shift in special education from a humanitarian and charitable to a rights based/social justice paradigm emerged with the establishment of the special education unit. It signalled an emphasis on resource development and public accountability. The road to this point was paved by the efforts of informed parents, NGOs, and educational pioneers including Lydia Harper and Wallace Pedro with education of the Deaf; John Knox and Errol Pilgrim with the Blind; Claris Manswell with the Physically Handicapped, Nesta Patrick with the emotionally disturbed, and others like Eileen Guilleaume in Tobago.

In the mid 1980’s a few special educators accessed key reports and aggressively disseminated these. This strategy helped to shape professional opinions and actions. Among such reports were the Winchel (1979) and Marge Reports (1984) that estimated significant percentages of students with disabilities needing urgent intervention. The CIDA/University of Manitoba’s Sensitization Special Education Project (1987-1990) and The Association for Special Education (TASETT)/Trinidad and Tobago Unified Teachers Association (TTUTA)/University of Sheffield Project, further mobilized teachers and jolted teacher education initiatives.

The MOETT responded with a national consultation, which emphasized a philosophy that students with special needs have the right to “full opportunity for self development in a wholesome educational environment”; and equal education treatment in the “most productive and least restrictive environment (Pilgrim’s Report, 1990; p57-58). A succeeding National Task Force Report (1990-1993) echoed the Pilgrim’s Report’s appeal for prevention, multi-professional assessment and intervention, and decentralized services. Building on this premise,

Despite these laudable efforts education remains stymied by: (1) a sluggish bureaucracy, inadequate teacher preparation, and ineffective leadership (Conrad & Brown, 2007; Worrell, 2006); (2) complications of educational funding and failing curricula delivery (Lavia, 2007); and (3) a conflicted national philosophy ensnared by meritocracy and economic inequalities (Armstrong, Armstrong, Lynch & Severin, 2005).

One is reminded that special education is not just the maintenance of the status quo but as all education, about preparing the nation’s children to be active partners in society and nation building. As such all educators are transformative leaders, advocates, and agents of change. Schools then are communities where models of democracy and social justice are nurtured (Gause, 2008).

International efforts
The UN Universal Declaration of Human Rights (1948) emphasized parental right to educational choice, [Article 26(3)]; affording a basis upon which parent groups and educators may seek equal accessibility to schooling. With the proclamation of the International Year of Disabled Persons (1981) came the exploration of its theme of “full participation and equality”. The Salamanca Agreement (1994) went further, supporting inclusion as the standard form of education for students with a disability. More recently, in 2006, the UN passed the Convention on the Rights of Persons with Disabilities—of which Trinidad and Tobago is a signatory—unambiguously supporting inclusive schooling.

Information gathering and analysis
For this paper, data was solicited following a feature address by the primary researcher in November 2008, at a symposium on Inclusive Education as Social Justice in Trinidad. This was hosted by TTUTA and it’s special education committee. CSFD and WPS, through their presenters, were invited to frame responses to three guiding questions: How is your school best responding to inclusive education expectations? What are the major challenges you face in providing services? What are your recommendations for facilitating a socially just education for students with special needs? Through collaboration and numerous revisions, narratives were developed reflecting the perspectives of these two pioneer special schools as case studies.

Both cases were bounded by the time of the data collection (November to May 2009), geographic location [in Trinidad], and in their programs offering special education services (Creswell, 2006, Stake, 1995). A focus group interview followed, which addressed the conclusions and analysis, allowing for triangulation and verification. The uses of multiple sources of data collection and member checking contributed to the encoder reliability and verifiability.

In our examination and interpretation of the data, we were guided by the Analysis Spiral approach (Creswell, 2006). One of the researchers is knowledgeable about both schools, having taught and been a principal at one. All researchers know each other and have articulated a high level of trust with each other and the conclusions of the study.

Social justice through service
Both schools accept the concept of including students with disabilities into regular education, and share a commitment to facilitating this practice. They consider social justice to be synonymous with inclusive education. They however distinguish between the rhetoric of inclusive education and the systematic including of students with adequate and sustainable support services. “Without adequate services it’s just talk—not inclusion” (WPS2).

As far as CSFD is concerned, they have been addressing issues of inclusive practice and social justice, long before these terms “became fashionable” [CSFD1].

Support Units or Mainstream Units serve as the major strategy for addressing inclusion. These units provide critical support to academically and socially integrate students. Where a support unit has been established within a regular school, the school is deemed the “host” school. Students are mainstreamed who satisfy criteria
developed by the teachers of CSFD. These include: Visible and viable parent support; effective sign language and oral speech; and being less than eight years old for initial integration. The attitudes and dispositions of regular teachers at the host schools play a critical role.

Teachers were welcoming to the children and quite willing to make additional efforts to accommodate their needs. Some even wrote notes to the parents of deaf students inviting them to Parent/Teacher conferences.

Fifteen-year old Jaheem is one success story. While he uses very little oral speech “... and gets terrible grades in all academic subjects, his host school celebrates his participation”. He signs and dances with the school choir in the Parang Competition [indigenous music sung mostly in Spanish at Christmas time].

He has not had life easy—his father is incarcerated, his mother long gone from his life. Yet he has developed the social understandings and signing skills that allow him to communicate effectively with both hearing and deaf people. His smile is always infectious, and students and teachers alike describe him as “fun to be with.” He was also the first prefect [student leader] that is hearing impaired at the school.

Like Jaheem, most pupils at one such support unit shared the view that they neither felt lonely nor isolated, but bonded to each other. Some were confident enough to teach Sign Language and befriend their hearing peers and teachers.

Faculty at WPS portrays inclusive education practice and the aim of social justice as “efforts in progress”.

Our students are perceived as “being mad”, “acting mad” or just “too bad”. Indeed schools, society, and often their own parents feel threatened and burdened. So for us the main job is marketing hope and social skills development. Our main strategies for social justice remain information sharing, advocacy, and establishing positive collaborative relationships with parents and schools.

Service is afforded to regular schools on request. WPS identifies its success with in-service training, advisory services, and short-term withdrawal of students at risk. This, applies when a student is exhibiting behaviours that pose a threat to self or others. A behavioural intervention plan is determined in collaboration with the referring school. This generally will involve faculty at the school also participating in some specific training and a collaborative response to the problem that involves the parents and the student. Often these services warrant a further referral to the Diagnostic Specialist or SSSD.

WPS faculty identifies a student named Peter as one of their success stories.

His early life was marred by a string of events and circumstances that negatively impacted on his development. By age fourteen he was incarcerated at the Youth Training Centre. The magistrate deemed him “beyond control” and so had him remanded to the facility. We have been advised that he is now better adjusting to his situation [WPS1].

While WPS celebrates their growing relationships with some regular schools, they express caution that these schools are often less likely to welcome the students in most need of social inclusion, namely “those with a history of violence or combined behavioural and developmental difficulties”.

About resilience and advocacy
For CSFD, the primary challenges are: (1) Host schools’ relationship; (2) Curriculum, Pedagogy, and Communication Link; (3) Screening, Assessment, and Early Intervention; (4) Professional Development; and (5) Use of Technology in Education. WPS identifies its primary challenges as relating to host school relationships [which they refer to as partner schools], curriculum and pedagogy. Other challenges are the: (1) pervasive shortage of faculty at the facility, (2) difficulties pairing SEBD and at risk students with positive peer models, and (3) public/parent education and partnership development.

Host school relationships
Both SWHI and SEBD are very sensitive to their host school context, the regular teachers’ dispositions and attitudes, and the behaviour of regular peers. There is a pervasive perception by parents and teachers of the deaf that SWHI are welcome if they do not pose learning or behavioural challenges to the host school. With SEBD
students that is a given, so resistance is high. Regular teachers appear to be more tolerant of SWHI rather than committed to being more responsive to the students or changing their teaching styles. Paul (2008) notes in an earlier paper the opinion of one parent: “If it took a lot of effort to get the child (with hearing loss) included, they (the regular teachers) didn’t bother”.

For WPS, the dispositions of teachers at partner schools are influenced by fear of violence, disruption, and negative models to their regular students. Further such students often reflect an intersection of factors including: (1) Inadequate or inappropriate parenting skills, (2) Abuse and neglect, (3) Family disruptions (4) Poor academic achievement, (5) Poor social skills, (6) Few social ties, and mixing with anti-social peers. These nourish the view that “students with behavioural difficulties handicap the learning of others, pose a threat to themselves or the school’s image, and make parents uncomfortable” (WPS1).

Another challenge for CSFD is poverty of space. In one instance, the unit is within the school, but it is actually half of a typical class space, located next to the toilet. It provides no reprieve from the noise of other classes separated by only a chalkboard.

Culturally responsive pedagogy
This is not referring to ethnicity but to the marginalized cultures of the hearing impaired and emotional/behavioural and academically challenged.

For SWHI, their first language is Sign Language. With the paucity of training and development in this area, there is a generated sense of inadequacy in higher order literacy skills; with a resultant and serious challenge in Language Arts and Social Studies. Also SWHI are largely visual learners. Interpreters aim to provide the visual “equivalent” of the teachers’ instruction.

Some educators of the Deaf view inclusion is more exclusive for children who are deaf, and advocate that SWHI should receive direct instruction from trained Sign Language teachers (Cohen & Cohen, 1994).

WPS faculty asserts that there is a need for biblio-therapeutic and responsive material that is geared both to the reading and emotional levels of students. Such materials should also engage the reader with situations that include issues and model appropriate behaviours. Regular education teachers need to be more sensitive to home contexts typified by single parents, sibling-parenting, drugs, violence, among other factors.

An inclusive environment must also be nurtured through leadership, access to needed resources, and a caring community, that is not limited to the school context.

Too many of our students are all alone emotionally. They do not feel as if they belong to a community. Even when they are welcomed at WPS or a partner school, there is an ongoing tension about what happens when they leave school. Our system needs to ensure that appropriate education and support is continued as needed.

Teacher preparation and professional development
Both schools agree on a critical need for teacher education. They applaud the efforts of the University of Trinidad and Tobago’s (UTT) pre-service, generalist special education program. However CSFD and WPS voice the need for specialist training in their respective areas, and in-service training of experienced teachers in regular and special schools.

With the disbanding of UWI’s certificate in the Teaching of the Hearing-Impaired, no courses in the Education of Deaf Students are available, nor is there ongoing professional development for already trained teachers of the deaf. Recently the MOETT’s added “Assistant Interpreters” to secondary schools where SWHI are integrated in the absence of professional training programs and standards.

The situation is similar with WPS, with no initial training and professional development programs for the education of SEBD. Further, WPS has had only 50% staffing for more than 5 years. Only one of the three faculty has completed professional training in the area. The competences of the other two have been nurtured and shaped by their commitment to teamwork and ongoing staff development, led by the principal.

We too need training! And we need seasoned, well-qualified teachers who can earn the respect of regular ed teachers; many who oppose the inclusion of special needs students into their schools [WPS1].
WPS is also concerned about the difficulty of recruiting teachers in the area of behavioural difficulties. With no difference in remuneration for special school placement options, they claim that special education teachers are generally more attracted to “safer student populations.”

**Sense of community**

Both CSFD and WPS express views of feeling marginalized as a community of students and teachers. CSFD shared that the absence of sign language in local television programming, particularly public information, “suggests that SWHI are unimportant”.

Too often budget speeches, hurricane warnings, important news bulletins are unsigned and uncaptioned. No wonder our students see us as the “other” and build their own sense of community. Unfortunately we the teachers get caught in the middle.

A particular concern of CSFD pointed to safety and emergency concerns. CSFD posits that school and public safety concerns warrant a system that provides visual alerting devices for emergency situations.

WPS holds that the community at large needs to take greater responsibility for helping decrease the rising incidence of violence, insensitivity, and lack of accountability. They assert that schools and students are reflections of the broader society; and appropriate values, dispositions and attitudes by students are inextricably linked to the community. “Society itself and by extension the MOETT seem to be portraying such disabilities as “collateral damage.”

**Screening, early intervention, and assessment**

This is also a priority area for both schools. “We cannot continue with crisis intervention and ignore both the contributing factors and early signs”. (WPS3).

The lack of either a national system of screening to determine deafness at birth (or at least within three months of birth) or a national Parent Support Program for parents of deaf children, result in parents unsure of what to do and where to go to get help.

In the meantime, the most valuable years of language learning and development would have been lost, and that, really, is the disability–deafness without language (CSFD).

Nor is there any locally available language development intervention program for pre-lingual infants with hearing impairments that make use of current research findings and advances in modern technology. Unaddressed deafness places the child with hearing loss at a steep and distinct disadvantage. “From quite early, many ... are set on a path to low self-esteem, academic and socialization problems in the short to medium term” (CSFD).

Routinely national tests are designed with the hearing child in mind, and exclusive of the needs of SWHI. There is an urgent need to develop a system that allows those who are grading examinations to identify SWHI.

Perhaps nowhere is this more glaring than in the section of the English examination papers that test Poetic Language and its interpretation. Deaf students are confronted with onomatopoeia, and other aural/oral poetic devices for which they have had absolutely no corresponding schematic systems (Paul, 2008).

**The way forward**

Three themes emerge from the narratives: Culturally responsive research and pedagogy; teacher education and in-service training; and a National Centre for early identification, intervention, and support.

**Culturally responsive research and pedagogy**

Both CSFD and WPS urge the need for research that address local concerns and needs. For CSFD this should urgently address the teaching of English as a second language and a Caribbeanization of signs that reflect Trinidad and Caribbean words and phrases. WPS propose the use of action based collaborative research by special and regular schools on the efficacy of their strategies. “Perhaps this could be emphasized at the teachers college. We would be happy to accommodate such student teacher researchers”. [WPS3]

Other suggestions include: (1) Ensuring that examinations are moderated and scripts of SWHI are identified and marked by persons trained in Sign Language and Deaf culture (CSFD); (2) Providing safe,
appropriate and adequate learning space where SWHI, SEBD, and other disabilities can retreat for supplemental tuition—this might be after school and weekends (CSFD, WPS); (3) Utilizing contemporary and adequate technology particularly for communication issues (CSFD); (4) Mandating that automatic suspension should go along with alternative placements along a continuum for an offending child/child with behaviour difficulties (WPS); and (5) Establishing the teaching of Sign Language as part of the National Curriculum (CSFD).

Teacher education
CSFD and WPS propose addressing the need for categorical or cross categorical specialist teachers teaching in special schools or regular education teachers working or interested in working with SWHI and SEBD. This WPS contends will utilize existing experienced teachers, and also provide mentors and models for the new wave of pre-service special education teachers. WPS also made a case for shorter courses aimed at the re-education of existing special and particularly regular education teachers. These might include courses that

...enhance classroom/behaviour management skills; review underlying philosophies and attitudes; and asset that it is the right of the child to an education that will ensure all round development . . . not just merit based privilege. [WPS1]

In addition, CSFD suggests a system to provide internationally accepted training and certification of interpreters for Deaf citizens.

National Centre
CSFD visualizes such a center that provides training in early screening, identification, and intervention in Sign Language and Speech. WPS however anticipates that such a center should go beyond screening and early intervention and should serve as a clearinghouse and database of materials accessible to professionals and parents. Such a center should also aim at ameliorating risk factors and building resilience in the child and the family through inter-ministerial and interagency [NGO’s] collaboration.

Summary and conclusions
We note the resilience of the faculty at each school, striving through collaborative practice as resourceful advocates and educators. Faculty at both schools place emphasis on their evolving relationship with supportive schools. The differences lie with the delivery of services and the prevailing attitudes towards their student clients. CSFD has decentralized services through support units, while WPS takes a broader range of their services more personally to the regular schools. This would be readily enhanced by increasing the number of the faculty with appropriately trained specialists.

For SWHI the key problem lies in communication and subculture with students and collaboratively building higher expectations and increased effectiveness with their host schools. With WPS, negative perceptions and fear associated with psychiatric or developmental disorders build barriers with their partner schools. Both schools however have embraced the principle and practice of inclusive education; and reject the position that special schools are part of the problem of exclusion and cannot be partners in the process of social justice.

Regardless of these realities and barriers, CSFD and WPS note the assurance of the White Paper on Education, (1993-2003):

...that all our citizens . . . have the ability to learn and should be provided with the opportunity to develop that potential to the fullest.

This brings attention to the role of policy makers in providing resources needed, and to question whether this apparent apathy is a reflection of the value given to the cause and the stakeholders (Worrell, 2006). All educators should be prepared to be advocates and activists, committed to advancing the move towards socially just pedagogy. These efforts have been plagued inadequate training, inconsistent leadership, and minimal consultation with teachers (Conrad & Brown, 2007).

WPS acknowledges efforts by the state towards social justice. These include the role of the SSSD in exploring inclusion models, government’s active participation regarding inclusion with UN, School Feeding, Textbook Rental, Transportation and Public Assistance Program, and teacher education to mention a few” (WPS
2). The recently established University of Trinidad and Tobago (UTT) offers pre-service programs leading to the B.Ed. (Sp. Ed.) and the B. Ed (primary ed.), with the latter including at least one course in Special Education.

While we applaud these efforts, more is needed to adjust teacher expectations and attitudes if all are to believe that they belong in our classrooms, are valued, and are being prepared to be active partners in our democracy (Corbett, 2001).

In conclusion, we recommend four core strategies for achieving effective inclusion and by extension socially just education. This revolves around a community where all is valued and actively engaged in maintaining such an environment. These include: (1) Revisiting the purpose of education and special education as an issue of social justice and the maintenance of democracy hinging on relationships and community (Giroux, 1988, Hopkins, 1997); (2) Reviewing teacher education preparation and re-education to provide effective culturally responsive teaching and assessment (Gause, 2008); (3) Ensuring that educational leadership preparation is responsive, community centered, and committed to transformation (Gause; Conrad & Brown, 2008); and (4) a National Centre. This might be combined with Parent Support Network that will supply education and support for the parents of students with disabilities.

A key thread woven through these core strategies is community-centred collaboration. We urge the development of collaborative community centred skills in each of the core approaches. Effective collaboration brings leaders, teachers, teacher educators, parents, and community groups or businesses, and students together for a socially just society and pedagogy. Collaborative practice and the four strategies proposed while not perfect will lead the way forward; and connect the major themes emerging from the narratives of CSFD and WPS. We hold the informed view that social justice through inclusive education lies with leadership, collaborative practice and resource development involving all—parents, community, government, regular and special educators alike.

References


Conrad, D. (2008, November, 24). In J.L. Cyrille (Chair), Inclusion as social justice: The way forward for Trinbago. Symposium conducted by The Trinidad and Tobago Unified Teachers Association, Trinidad and Tobago.


Ministry of Education, Trinidad and Tobago (2004). National policy on Student Support Services Division.


Quality education in teacher preparation: Considering the views of teachers and students

Catherine Clifford*

Sir Arthur Lewis Community College, Saint Lucia

This paper examined the quality of teacher preparation programmes in the Eastern Caribbean through the lenses of St. Lucian teachers and students. A questionnaire comprising a Likert scale and free response questions captured the views of 41 teachers (19 primary, 18 secondary and 4 tertiary) of the components of teacher preparation programmes and quality education. Focus Group interviews with 310 students of Grades 4 to 10 provided insight of students’ views of quality education. The findings revealed that teachers are in agreement with the components of teacher preparation programmes and their views of quality education reflect global standards. However, teachers see the need for: more practice in teaching in “real classrooms”, teacher educators to model the features of “quality teaching” and post teachers’ college professional development. Students equated quality education with teacher quality and expressed the need for more engaging, exciting/enjoyable and challenging learning experiences with less interruptions. It is recommended that these views of teachers and students be considered in reviewing teacher preparation programmes in the Eastern Caribbean with the aim of achieving global standards of quality education.

Introduction
Every individual is exposed to some sort of educational system in their lifetime whether formal or informal. Teachers are at the helm of the formal education system and can either be effective or ineffective educators. The quality of education which student teachers receive will determine the quality of education delivered to their clients (Feiman-Nemser & Norman, 2000; Pandey, 2006; National Center for Education Statistics, 1999; Yates, 2007).

Teachers’ colleges and schools of education are the institutions responsible for training teachers; therefore the quality of a nation’s education highly rests on the shoulders of teacher educators. Thiessen (2000) emphasized the role of schools of education as being the main sources of what has the power to both hinder and coerce significant changes in teacher preparation. Colleges and Schools of Education have the important responsibility of preparing teachers to teach and to support teachers’ learning (Zeichner, 1999).

Historically, policymakers and teacher educators have not sufficiently considered research in teacher education as a major influence on teacher education policies and professional development programmes (Zeichner, 1999). This paper seeks to examine the different views of quality education with reference to teacher preparation as presented by regional and international documents and as perceived by students and teachers of an Eastern Caribbean Country. It is anticipated that such research will have positive influence on teacher preparation policies and programmes in the Caribbean.

Background
“Every child has the right to a highly qualified teacher, yet as a nation, we are reluctant to empirically investigate how teacher preparation programs are succeeding” (Zeintek, 2007 p. 959). In the Caribbean reform efforts of Teachers’ Colleges are gravely challenged by the gap between the expression of policy and the real-life practice of the teachers whom they train (Jennings, 2001). Armstrong, Armstrong, Lynch and Severin (2005) concur with this view by reporting that teachers interviewed felt that the training they received at the Teachers’ Colleges was not adequate in preparing them for teaching in the education system.

The Eastern Caribbean countries (Antigua, Barbados, British Virgin Islands, Dominica, Grenada, Montserrat, St. Kitts and Nevis, St. Lucia, and St. Vincent and the Grenadines) are moving towards certifying teachers through the Joint Board of Teacher Education (JBTE). The Philosophy of the JBTE reflects training

*Email: ekiwie@hotmail.com
teachers who are competent and child-oriented and who enjoy public and personal confidence with much focus on teacher quality.

Teachers’ Colleges in the Eastern Caribbean seek to implement teacher preparation programmes reflecting the philosophies of the region and their own country’s education plans. In St. Lucia, one of the six strategic priorities set out in the Education Sector Development Plan 2006-2010 is that of raising the quality of teaching and learning for providing quality education to the nation.

**What is quality education?**

Quality education according to the UNICEF (2002) comprises of what learners bring, environments, content, processes and outcomes. The organization confirms the importance of quality education by making reference to lessons learned about education since 1990. These lessons include: “Access to education of poor quality is tantamount to no access at all; the quality of education children receive is critical to genuine learning and human development; and quality is influenced by what goes on in the classroom and beyond” (p.5). Well-trained teachers who engage in life-long learning, was identified by UNICEF as one of the processes that support quality education.

Quality education involves meeting the needs and expectations of learners and learner satisfaction (Steyn & Schulze, 2003). In order to achieve this, teachers must find out the feeling of learners towards particular learning activities and what they already know about various topics (Feiman-Nemser & Norman, 2000).

Quality education is intimately linked to teacher quality (Akiba, Letendre and Scribner, 2007; Feiman-Nemser, 2000). Akiba et. al. (2007) found positive linkages between teacher quality and mathematics achievement and also claim that national achievement can improve with increased investment in teacher quality as supported by their statement: teacher quality is seen as a “crucial driving force for improving student achievement and thus promoting a nation’s economic competitiveness in the global society” p. 369. National Academies (2007) in agreement with this claim suggests that teacher quality is seen by policy makers, practitioners and researchers as the most effective school-related influence on students’ academic performance. The importance of teacher quality is also echoed by Cohen-Vogel (2005) who states that for the past 50 years, the major focus of educational reforms has been on improving teacher quality.

**Standards of teacher quality**

“Great teachers do more than just advance student learning. They also spread their own expertise to other teachers” (Young, 2009 p. 438). Participants at the Phi Delta Kappan (PDK) summit 2008 identified the following characteristics of a great teacher:

- Has the ability to be flexible, optimistic, self-reflective, progressive, and innovative;
- Must possess the ability to build relationships with students and teachers and have a passion for teaching;
- Excites a passion for learning in his or her students through skillful facilitation, using 21st Century tools;
- Goes beyond the classroom as a collaborator with colleagues;
- Wants to improve himself or herself by learning good instructional skills;
- Is someone who knows the curriculum and works well as part of a team;
- Builds relationships and facilitates lifelong learning;
- Collaborates with families, peers and the community;
- Shows appreciation and enthusiasm for cultural differences;
- Inspires others to achieve their potential;
- Understands the complexity of the teaching and learning environment;
- Has consistently high expectations for all students;
- Recognizes and adapts when he or she is not getting through to students;
- Addresses the needs of the whole child;
- Uses assessment to inform instructional decision making; and
- Gives back through mentoring (Young, 2009 p.439).

The JBTE of the Eastern Caribbean sees teacher competence in terms of academic knowledge, skill development, pedagogical expertise and personal qualities. Worthwhile and meaningful standards seek to ensure
both public and personal confidence and teachers are encouraged to develop commitment to and interest in the child.

The Board’s philosophy also focuses on the attributes of the teacher. Teachers should be encouraged to “be considerate, show concern for others, have a sense of self worth and exercise discretion in their relationship” (JBTE, 2008, p.4). Teachers should appreciate beauty, be knowledgeable of their own society and culture and tolerate and appreciate diversity. In addition to these attributes, the JBTE also suggests that teachers should possess interpersonal skills needed for harmonious living, leadership qualities and be involved in community activities.

Teachers’ Colleges in the Caribbean are charged with implementing teacher preparation programmes which reflect such philosophical orientations. These programmes also seek to achieve the goals of the various Countries’ Education plans. In St. Lucia, The Ministry of Education plans to place increased focus on initial teacher and pedagogical training programmes and teacher supervision among other areas. Other priorities include fostering a culture of lifelong learning, promoting the participation of all stakeholders in the education process, and raising the standards of achievement in all aspects of education and training. These philosophical views and priorities seek to define what is considered quality education.

This paper will compare these views with global trends in education and with the views of teachers and students in St. Lucia. The paper focuses on addressing four questions:

1. What are the views of teachers of quality education?
2. What are the views of students of quality education?
3. How do the views of students and teachers of quality education compare with those reflected in the teacher preparation programme of the Eastern Caribbean and global trends?
4. What suggestions can be made for reviewing teacher education in the Eastern Caribbean States?

Methodology
This research employed a survey design to obtain data from a fairly large sample in a short time period. Surveys are useful for measuring or describing generalized features (Cohen, Manion & Morrison, 2000). In this case, a cross sectional survey was selected to obtain information pertaining to quality education from a representative sample of students and teachers of one Eastern Caribbean country. Data obtained by such means can be used “for either retrospective or a prospective inquiry” (Cohen, Manion & Morrison, 2000), it is the intention of the researcher to obtain data which may be used to inform review of teacher preparation programmes.

The sample was randomly drawn from a population of approximately 25,630 primary and secondary school students of grades four to ten and 1,800 teachers specializing in primary, secondary and tertiary education. Four of the eight Education Districts, one primary and one secondary school from each selected district, and two grade levels from each selected school were randomly chosen. The schools selected were all mixed gender and ability. The composition of the sample of students is indicated in Table 1 and that of the teacher sample in Table 2.

Table 1. Sample of students interviewed and their grade levels (N=310).

<table>
<thead>
<tr>
<th>Education District</th>
<th>School Type</th>
<th>Grades Selected</th>
<th>Sample size</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>Primary</td>
<td>4</td>
<td>26</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>7</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>4</td>
<td>Primary</td>
<td>5</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>34</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>8</td>
<td>30</td>
</tr>
<tr>
<td></td>
<td></td>
<td>9</td>
<td>30</td>
</tr>
<tr>
<td>5</td>
<td>Primary</td>
<td>5</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Secondary</td>
<td>7</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td></td>
<td>8</td>
<td>22</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td></td>
<td>310</td>
</tr>
</tbody>
</table>
Table 2. Composition of sample of teachers (N=41).

<table>
<thead>
<tr>
<th>Description</th>
<th>Number</th>
<th>Description</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>8</td>
<td>None</td>
<td>1</td>
</tr>
<tr>
<td>Female</td>
<td>33</td>
<td>Less than 1 year</td>
<td>2</td>
</tr>
<tr>
<td>Highest academic qualification</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Certificate in Secondary Education</td>
<td>4</td>
<td>1-3 years</td>
<td>12</td>
</tr>
<tr>
<td>Advanced Level/CAPE</td>
<td>21</td>
<td>3-5 years</td>
<td>6</td>
</tr>
<tr>
<td>Bachelor’s Degree</td>
<td>8</td>
<td>5-10 years</td>
<td>7</td>
</tr>
<tr>
<td>Master’s Degree</td>
<td>4</td>
<td>Over 10 years</td>
<td>13</td>
</tr>
<tr>
<td>Diploma</td>
<td>4</td>
<td>Specialty</td>
<td></td>
</tr>
<tr>
<td>Teacher Status</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualified</td>
<td>21</td>
<td>Secondary education</td>
<td>18</td>
</tr>
<tr>
<td>Unqualified</td>
<td>3</td>
<td>Tertiary education</td>
<td>4</td>
</tr>
<tr>
<td>Student</td>
<td>17</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Instrumentation

An interview schedule comprising of four open ended questions (Tell me what you think makes a good teacher; What are the things which you do not like about your classes/lessons; Tell me some things you like about your classes/lessons; What are some things you think would make you learn better or more at school?) sought students’ views of quality education. According to Denzin and Lincoln (2003), “the interview is a conversation, the art of asking questions and listening…the interview produces situated understandings grounded in specific interactional episodes” Interviewing is a very common and powerful way of trying to understand human beings (Denzin & Lincoln, 2003).

A questionnaire with three sections was administered to teachers. Section A sought information as indicated in Table 2. Section B was in the form of a Likert Scale and sought teachers’ perceptions of the components of teacher preparation programmes. The components were classified under six categories: Teacher competence, Teacher quality, Knowledge of curriculum issues, Experience/skill, Sustainable development and Addressing students’ needs. Teachers were required to respond by selecting Strongly Agree, Agree, Disagree or Strongly disagree. Section C comprised five open ended questions concerning teachers’ views of quality education and what teacher preparation programmes should include, omit, place more or less emphasis on. The free response questions allow respondents responsibility for ownership of the data and responses tend to be more authentic and honest (Cohen, Manion, Morrison, 2000). The questionnaire was designed in a way which would require no more than 15 minutes to complete given the busy schedule of teachers.

Procedures for administering instruments

The interview was conducted as a focus group interview. The students remained in their classroom (familiar environment) and after giving the purpose of the research; the questions were posed exactly as written and in the same order (Sellitz et. al., 1964; Brenner, 1981 in Silverman, 1993). The answers were manually documented on the interview schedule. Interviewees were not given suggested answers and all members of the group were encouraged to participate. The participants were reminded that there were no wrong and right answers and that every answer was valuable; this procedure avoids groupthink and domination by one or a few members. Silverman (1993) claims that standardized interviews avoid lack of comparability of interviews and difficult and time consuming data analysis. Group interviews are relatively economical both financially and in terms of time.

The teacher questionnaires were delivered and teachers were allowed one week to complete them. The questionnaires were personally collected by the researcher. Nine of the questionnaires delivered were not returned.

Data analysis procedures

Both qualitative and quantitative analysis methods were used. The data obtained from the two instruments were categorized according to the purposes of the research. For the teachers’ questionnaire, the responses for the Likert scale items were totalled for each of the categories: Strongly Agree, Agree, Disagree, Strongly Disagree, and No Response. The average was calculated and average percentages were calculated to indicate how teachers felt generally about the components listed.
Responses to the open ended questions of the teachers’ questionnaire were qualitatively analyzed by categorizing responses according to emerging themes. The responses were treated holistically and no attempt was made to quantify the data. The same procedure used to analyse the questionnaire was applied to the data from the students’ interview.

**Findings**

*What are the views of teachers of quality education?*

The majority of teachers (66.33%) strongly agree to the components of teacher preparation programmes presented on the questionnaire (Table 3). All the teachers strongly agree that teacher education should make provisions for teachers to be competent in teaching methodology. None of the teachers disagree that teacher preparation programmes should:

1. make provisions for teachers to be competent in subject content, teaching methodology and a variety of technologies including multimedia.
2. help teachers to be self reflective, progressive, lifelong learners, collaborative and prepared to use 21st Century tools.
3. provide opportunity for teachers to gain good knowledge of national educational policies, global trends in education, and citizenship education.
4. equip teachers with expertise in meeting the needs of students who are of different cognitive abilities.

Table 3. Responses of teachers to components of teacher preparation programmes (N= 41).

<table>
<thead>
<tr>
<th>Teachers’ responses (mean %)</th>
<th>Strongly Agree</th>
<th>Agree</th>
<th>Disagree</th>
<th>Strongly Disagree</th>
<th>No Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Agree</td>
<td>66.33</td>
<td></td>
<td></td>
<td>0.20</td>
<td>0.68</td>
</tr>
<tr>
<td>Agree</td>
<td>29.54</td>
<td></td>
<td>3.25</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A significant percentage of teachers (19.5%) disagree that teachers should gain more experience in community work during teacher preparation while 12.2% of the teachers disagree that teachers should be prepared to address economic problems. A small percentage (9.8%) of teachers disagrees that teachers should be trained to be competent in educational research (Appendix A).

Table 4 reflects what quality education means to the teachers in the sample. The responses were categorized according to recurring themes. Responses which did not clearly fit the three themes include: Quality education “benefits both the teacher and the students”; “can be used internationally, fosters proactivity, is worthy, reliable and valid”; “involves not only the implementation of the formal curriculum but the recognition of the importance of the hidden curriculum and its impact on student learning”; “fosters student creativity”; “means being very knowledgeable”; and “prepares the learner or equips him/her with the tools for lifelong learning”.

Table 4. Teachers’ views of quality education (N=41).

<table>
<thead>
<tr>
<th>Theme</th>
<th>Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Developing the whole individual</td>
<td>“…well rounded”; “developing all aspects of the individual, quality education should also provide for the acquiring of positive values and attitudes”; “…helps develop the total individual”; “…encompasses the overall development of an individual and is inclusive of but not limited to academics”; “…provides for the holistic development of the individual…”; “…not focused on learning but also incorporates social, personal and developmental stability in a holistic approach”; “Education that is good enough to improve both teacher and students in all areas- physical, cognitive, emotional…”</td>
</tr>
<tr>
<td>Preparing students to function in society</td>
<td>“Prepares young citizens to be competent in society”; “The individuals should have a sense of contributing to society and an awareness of the issues impacting them”; “…equips students for the world of work, tertiary education and basic skills to use current technology”; “…enables one to function in a society to help eliminate or reduce social, economic and environmental problems that plague our society”; “…one which prepares students for life”; “…is meaningful learning which would help the learner to cope with everyday situations”; “… enables students to reason critically and creatively… and allows for family and community involvement”; “It means stimulating creative thinking, developing problem solving and emphasizing an application of knowledge”; “…entails the kind of education which is not just now or today education. It is definitely the combination of knowledge, skills and attitudes which will prepare an individual to be knowledgeable of the past and be competent to survive in the present and future.”</td>
</tr>
</tbody>
</table>
In order to get a complete picture of what teachers really think quality education entails, they were asked to indicate with reasons components they would like to see included, left out, emphasized more or less in teacher preparation programmes.

Table 5 summarizes the main components which teachers would like to be included in teacher preparation programmes. These include; special education, counselling, community group projects and follow up professional development for teachers. Teachers thought that demonstrations of and applications of theory in real situations, use of technology, and development and analysis of various forms of assessment and evaluation should get more emphasis while research methods, microteaching, curriculum issues, meeting the needs of visually and physically disabled learners should be emphasized less (Table 6).

Almost all of the teachers stated that none of the components listed in section B of the questionnaire should be omitted from teacher preparation programmes. They gave reasons such as: “all are important”; “all of the components are viewed as integral to the development of the student teacher”; and “I believe that the whole child has to be developed”. Only one teacher said that a focus on sustainable development should be omitted as this can be incorporated in specific classes such as social studies.
Table 6 reflects what teachers would like omitted, emphasized more or less in teacher preparation programmes.

Table 6. Components Of Teacher Preparation Programmes Which Teachers Think Should Be Emphasized More Or Less. (N=41).

<table>
<thead>
<tr>
<th>Component</th>
<th>Should be:</th>
<th>Reason(s)</th>
</tr>
</thead>
</table>
| Demonstration/applications of theory in real situations | Emphasised more | • When teachers go out on teaching practice they have problems with the application of the theory.  
• To model effective strategies for teaching.  
• Too much theory, not enough practical.  
• It is not enough to tell students about activities and strategies that can be applied, hands-on knowledge of how it should be done will be more effective. We are also students and have diverse learning abilities as well.  
• To help student teacher develop confidence.  
• To develop authentic classroom management skills. |
| Use of technology                                       | Emphasised more | • To reinforce skills in using ICT in teaching.  
• To keep up with global trends in technology.  
• To make classes more interesting, interactive and fun. Students remember better when they learn under such conditions. |
| Development and analysis of various forms of assessment and evaluation | Emphasised more | • To provide quality feedback and remediation to students.  
• To enable teachers to prepare assessments that would enable students to learn and not fail them. |
| Research methods                                         | Emphasised less | • The results of individual studies are not used to improve education in St. Lucia. It’s like the work is done in vain.  
• It is tedious and time consuming. |
| Microteaching                                            | Emphasised less | • It is not authentic. Things like classroom management are not truly accounted for.  
• It gives the student an unrealistic view of the classroom. |
| Curriculum issues, meeting needs of visually and physically disabled | Emphasised less | • These can be dealt with by experts/specialists. |

What are the views of students of quality education?
The interview schedule provided data related to quality education in terms of teacher quality, learning experiences and suggestions for enhancing learning. Students indicated that a good teacher has the following attributes:

• kindness, compassion, patience, trustworthiness  
• punctual, regular attendance, well groomed, organized, dresses appropriately  
• models good morals and good behaviour, respects students, is unbiased  
• confidence, enjoys teaching, has fun with students, innovativeness  
• knows content, communicates well, teaches well, explains well  
• Admits when wrong, does not embarrass students, does not ignore students  
• Answers students’ questions, encourages students to learn, understands students background, is highly skilled.

Students reported that they enjoy learning experiences which engage them in: fun activities, outdoor activities, using real-life examples, role play, games, working as a group (collaboratively), asking questions and discussions and experiments.
The most common factors affecting their learning according to primary and secondary students are: disruptions or interruptions, classroom management problems (students talking or not paying attention), being compared to better students, discrimination and the pace of the lesson being too fast.

Students thought that their learning can be maximized if teachers would:

- encourage students to do more work on their own.
- allow more cooperative learning in class.
- give more help to weaker students.
- use more educational games.
- have more extracurricular activities.
- give more examples and explanations in lessons.
- enforce greater discipline in classes.
- have more class activities.
- provide greater access to a variety of reading books, textbooks and computers.
- have less interruptions during class.

Discussion
With educational reforms such as No Child Left Behind and Educating the Whole Child, quality education must take into account the needs of all learners. As noted in the introduction, teacher education should directly reflect the quality of education proposed for society and education is worthless if it does not meet the needs of the clients. Therefore the views of teachers and students are essential in making decisions pertaining to education.

Teachers’ perceptions of quality education are similar to regional and international standards of quality education however three strands dominated teachers’ views. They see quality education as meeting the needs of diverse students, preparing students to function in society and educating the whole individual (Table 5). If teachers are to work effectively with diverse learners, teacher preparation programmes need to set a base which promotes continual learning about teaching. Such a programme involves developing

“a strong foundation of knowledge about learning, development, motivation, and behaviour including their cognitive, social and cultural bases. It also requires creating cases and other inquiries that allow students to use this knowledge in applied contexts, to gather information, analyse and learn from their knowledge and use what they have learned to assess situations and improve instruction” (Thiessen, 2000, p. 77)

In order to achieve this standard, teachers said that they would like special education and counseling to be included in teacher preparation programmes and there should be provisions for professional development after initial teacher training. Professional development provides teachers with opportunities to reflect on their practice, extend their roles beyond the classroom, and strengthen a range of instructional strategies (Feiman-Nemser & Norman, 2000); adapt to school climate and teaching context, develop organizational skills, and become more confident teachers (Hoerr, 2005). Although our teacher education programme promotes lifelong learning, adequate systems for facilitating learning opportunities beyond teacher training college are lacking. Sarason (1990) noted the importance of such training for teachers in his statement “it is impossible to create and sustain over time conditions for productive learning for students when they do not exist for teachers” (p.145).

The Education for All (EFA) Global Monitoring report (2007) proposes that in order to improve the quality of education in the region Governments need to guarantee that basic standards are met for all children. As well as teacher training, equal focus should be placed on the quality of teacher-student relationships, family involvement, sensitivity to cultural and language diversity and to children with special needs. These factors are also reflected in the responses of teachers regarding quality education.

Meeting the needs of diverse learners also includes working with students with special needs. Whether student diversity is a result of disabilities or differentiated learning styles, students still have rights to and need curricular access (Nelson, 2006). Teachers in the Eastern Caribbean States feel that their training is not adequate to deal with students with special educational needs (Armstrong et al., 2005). The responses of teachers (Table 5) do support the need for teacher education programmes to focus more on this aspect.

Educating the Whole Child implies that teacher educators should not focus only on content knowledge and pedagogy, but also on developing skills in trainee teachers to help them address all or most of the needs of
their students. This is captured in teachers’ responses which indicated that community group projects should be included in their training programmes and the students’ need for more extracurricular activities. Hickling-Hudson (2004) claims that the “Ideal” person is: highly educated, ethical, entrepreneurial, civically active, a citizen worker with multiple literacies, has critical and well developed intellectual competencies spanning epistemic, humanistic, technical and public knowledge. Such a person will apply powerful, political and technical knowledge to make things better for the majority. This being the goal of Caribbean peoples, we need to consider the quality of education offered in teacher preparation programmes.

Teachers said that they would like to see more emphasis on: teacher educators demonstrating various teaching strategies, use of technology, and assessment and evaluation in teacher preparation programmes (Table 6). Teacher educators should practice what they expect of their students since they have lasting impact on their students (Helterbran, 2008). New teachers want to feel confident in their classes and this is corroborated by students who indicated that good teachers are “confident not shy”. Clement outlines that if teacher educators model appropriate use of technology and use various means of assessment and evaluation in addition to the other qualities of great teachers, they can help to create and sustain the elements which make great teachers (as cited in Young, 2009) and improve the quality of education. The National Curriculum Instruction and Assessment Policy Framework of St. Lucia is in agreement with making teachers more confident, and building community confidence in the quality of education in schools.

Teacher preparation and qualifications and teaching practices usually define teacher quality (NCES, 1999). Students’ responses revealed that they enjoy learning and learn better when classroom experiences are interactive, make real-life linkages and have few disruptions. Pandey (2006) concurs with this view in stating that “…teaching-learning processes in the classroom play a crucial role in maintaining the quality of education” (p.330). In a study conducted in India, Pandey and Raj Rani (2003) cited in Pandey (2006) observed that classroom experiences did not reflect the: understanding of content and pedagogy, enthusiasm, involvement, continuity and dynamism necessary for quality education but was instead uninteresting and unproductive. This lends support to students’ views of quality education indicated in this research.

**Conclusions**

UNESCO (2007) has found that of the Eastern Caribbean states only Barbados (Education for all Development Index {EDI}; 0.98) has achieved the four EFA goals with St. Lucia having an EDI between 0.80 and 0.94 in an intermediate position. The other states are lower in the scale of achievement therefore the quality of our education is not on par with global standards.

The findings indicate that the quality of teacher education programmes can improve in certain areas. Teacher educators need to model the qualities and skills that are required of teachers and to provide more practice in developing these skills. This can boost teachers’ confidence and hence contribute to quality education at the classroom level. This means that training opportunities for teacher educators are essential.

Teachers desire to have ongoing professional development as the teacher preparation programme does not sufficiently prepare them for the dynamics of the classroom particularly classroom management skills. Teachers claim that the microteaching is a false representation of a real classroom and the teaching practice is too “staged”. Some Caribbean countries have sought to overcome this problem by having shorter training programmes and emphasizing on-the-job practice. Cuba for example provides school-based training for all pre-service teachers (UNESCO, 2007). However, the effectiveness of such measures requires resources and support from the schools which at this time may not be realistic for many countries.

Since students require an education that they enjoy, that stimulates them to achieve high academic standards and at the same time prepares them to function in society, teacher preparation programmes should provide these experiences for student teachers. Students also equate quality education with teacher quality and the teacher is an important influence on the quality of education therefore the quality of education may be improved by teacher education.

In light of the findings and the experiences of countries such as Canada, Cuba, Finland and the republic of Korea which have all achieved high standards of education (Pandey, 2006), it is recommended that pre-service training of teachers address the needs of teachers and students, in-service training (professional development) be well developed and supported, and encourages mutual learning, and that teacher quality is a major focus of teacher preparation programmes.
References


Eastern Caribbean Joint Board of Teacher Education (2008). *Regulations for the Associate Degree in Education*. University of the West Indies.


## Appendix A

Teachers’ responses to components of teacher preparation programmes

Key: SA= Strongly Agree   A=Agree   D=Disagree   SD= Strongly Disagree   NR= No Response

N=41

<table>
<thead>
<tr>
<th>Component</th>
<th>Number of teachers</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teacher competence: Teacher preparation programmes should make provisions for teachers to be competent in:</strong></td>
<td></td>
</tr>
<tr>
<td>Subject content</td>
<td>SA 30   A 11   D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Teaching methodology (approaches, strategies)</td>
<td>SA 41   A 0   D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Conducting educational research</td>
<td>SA 18   A 19   D 4   SD 0   NR 0</td>
</tr>
<tr>
<td>A variety of assessment methods</td>
<td>SA 37   A 4   D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Using a variety of technologies including multimedia</td>
<td>SA 33   A 7   D 1   SD 0   NR 0</td>
</tr>
<tr>
<td><strong>Teacher Quality: Teacher preparation programmes should help teachers to be:</strong></td>
<td></td>
</tr>
<tr>
<td>Flexible</td>
<td>SA 30   A 10   D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Optimistic</td>
<td>SA 22   A 17   D 2   SD 0   NR 0</td>
</tr>
<tr>
<td>Self-reflective</td>
<td>SA 31   A 9   D 0   SD 0   NR 1</td>
</tr>
<tr>
<td>Progressive</td>
<td>SA 36   A 5   D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Innovative</td>
<td>SA 34   A 6   D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Life-long learners</td>
<td>SA 37   A 4   D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Passionate about teaching</td>
<td>SA 30   A 8   D 2   SD 0   NR 0</td>
</tr>
<tr>
<td>Collaborative</td>
<td>SA 27   A 14  D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Keen leaders</td>
<td>SA 27   A 13  D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Prepared to use 21\textsuperscript{st} Century tools</td>
<td>SA 34   A 7   D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Equipped to build relationships with students</td>
<td>SA 32   A 8   D 1   SD 0   NR 1</td>
</tr>
<tr>
<td><strong>Knowledge of Curriculum Issues: Teacher preparation programmes should provide opportunity for teachers to gain good knowledge of:</strong></td>
<td></td>
</tr>
<tr>
<td>Various National Curricula</td>
<td>SA 23   A 16  D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Curriculum development models</td>
<td>SA 24   A 16  D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>National Educational Policies</td>
<td>SA 28   A 12  D 0   SD 0   NR 1</td>
</tr>
<tr>
<td>National Education Sector Development Plans</td>
<td>SA 22   A 17  D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Regional Educational Policies (OECS Reform Strategy)</td>
<td>SA 20   A 19  D 2   SD 0   NR 0</td>
</tr>
<tr>
<td>Global trends in education</td>
<td>SA 26   A 15  D 0   SD 0   NR 0</td>
</tr>
<tr>
<td>Citizenship education</td>
<td>SA 26   A 15  D 0   SD 0   NR 0</td>
</tr>
<tr>
<td><strong>Experience/Skill: Teacher preparation programmes should allow teachers to gain more experience in:</strong></td>
<td></td>
</tr>
<tr>
<td>Micro-teaching</td>
<td>SA 29   A 11  D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Practice teaching</td>
<td>SA 34   A 6   D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Community work</td>
<td>SA 16   A 17  D 8   SD 0   NR 0</td>
</tr>
<tr>
<td>Peer assessment</td>
<td>SA 20   A 18  D 3   SD 0   NR 0</td>
</tr>
<tr>
<td>Curriculum development</td>
<td>SA 21   A 19  D 1   SD 0   NR 0</td>
</tr>
<tr>
<td>Curriculum evaluation</td>
<td>SA 26   A 14  D 1   SD 0   NR 0</td>
</tr>
<tr>
<td><strong>Focus on Sustainable Development: Teacher preparation programmes should prepare teachers to address:</strong></td>
<td></td>
</tr>
<tr>
<td>Environmental problems</td>
<td>SA 15   A 24  D 1   SD 0   NR 1</td>
</tr>
<tr>
<td>Social problems (Violence, Crime)</td>
<td>SA 25   A 14  D 1   SD 0   NR 1</td>
</tr>
<tr>
<td>Economic problems</td>
<td>SA 17   A 18  D 5   SD 0   NR 1</td>
</tr>
<tr>
<td><strong>Addressing Students’ Needs: Teacher preparation programmes should equip student teachers with expertise in meeting the needs of students who are:</strong></td>
<td></td>
</tr>
<tr>
<td>Visually impaired</td>
<td>SA 22   A 13  D 3   SD 2   NR 1</td>
</tr>
<tr>
<td>Physically disabled</td>
<td>SA 21   A 15  D 4   SD 0   NR 1</td>
</tr>
<tr>
<td>Of different cognitive abilities</td>
<td>SA 36   A 4   D 0   SD 0   NR 1</td>
</tr>
<tr>
<td>Culturally diverse</td>
<td>SA 28   A 11  D 1   SD 0   NR 1</td>
</tr>
</tbody>
</table>
Decolonizing educational policy in the Caribbean: Shifting our practice from an internationally-dependent policy consumption model to a contextually relevant policy research model

Eduardo Raoul Ali*

University of the West Indies, Cave Hill Campus, Barbados

Developing countries, like Caribbean societies, have been impacted greatly by education-focused structural adjustment policies. Despite some useful lessons from international structural adjustment education policies, the dependency by Caribbean governments on them has persisted over decades and as such has left an indelible mark on state bureaucracies in terms of the methodologies they employ in educational policy formulation and implementation. This paper reflects on the traditional methodology of educational policy consumption (citing also structural adjustment models) in the wake of the Caribbean’s post-colonial dependence on education globalization. It refers to my doctoral thesis methodology using educational policy research in which I reflect on approaches used by Caribbean state educational bureaucracies in analyzing policy papers and engaging in bureaucratic and politically-motivated policy discourses using internationally designed policy models. I then postulate a ‘decolonized’ educational policy analysis model that is highly dependent on empirical policy research and which assures contextually-relevant education policy formulation, analysis, implementation, monitoring and evaluation. I use my thesis research methodology as an example of how one can assess the need for empirical educational research in determining policy where I generate some comparisons of my interviews with regional educational leaders.

Democracy, post-colonialism and post-independence policy thinking

Before one can offer a reasonable argument about the value that contextually-relevant education policy may have on 21st century Caribbean civilization, one must appreciate the inter-connectedness between education policy analysis and the region’s historical and socio-political development. The development of effective contemporary models for policy analysis in education in the Anglophone Caribbean region has its genesis in the region’s political history namely in its emergence as post-colonial, post-independent democratic societies. The Caribbean region’s historical antecedents have played a vital role in the emergence of democracy and of course educational democracy. The concept of the colonial plantation economy has shaped our social consciousness. The allocation of values, ideals and norms and our understanding of our social identity have been influenced by the political structures within the plantation itself, the political and cultural traditions of the plantation heads and their superiors and by the plantation’s social demographics in which decision-making was organized by status, class, gender, race and religious epistemologies. It is these contextual issues that have influenced our form of democracy, the ideals and traditions we embrace in our post-colonial independent societies and the approaches we have used to formulate and implement policy including education policy. I submit that our willingness to conform to Anglo-Saxon and Euro-centric education policies and our culture of adoption and consumption of such policies can be best understood by critical reflection on our colonial heritage.

As I intimated above, the concept of democracy originating from the colonial experience is what moulds our ideals of policy and how we embrace them. Democracy can be viewed as the distribution of power within society through politically elected structures whilst policies themselves are the measures, values and ideals that are allocated and the means by which they are to be distributed by the political entities. Despite this, the issues associated with how political entities in democratic societies determine policies are never straightforward. Carr and Hartnett (1996, p.4) have argued that our society’s appreciation of democracy is a matter for social...
contestation in that is positioned on political struggles and ideological conflicts. Such political struggles and ideological differences may originate within the political group that is to negotiate the policy or from societal pressures external to the political entity. To offer an explanation for this notion, I have argued (Ali, 2006, p.6) that in contemporary democratic societies political struggles between political groups often lead to articulation of values, ideals and proposals by each party contrary to those of each other. Despite these marked differences in viewpoints ultimately they may contribute to a more informed citizenry and lend to ‘knowledge creation, establishment of radical beliefs and emergence of enlightened thinkers within the society’ that can support development of uniquely relevant policy thinking.

In terms of education policy thinking, even more usefully during the political negotiation process, politicians, educators and educationists continuously struggle over what issues are for debate and how they communicate these issues to the masses particularly within educational environments. What they communicate in public may be easily misunderstood, misrepresented or misappropriated. No one has put this better than Freire (1970, p. 77), when he said:

‘Often educators and politicians speak and are not understood because their language is not attuned to the concrete situation of the people they address. Accordingly, their task is just alienated and alienating rhetoric’.

It is this shared value system among various stakeholders that educational bureaucracies have to manage to ensure that education policy in post-colonial democratic Caribbean states are addressing the current realities and are evidenced-based.

**Globalization and education development in the Caribbean**

Current literature in education policy and development speak much of the nature of globalization and its effects on policy analysis processes. Interestingly, the focus of such literature has been on globalization in Western industrialized countries (Tinkly, 2001, p.151). With the exception of Louisy (2001) and Lingard (2006, not a Caribbean citizen but Caribbean policy researcher and teacher), I am yet to see specific recent published literature by Caribbean educationists on the relationship between globalization and education in the Caribbean. Other than theirs, reference is made by international governmental organizations such as UNESCO and financing agencies such as the Inter-American Development Bank (IDB) and the World Bank in some of their reports and refereed publications, but these are hardly ever written by Caribbean authors with Caribbean experiences.

Notwithstanding these persons and their positionality, globalization in the Caribbean, although under-theorized, is defined no different from elsewhere. While doing policy analysis, globalization appears to be the mechanisms for inter-relating policy ideas, whether by convergence or divergence. According to Dale (1999), it sometimes employs clearly understood channels for sharing, harmonizing, standardizing, imposing, negotiating, formulating and implementing such policies. The manner by which globalization influences education policies as well as the nature of the policies themselves critically influences the development of educational systems which in turn has implications for the socio-economic development of Caribbean nations. This may have positive or negative outcomes for national and regional education development.

One case which has both positive and negative education outcomes can be seen in the UNESCO Education-for-All (EFA) in the Caribbean policy declared in Jomtien in 1990 and then again in Dakar in 2000. The intention of the policy was to propose a set of values by which educational bureaucracies could enable universal access to basic education. Analyzing EFA impact on the Caribbean since Jomtien, Miller (1998, pp. 8-10) suggests that ‘the ideology of market forces’, ‘drive for wealth creation’, ‘that human resource development must become an endogenous enterprise’, ‘rapid scientific and technological changes’, ‘changing demographics’ and ‘contemporary pedagogy in schools’ would impact upon educational developments in the postcolonial Caribbean. Arising from this policy discourse, Caribbean governments sought after policy measures for addressing universal early childhood, primary education, enabling mass education and supporting development of human capital. This included establishing quality schools for assuring students’ quality learning. Separate from national governments agreeing to embark on such policies, at the regional level two other policy achievements were noted. In 2000, the World Bank working in concert with the Caribbean Community established the Caribbean Education Strategy, a comprehensive basic education policy which Ministers of education endorsed. This ultimately produced other education policies by CARICOM, for example, to cater to improving quality of teacher education and design of curriculum effectiveness models. Arising out of globalization agendas a
downside of this policy reform was the issue of financing policy implementation. Most countries did not adequately prepare to introduce such policies and so had to seek sector funding programmes, usually in the form of sector support loans. Capital development loans to the value of hundreds of millions of United States dollars were borrowed from international sources (IDB, World Bank and to a lesser extent Caribbean Development Bank) which were to be repaid at relatively high costs to government over fairly long periods.

**The era of structural adjustment in education policy: Consumption modelling**

During its critical transformation periods, the postcolonial Caribbean region had identified visionary education ideals that have been associated with its quest for regionalism. Noble as these intentions may be, and though they may have provided some impetus for social change, structural adjustment policies and programmes may have somewhat thwarted and stymied Caribbean societal development. According to Downes (2000, p.1), structural adjustment is ‘the process of deliberately adjusting or changing the structure and organization of the economy to mitigate the effects of negative shocks or take advantage of new opportunities or challenges’. Downes’ argument that structural adjustment can be advantageous in its outcomes and effects when one considers economic development can be interpreted in the negative. When one studies the implementation of structural adjustment policies on human resource development while examining the current socio-economic outlook for independent Caribbean states in the first decade of the second millennium, I am of the opinion that structural adjustment has had deleterious effects on our societies. Beginning in the 1970s, Caribbean structural adjustment was influenced by the World Bank, International Monetary Fund (IMF) and the IDB. These agencies provided lending to governments to address growing foreign debts and shortage of foreign reserves/exchange, fiscal and balance of payment deficits, unproductive economic sectors and rising unemployment.

What is strikingly obvious about the structural adjustment ‘education’ policies is their tendency to encourage policy consumption of international education policies. Policy consumption is the process by which external policy agendas and policies themselves are incorporated within a national policy, either in whole or part. A pre-condition of lending by international funding agencies proposing structural adjustment models is the ‘borrowing’, ‘harmonization’ ‘integration’, ‘adoption’ and ‘negotiation’ of policies with policies financed by the lending enterprises that have been implemented in other jurisdictions. Consumption modeling limits the levels of contextualization and thus relevance of the policy to the local conditions. Usually data from other countries are highlighted with some reference to minimal data from the country where the policy is to be applied. This is the case because of the absence of primary sources of data to inform educational strategy and so to justify the policy, technocrats from funding agencies skilfully inject external policy agendas into national policies. I am of the view that this has to do with limited experience and competence of national bureaucracies to undertake critical and careful analysis of these policies using empirical indigenous evidence.

Though not ideally a structural adjustment policy but one which displays consumption modeling, one such example can be seen with the establishment of the Caribbean Knowledge and Learning Network (CKLN) from 2000. The World Bank’s supported policy on the Global Development Learning Network (GDLN) proposed distinct geographic regions for introduction of information and communications technologies (ICTs) to encourage sustainable human resource development. At about the same time that the UNESCO/Japanese Funds-in-Trust policy for the Caribbean Universities Project for Integrated Distance Education (CUPIDE) was being implemented with 5 Caribbean universities, it was the GDLN policy that made its way into the region in the form of the CKLN. There was no harmonization or blending of policy ideas between the two. However, despite the fact that the CKLN policy agenda had caused some conflict between governments in terms of their agreement that it was necessary, financing by international funding agencies such as the World Bank and the European Commission have furthered the policy. Primary data as to the need and value of ICTs in harnessing human capital development and the capacity of tertiary education institutions to effectively plan and deliver courses and programmes using ICTs and distance education was lacking. Instead, having an already pre-determined policy, and in order to justify the policy, discussions among politicians, bureaucrats and technocrats led to dialogue with educational leaders to determine how to implement the policy as opposed to whether it was truly needed. So then it was after the policy was established by CARICOM that the CKLN Secretariat commissioned consultants to undertake needs analyses to determine how best to implement the policy.
Contestation, conceptualization, contextualization and contemporary models of education policy

Policy analysis is not an exact process, though there are many different recommended approaches proposed by policy analysis researchers. Models for policy analysis have been in existence since the 1960s public sector reforms in the United States. Gordon, Lewis and Young (in Taylor et al, 1997, p. 36) refer to analysis of policy and analysis for policy. In the case of the former, the analyst evaluates a policy and its processes which led to its formulation and implementation to determine its effectiveness and whether or not changes can be made to it and how. Analysis for policy prescribes methods for research into what policies are to be constructed, why they are constructed, and how they are formulated and implemented. Ball (1990, p. 25) defined the policy cycle model which looks at 5 contexts (political strategy, outcomes, text production, influence and practice) for policy analysis. I have shown how this can be applied to the Caribbean context in Figure 1. From my own standpoint, I have proposed the 4 A’s Model of Analysis of Policy which examines actors (the stakeholders), aspirations (the goals/intentions), actions (the outcomes) and articles (the text) in Figure 2. I believe that during policy formulation stages especially, one should carefully examine each of these A’s and their inter-relationships but that all of them do play a significant role in the processes of policy development and implementation.

---

1 E. Ali: Text is negotiated document between the State, stakeholders and rest of civil society. Text is written in clear terms for purposes of civil society.
2 E. Ali: Political Strategy is research process for obtaining agreement between politicians/political agencies and all stakeholders through a consultative process and may consist of discreet phases
3 E. Ali: Outcomes are intended or actual research results predicted before or determined after policy implementation
4 E. Ali: Influence requires research process for approving participation primarily by policy actors/stakeholders and management of such stakeholders during policy analysis (e.g. by determination of policy formulation protocol, negotiation of mechanisms for analysis by stakeholders, conduct of research to review or establish policy agenda and reporting procedures/format for policy)
5 E. Ali: Practice requires systematic process to set policy agenda involving the main affected publics (e.g. identification of problems to be settled in policy, mechanisms for agreement of policy agenda with stakeholders, solicitation of policy feedback from likely affected parties, participation in policy writing/reporting, final review of policy text to satisfy concerns, on-going and final feedback on policy implementation
Given the nature of policy analysis it comes as no great surprise that the process of policy research is heavily contested. Ozga (2000, p.5) argues this point and suggests that everything from the reasons for doing policy research and the research methodology itself to how the results from policy research can be applied are contested. Socio-political and cultural pressures that are both internal and external to the bureaucracy that has been charged with the authority of arriving at useful education policy feature critically during the discourse. It is my opinion that in the Caribbean education environment, it is usually the views of politicians and technocrats from political, extra-bureaucratic organizational and international sources who play the most influential role in policy analysis and determinations. This means that policies are usually determined forthwith and that educational practitioners, if consulted, are done to merely please the policy analysis process. To me then, this is a form of political negotiation of ideas and not true policy analysis. The models of policy analysis are rarely employed. Methodologies associated with them are not correctly administered. Policies formulated are not usually evidence-based or if they are they hardly use local primary data or use qualitative data from conveniently established focus groups and meetings to satisfy political intentions.

Education policy contextualization should not merely be about ‘fixing policy documentation to seemingly suit local situations’. Rather there should be both quantitative and qualitative evidence from the local context that carefully demonstrates why the policy is necessary with negotiated alternatives for implementing the policy. The written policy text should not merely be an exploration of values but of concrete implementable solutions indicating which agencies have such responsibilities. I have articulated this in my design of what I consider to be a useful model for analyzing Caribbean education policy in the Caribbean Education Policy Framework (CEPF) (Ali, 2004) which shows diagrammatic representation of which agencies, processes and functions are to be examined within the education policy. In my view this model is useful material (at least as a starting point) for contextualization and conceptualization of contemporary Caribbean education policy. This is referred to in Figure 3.

Decolonizing methodologies in education policy analysis: ‘Research in action’
Following independence in Caribbean society, states sought after their own sovereignty and pursued a course of nation building, developing their social aspirations and generating economic wealth. Given the location of Caribbean society in the British historical legacy, education policies in these states were largely contextualized from British education experiences given their rich British colonial heritage and the colonial interests in newly formed independent societies. Thus there were close ties to what can be regarded as Britishness. For newly independent states, the decolonization project was critical to de-link people’s ideas, cultures and education models from the colonial past. In his argument, Beckles (2005, p.3) hinted at the challenges confronting the ‘decolonization project’ within an era of globalization. Beckles suggests that the nation state is presently confronted with new socio-political frontiers and that after independence a new era of internationalization of education sprung to life in the Caribbean. It is within this post-colonial setting that trans-national and inter-governmental organizations emphasize European values, especially Britishness. They seemingly inculcate, sometimes indoctrinate, Caribbean society including education with neo-colonial agendas and naturally they continuously serve to connect us to our colonial experience.

Quite naturally, therefore, what I am arguing is a case for a methodology for decolonizing education policy from Caribbean historical antecedents, whether they are pre-independence, post-independence or neo-colonial in origin. I argue for a methodology which establishes education policies that are firmly grounded in educational practice and which examines the implications of the varied contexts as described by Ball. Such a methodology can only work when policy research is carefully negotiated and undertaken and where suitable evidence is collected, archived, analyzed and applied in policy development and in implementation. This can be done in analysis of policy or analysis for policy. This became the motivation for my doctoral research which would carefully analyze processes employed in analysis of Caribbean education policies within a globalization discourse.

My research aims to determine the extent to which education policies within the post- and neo-colonial Caribbean environment respond to globalization. It specifically compares how (if at all) policy analysis processes were employed in accreditation policies in 5 CARICOM Single Market and Economy (CSME) territories, namely Barbados, Belize, Guyana, Jamaica and Trinidad and Tobago. Starting by reflecting on my own epistemological stance as a main participant and researcher in accreditation policy, the research embraces a social phenomenological paradigm using case study analyses to compare the policies and their processes. By using
thematic analyses of documentary sources and interviews, I analyzed the policy processes in relation to: 1) How the policy was defined; 2) How the policy was researched; and 3) How the policy options were negotiated for each case. I also explored how all of these related to the mechanism of globalization as defined by Roger Dale (1999, pp. 5-8). Dale’s mechanism represents a typology for education policy analysis in globalization scenarios. His model argues that globalization effects on education policy in nation states may take one of several forms: (i) policy borrowing; (ii) policy learning; (iii) policy harmonization; (iv) policy dissemination; (v) policy standardization; (vi) policy installing interdependence and (vii) policy imposition.

In my analysis, I have found that globalization effects employ a range of mechanisms from policy borrowing, policy imposing, and policy learning to policy harmonization. This directly related to how these processes played out during the stages in formulation and implementation of accreditation policies in the region. The research showed that some degree of contextualization was apparent but this depended on the country’s state of political maturity and its competence to deal with the policy. More importantly, the study illustrated the value of policy analysis models for education policy and the need for empirical policy research data in the processes.

Moving education policy beyond the bureaucracy of international politics

The point has been made that educational bureaucracies are confronted with serious challenges of balancing national and international politics to design meaningful education policies and that policy analysis tools are very useful to help in analysis of policy and analysis for policy. It is therefore wise for national and regional policy making bodies in education such as Ministries of Education and the CARICOM Council on Human and Social Development (COHSOD) to employ policy analysis frameworks such as the CEPF to research, negotiate, design, formulate, implement, monitor and evaluate policies. Governments need to be more responsible and engage in thoughtful policy making and implementation practices that reduces or eliminates the heavy weighting that international policy agendas play in the Caribbean. They should ideally ensure that international politics and policies are only regarded as one component in the policy analysis equation but that adequate indigenous empirical data is gathered and used in the policy.

Caribbean Educational Policy Framework (CEPF)

The Four A’s for Critical Policy Analysis are used as the basis for the CEPF construct. The CEPF is designed to reference key component agencies (human, social and structural), functions and processes that can be used in analyzing educational policy within the Caribbean context, taking into account the region’s unique experience. Table 1 shows the relationship between Ball’s Policy Cycle, the Four A’s Model and the CEPF.

<table>
<thead>
<tr>
<th>Ball’s Model</th>
<th>4 A’s Model</th>
<th>Underlying Assumptions</th>
<th>CEPF Component</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Context of Political Strategy</td>
<td>Aspirations</td>
<td>*Continuous action research establishes priorities for political intervention by political agencies</td>
<td>Political agencies establish agendas for educational policy initiation/control/formulation/implementation</td>
</tr>
<tr>
<td></td>
<td>Actors</td>
<td>*Continuous action research establishes priorities for political intervention by key political authorities</td>
<td>Personnel involved in federal and national political agencies and supranational donor agencies plan educational policy agenda</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Prime Ministers of CARICOM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Ministers of Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Policy Advisers to Ministries of Education</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Education and Social Development Project Officers from Donor Agencies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Federal State Agencies e.g. CARICOM, OECS</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• National State Agencies e.g. Member State Governments</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• International Donor Agencies e.g. IADB, World Bank, UNESCO, EU, UNAID, CIDA etc.</td>
</tr>
</tbody>
</table>
### Table 1. \(^{(Continued)}\)

<table>
<thead>
<tr>
<th>Ball’s Model</th>
<th>4 A’s Model</th>
<th>Underlying Assumptions</th>
<th>CEPF Component</th>
</tr>
</thead>
</table>
| (2) Context of Influence | Aspirations | *Continuous action research establishes priorities for apolitical intervention by apolitical groups and agencies | - NGOs and CBOs  
- Pre-elementary, primary, secondary and tertiary education institutions  
- Training Providers  
- Technical agencies e.g. CXC, NTAs, NABs  
- Unions and employment interests |
| | *Aspirations* | Apolitical bodies and social groups determine their own collective agenda for social and economic improvement through educational policy | |
| | Actors | *Continuous action research establishes priorities which can be used by key political and apolitical bodies and groups for civic good and social and economic transformation | - International Donor Agencies e.g. IADB, World Bank, UNESCO, EU, UNAID, CIDA etc.  
- Federal State Agencies e.g. CARICOM, OECS  
- National State Agencies e.g. Member State Governments  
- Political Interest Groups or Parties  
- Apolitical Interest Groups e.g. NGOs, CBOs, Unions etc. |
| | *Actors* | Value statements and goals for policy are identified by specific political and apolitical stakeholders who influence the policy’s existence, development and final form | (possibly in order of influence, national apolitical interest groups are sometimes involved mostly during the consultation phases) |
| (3) Context of Practice | Actors | *Continuous action research ensures that implementers systematically analyze and evaluate policy development and implementation | - Ministries of Education  
- Pre-elementary, primary, secondary and tertiary education institutions  
- Training Providers  
- Technical agencies e.g. CXC, NTAs, NABs |
| | *Actors* | Processes of policy (from formulation to implementation) are not always carefully monitored by organizations and social groups that are implementers of the policy | |
| (4) Context of Outcomes | Actions | *Continuous action research links policy values to goals and action plans and permits behavioural scientists and economists to systematically measure, monitor and evaluate policy implementation to reflect contextual changes for further planning | - CEPF linked to Country SEPF  
- CEPF linked to Country DP Expenditure  
- CEPF contains designed outcome/output matrix with expenditures obtained from policy text to inform SEPF |
| | *Actions* | Outcomes in policy (particularly regarding implementation) are not necessarily carefully and continuously monitored and evaluated against goals to ensure delivery and further action planning | - For economic measurement, Balanced Scorecard or other strategic performance management tool used for measurement of organizational & programme effectiveness within country aspect of CEPF  
- For social improvement, tracer studies showing educational statistics (quantitative) and behavioural/social changes (quantitative/qualitative) within country aspect of CEPF  
- For social justice, degree of social marginalization based on accounts of contestation and official reports from social groups |
| (5) Context of Text Production | Articles | *Continuous action research prepares policy text and revises policy text to reflect changing context | - Draft Education Policy document (prepared by actors)  
- Green Paper on Education (prepared and sponsored by actors, esp. practitioners)  
- White Paper on Education (prepared by bureaucracy)  
- Revised White Paper on Education (reviewed by actors and prepared by bureaucracy every three years, if possible) |
| | *Articles* | Policy text is usually written to suit context at time of writing. Seldom is there a recontextualization of the policy text to reflect changing socio-cultural and economic environment and changing educational practice | |
Table 2. Functional indicators in CEPF.

<table>
<thead>
<tr>
<th>POLICY AREAS</th>
<th>FUNCTION</th>
<th>ANALYSIS INDICATORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Cultural and Societal</td>
<td>Educational planning to make necessary connections with country social development agenda</td>
<td>Current social understanding of education within local, regional and international contexts; identification of country social development gaps</td>
</tr>
<tr>
<td>(2) Economic</td>
<td>Educational planning to make necessary connections with country economic development agenda</td>
<td>Current understanding of relationship between education and economic development within local, regional and international contexts; identification of country economic development gaps</td>
</tr>
<tr>
<td>(3) Governance</td>
<td>Planning and oversight of education reform</td>
<td>Current legislature, governance structures, federal and central (national) government, fiscal considerations, political interests, extra-national agendas, systems design/deployment</td>
</tr>
<tr>
<td>(4) Management</td>
<td>Planning, monitoring and evaluation of educational delivery and support systems</td>
<td>Roles and interests of: central government departments, school boards, school directorate, PTAs, teaching unions</td>
</tr>
<tr>
<td>(5) Curriculum</td>
<td>Coordinates curriculum from planning to implementation</td>
<td>Roles and interests of central government, school boards, school directorate, teachers, students, PTAs, teaching unions, labour groups, employer bodies, teacher educators, academia, NGOs, CBOs</td>
</tr>
<tr>
<td>(6) Teaching Practice</td>
<td>Management and delivery of teaching as a profession</td>
<td>Roles and interests of central government, school boards, school directorate, teachers, PTAs, teaching unions, teacher educators, academia</td>
</tr>
<tr>
<td>(7) Technical/Infrastructural</td>
<td>Planning, implementation, monitoring and evaluation of technical and infrastructural systems for educational management and delivery</td>
<td>Physical plant suitability and technology support, reliability and accessibility)</td>
</tr>
<tr>
<td>(8) Geographic</td>
<td>Planning of land use for education</td>
<td>Geographic location, space utilization, urbanization, ruralization and their relationship with educational access, educational participation and socio-economic transformation</td>
</tr>
</tbody>
</table>
Figure 1. Policy agency map.
Policy Functional Map

CEPF identifies the various sectors of the education system that actively engage in all stages of education in society. It points to 8 functional policy indicators that Caribbean policy makers may desire to use in analyzing and constructing educational policy. These functional indicators are:

1. Cultural and Societal - educational planning to make necessary connections with social development agenda (analysis of current social understanding of education within local, regional and international contexts, identification of social development gaps)
2. Economic - educational planning to make necessary connections with economic development agenda (analysis of current understanding of relationship between education and economic development within local, regional and international contexts, identification of economic development gaps)
3. Governance - planning and oversight of education reform (analysis of current legislature, governance structures, federal and central (national) government, fiscal considerations, political interests, extra-national agendas, systems design/deployment)
4. Management - planning, monitoring and evaluation of educational delivery and support systems (analysis of roles and interests of central government departments, school boards, school directorate, PTAs, teaching unions)
5. Curriculum - coordinates curriculum from planning to implementation (analysis of roles and interests of central government, school boards, school directorate, teachers, students, PTAs, teaching unions, labour groups, employer bodies, teacher educators, academia, NGOs, CBOs)
6. Teaching Practice - management and delivery of teaching as a profession (analysis of roles and interests of central government, school boards, school directorate, teachers, PTAs, teaching unions, teacher educators, academia)
7. Technical/Infrastructural - planning, implementation, monitoring and evaluation of technical and infrastructural systems for educational management and delivery (analysis of physical plant suitability and technology support, reliability and accessibility)
8. Geographic - planning of land use for education (analysis of geographic location, space utilization, urbanization, ruralisation and their relationship with educational access, educational participation and socio-economic transformation)

Figure 3.2. Caribbean Education Policy Framework (CEPF) policy functional map.
References


Gender differences in study habit, interest in schooling and attitude toward substance abuse among secondary school adolescents in Barbados

Grace A. Fayombo*

School of Education, University of the West Indies, Cave Hill Campus, Barbados

This study investigated the differences between secondary school male and female students’ interest in schooling, study habit and attitude towards substance abuse. The participants were 210 secondary school students randomly selected from four secondary schools in Barbados with ages ranging from 14 to 18 years ($M = 15.11, SD = 1.09$). The instruments used were: Students’ Study Habit Scale (SSHS), Students’ Interest in Schooling Scale (SISS) and Attitudes towards Substance Abuse Scale (ATSAS). Data were analysed using frequency counts, percentages and independent t-test. The results showed significant differences in students’ study habits, interests in schooling and attitudes toward substance abuse with females having higher means. Based on these findings, suggestions were made to motivate students’ interest in schooling, improve their study habits especially the male students and prevent students’ involvement in substance abuse for inclusive and quality education for all.

Keywords: gender, study habit, interest in schooling, substance abuse.

Introduction

The disparity in the educational performance of boys and girls at the different levels of education in Barbados and in the Caribbean generally had been a major concern for all and sundry. These concerns were clearly articulated by education officers in Barbados during the World Education Forum Conference in Kenya, “for close to a decade now girls have been doing better than boys at every level of the educational system ... where boys are performing well, there is almost no difference in the performance with that of girls, but where boys are performing poorly, they are performing significantly more poorly than girls”. Mason (2000) observes that Education officials in Barbados are ready and willing to rescue the nation's boys from educational obscurity, but they're just not sure how to go about doing so. Evidence also suggests that at the tertiary level, in The University of the West Indies, Cave Hill Campus, females continued to dominate in campus enrolment in every faculty except Science and Technology (World Education Forum Inter Press Service 2000).

Gender differences in students’ academic achievement

Researches alluded that there are gender differences in educational performance of students in Barbados and in the Caribbean. Cumberbatch (1993) found that there was a significant gender difference in achievement in favour of the girls in Barbados; Kutnick (2000) reported that, generally, girls attained at higher levels than boys, in the islands of Barbados and St Vincent. Kutnick, Jules, Layne, (1997) again confirmed that in Trinidad, within-class attainment, differences between girls and boys were highly significant. Recently, the gender gap in schools was also observed as more females emerged as Regional Top Awardees based on their performance in the Caribbean Secondary Education Certificate (CSEC) and the Caribbean Advanced Proficiency Examination (CAPE) (The Caribbean Examiner 2008). The overall CSEC May–June 2008 Candidates’ entries by territory and by gender also evident that there is gender gap. In Barbados, 3,494 (36.18%) males registered, while 6,163 (63.82%) girls registered. Overall in the whole Caribbean, 52,942 (37.02%) males registered while 90,075 (62.98%) females registered (CXC Statistical Bulletin 2008; pp 18-19). Similarly, in the Caribbean, the overall candidates’ performance by subject, by gender and by grades awarded in CSES May-June sitting in 2008 reveals that males
are still underachieving in many subjects; larger percentage of the girls had grade 1 in many subjects as shown in Table 1.

Table 1. Percentage of girls and boys that had grade 1 in some core Subjects in CSES May- June sitting in 2008 in the Caribbean.

<table>
<thead>
<tr>
<th>Subject</th>
<th>Girls</th>
<th>Boys</th>
</tr>
</thead>
<tbody>
<tr>
<td>English</td>
<td>11.47%</td>
<td>4.82%</td>
</tr>
<tr>
<td>Mathematics</td>
<td>7.19%</td>
<td>8.67%</td>
</tr>
<tr>
<td>Physics</td>
<td>21.45%</td>
<td>17.84%</td>
</tr>
<tr>
<td>Chemistry</td>
<td>12.75%</td>
<td>12.17%</td>
</tr>
<tr>
<td>Social Studies</td>
<td>5.27%</td>
<td>2.62%</td>
</tr>
<tr>
<td>Economics</td>
<td>5.83%</td>
<td>5.48%</td>
</tr>
<tr>
<td>Information Technology</td>
<td>27.0%</td>
<td>17.54%</td>
</tr>
<tr>
<td>Biology</td>
<td>16.43%</td>
<td>14.75%</td>
</tr>
<tr>
<td>Geography</td>
<td>5.58%</td>
<td>2.50%</td>
</tr>
<tr>
<td>Electrical Electronic Technology</td>
<td>11.16%</td>
<td>6.25%</td>
</tr>
<tr>
<td>Principles of Account</td>
<td>15.70%</td>
<td>12.52%</td>
</tr>
<tr>
<td>Agricultural Sc. DA</td>
<td>20.50%</td>
<td>13.08%</td>
</tr>
<tr>
<td>Mechanical Engineering Technology</td>
<td>3.64%</td>
<td>14.50%</td>
</tr>
<tr>
<td>Overall Total</td>
<td>11.17%</td>
<td>9.62%</td>
</tr>
</tbody>
</table>

Caribbean Examination Council (CXC) statistical bulletin (2008), pp 58 - 63

It could be observed from the Table that overall, females still outperformed the boys. In few subjects where boys are performing well (Mathematics, Chemistry and Economics), there is almost no difference in the performance with that of girls except in Mechanical Engineering Technology.

Students’ study habit

The analysis of literature on study habit suggested that females have also been spending more time doing homework and were less likely to come to class without completed homework (Xu, 2006); they settle down to the task in hand more readily than males (Warrington, Younger, & Williams 2000). Concentrating when studying also requires the student to eliminate distraction and focus on the task at hand (“Concentration tips,” 2008). Risko, Alvarez and Fairbanks (1991) suggested that students who achieved adopted strategies to monitor and manage their time for studying and success in course work reinforces continued use of these strategies. They agreed with Hadwin & Winne (1990); Archambeault, (1992); Meyer, Cliff & Dunne, (1994); Boll, Connell & Nunnery (1995) that there’s no single time management that works for all students or even the same student in all learning situations, how a student manages time is personal and idiosyncratic. Risko, et.al (1991) concluded that study skills needed for helping students to operationalise their plans and study are most successfully taught and learned. Research however indicated that students generally fail to benefit from study skills courses and show resistance to this course in higher education level (Sedat 2006).

Gender and interest in schooling

A study of a representative sample of 11th grade students from United States, Taiwan and Japan suggested that boys preferred science, math, and sports, whereas girls preferred language arts, music, and art and that boys consistently outscored girls (Evans, Schweingruber, & Stevenson 2002). Similarly, Miura (1986) found that boys may be more involved in computers as a result of more opportunities for mastery, more role models to emulate, greater verbal encouragement, and less fear of the machines; boys express a more positive attitude about the benefits of computers to society than do girls. However, literature on gender differences in diligence towards schoolwork confirmed that at the secondary level, males have been found to be less committed to working hard on schoolwork than females, (Warrington, Younger, & Williams 2000) and lag behind females in reading and writing skills (Sommers, 2001; Freeman, 2004; National Center for Education Statistics Report 2004).

Gender and substance abuse

There had been reports that males between 12–17 years are more likely to use, abuse, and be dependent on alcohol or illicit drugs than females (Partnership for a Drug-Free America 2009; Office of Applied Studies, 2004).
The National Institute on Drug Abuse (2009) however reported that gender differences play a role from the very earliest opportunity to use drugs; that women and men tend to abuse different drugs, the effects of drugs are different for women and men, and some approaches to treatment are more successful for women than for men. Men are more likely than women to have opportunities to use drugs, but men and women given an opportunity to use drugs for the first time are equally likely to do so and to progress from initial use to addiction. However, women and men appear to differ in their vulnerability to some drugs. Both are equally likely to become addicted to cocaine, heroin, hallucinogens, tobacco, and inhalants. Women are more likely than men to become addicted to sedatives and drugs designed to treat anxiety or sleeplessness, and less likely than men to abuse alcohol and marijuana.

The plethora of literature reviewed confirmed gender differences in school achievement in favour of girls not only in Barbados, but also in the Caribbean. However, the reports on gender differences in the indicators of academic achievement such as interest in schooling, study habit and attitude to substance abuse appeared inconclusive, contradictory and incomplete. In addition, the analysis of literature reviewed revealed that there have been no previous co-occurrence studies of the gender differences in students’ study habit, interest in schooling and attitude toward substance abuse. It is against this backdrop that this research was conducted to find out the gender differences in some indicators of educational attainment (study habit, interest in schooling and attitude toward substance abuse) which may be responsible for persistent male underachievement in schools and suggest measures for improving study habit and interest in schooling and preventing attitude toward substance abuse for good educational achievement.

**Aim of study**
This research was conducted to find out the gender differences in students’ study habit, interest in schooling and attitude toward substance abuse.

**Research question**
What is the profile of students’ ratings on study habit, interest in schooling and attitude toward substance abuse?

**Hypotheses**
Three hypotheses were addressed in this study:

1. There will be no significant difference between male and female students’ study habit.
2. There will be no significant difference between male and female students’ interest in schooling.
3. There will be no significant difference between male and female students’ attitude toward substance abuse.

**Method**

**Research Design**
This study adopted an expost-facto research. The researcher attempts to identify the causative differences in study habit, interest in schooling and attitude toward substance abuse which is more suggestive than proven. The researcher did not have control over the independent variable (gender) and cannot manipulate it.

**Participants**
The participants were 210 fourth to sixth form students randomly selected from four public secondary schools in different parishes in Barbados with ages ranging from 14 to 18 years ($M = 15.11$, $SD = 1.09$). Three were 90 males and 120 females.

**Measures**
The three instruments used for data collection were: Students’ Study Habit Scale (SSHS), Students’ Interest in Schooling Scale (SISS) and Attitudes toward Substance Abuse Scale (ATSAS). They have ten items each, the first five items were positive while the last five were negative which were reversed during analysis. They were designed using the modified Likert format requiring the participants to rate their responses with corresponding scores; strongly agree - 4; agree – 3; disagree – 2; strongly disagree – 1. A moderate score of 20–25 in SSHS and SISS indicate fairly good study habit and interest in schooling, while a high score of 26 and above indicates good
study habit and interest in schooling. A moderate score of 20 and above in ATSAS indicates favourable attitude toward substance abuse while a score of 19 below indicates unfavourable attitude toward substance abuse. The Cronbach alpha reliability co-efficient of 0.61, 0.73, and 0.59 were obtained for SSHS, SISS and ATSAS respectively.

(1) **Students’ Study Habit Scale (SSHS).** Some of the items that denote the study skills include:
- “I review each subject regularly during the term to cover the syllabus”
- “I don’t concentrate in the class”

(2) **Students’ Interest in Schooling Scale (SISS).** Some of the items that denote the students’ interests include:
- “Coming to school is very interesting”
- “School life is boring”

(3) **Attitudes towards Substance Abuse Scale (ATSAS).** Some of the items that denote the students’ attitudes towards substance abuse include;
- “Drug taking is injurious to health”
- “Drug taking is necessary for effective study”.

**Procedure**
Informed consent for the students to participate in the survey was obtained from the school principals. The adolescents were surveyed in their school halls with the assistance of the school principals, teachers and the school guidance counsellors. The researcher took time to brief the participants on the process of answering the items on the questionnaire. The administration of the instrument lasted for approximately two hours in each school.

**Data analysis**
Data were analyzed using frequency count and percentages as descriptive statistics to answer the research question and t-test as inferential statistics for the three hypotheses.

**Results**

**Research Question**
What is the profile of students’ ratings on study habit, interest in schooling and attitude toward substance abuse? Table 2 reveals the profile of students’ ratings on study habit. Fifty percent of the students reviewed each subject regularly during the term to cover the syllabus and majority of the students (78.1%) do their assignments regularly. Amazingly, only 27.2% concentrate in the class while 72.8% don’t concentrate in the class. Likewise, 71% complained that social activities always interfere with their studies while 29% do not have such interference.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>SA</th>
<th>A</th>
<th>D</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>I review each subject regularly during the term to cover the syllabus</td>
<td>23</td>
<td>11.0</td>
<td>82</td>
<td>39.0</td>
</tr>
<tr>
<td>12</td>
<td>I study regularly at a regular study time</td>
<td>27</td>
<td>12.9</td>
<td>69</td>
<td>32.9</td>
</tr>
<tr>
<td>13</td>
<td>I prepare for examinations without cramming</td>
<td>38</td>
<td>18.1</td>
<td>86</td>
<td>41.0</td>
</tr>
<tr>
<td>14</td>
<td>I review daily for each class</td>
<td>22</td>
<td>10.5</td>
<td>61</td>
<td>29.0</td>
</tr>
<tr>
<td>15</td>
<td>I do my assignments regularly</td>
<td>71</td>
<td>33.8</td>
<td>93</td>
<td>44.3</td>
</tr>
<tr>
<td>16</td>
<td>I usually spend too much time on a topic/subject before I understand</td>
<td>38</td>
<td>18.1</td>
<td>100</td>
<td>47.6</td>
</tr>
<tr>
<td>17</td>
<td>My social activities always interfere with my study</td>
<td>47</td>
<td>22.4</td>
<td>102</td>
<td>48.6</td>
</tr>
<tr>
<td>18</td>
<td>I don’t concentrate in class and when studying</td>
<td>66</td>
<td>31.4</td>
<td>87</td>
<td>41.4</td>
</tr>
<tr>
<td>19</td>
<td>I find it difficult to listen when taking notes</td>
<td>59</td>
<td>28.1</td>
<td>69</td>
<td>32.9</td>
</tr>
<tr>
<td>20</td>
<td>I don’t rest properly and this reduces my efficiency</td>
<td>55</td>
<td>26.2</td>
<td>79</td>
<td>37.6</td>
</tr>
</tbody>
</table>
Table 3 showcases students’ ratings on interest in schooling with majority of the students (79.5%) registering their interest in coming to school. Likewise, 69.5% of the students also enjoyed listening to their teacher(s) in the class. Surprisingly, majority on the students (75.3%) still complained that school life is boring. Likewise, majority of the students (85.3%) confirmed that their parents are forcing them to come to school. In spite of this, majority of them (81%) still agreed to go to post-secondary school institution after their secondary education.

Table 3. Profile of students’ ratings on interest in schooling.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>F</th>
<th>%</th>
<th>F</th>
<th>%</th>
<th>F</th>
<th>%</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>21</td>
<td>Coming to school is interesting</td>
<td>83</td>
<td>39.5</td>
<td>84</td>
<td>40.0</td>
<td>20</td>
<td>9.5</td>
<td>23</td>
<td>11.0</td>
</tr>
<tr>
<td>22</td>
<td>I enjoy listening to my teacher(s) in class</td>
<td>45</td>
<td>21.4</td>
<td>101</td>
<td>48.1</td>
<td>48</td>
<td>22.9</td>
<td>16</td>
<td>7.6</td>
</tr>
<tr>
<td>23</td>
<td>I am very regular in the school</td>
<td>113</td>
<td>53.8</td>
<td>76</td>
<td>36.2</td>
<td>16</td>
<td>7.6</td>
<td>5</td>
<td>2.4</td>
</tr>
<tr>
<td>24</td>
<td>I read magazines and comics to broaden my knowledge</td>
<td>41</td>
<td>19.5</td>
<td>67</td>
<td>31.9</td>
<td>67</td>
<td>31.9</td>
<td>35</td>
<td>16.7</td>
</tr>
<tr>
<td>25</td>
<td>I wish to go to post-secondary school institution after my secondary education</td>
<td>98</td>
<td>46.7</td>
<td>72</td>
<td>34.3</td>
<td>27</td>
<td>12.9</td>
<td>13</td>
<td>6.2</td>
</tr>
<tr>
<td>26</td>
<td>I always come late to school</td>
<td>94</td>
<td>44.8</td>
<td>68</td>
<td>32.4</td>
<td>30</td>
<td>14.3</td>
<td>18</td>
<td>8.6</td>
</tr>
<tr>
<td>27</td>
<td>I don’t get on well with my subjects in the school</td>
<td>73</td>
<td>34.8</td>
<td>89</td>
<td>42.4</td>
<td>31</td>
<td>14.8</td>
<td>17</td>
<td>8.1</td>
</tr>
<tr>
<td>28</td>
<td>School life is boring</td>
<td>82</td>
<td>39.0</td>
<td>76</td>
<td>36.2</td>
<td>30</td>
<td>14.3</td>
<td>22</td>
<td>10.5</td>
</tr>
<tr>
<td>29</td>
<td>My parents are forcing me to come to school</td>
<td>111</td>
<td>52.9</td>
<td>68</td>
<td>32.4</td>
<td>15</td>
<td>7.1</td>
<td>16</td>
<td>7.6</td>
</tr>
<tr>
<td>30</td>
<td>I don’t have any favourite subject</td>
<td>112</td>
<td>53.3</td>
<td>56</td>
<td>26.7</td>
<td>18</td>
<td>8.6</td>
<td>24</td>
<td>11.4</td>
</tr>
</tbody>
</table>

Table 4 shows the profile of students’ ratings on attitude toward substance abuse with majority of the students (84.3%) viewing drug taking as being injurious to health. Likewise 79% of the students saw drug taking as a gateway to failure. Despite this, (81%) of the students still felt that drug taking is necessary for effective study, 85.2% were of the opinion that to be energetic, one needs to take drugs and 73.3% agreed that they need take psychoactive drugs to get started in the morning or stop the shake.

Table 4. Profile of students’ ratings on attitude toward substance abuse.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Items</th>
<th>F</th>
<th>%</th>
<th>F</th>
<th>%</th>
<th>F</th>
<th>%</th>
<th>F</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>31</td>
<td>Drug taking injures health</td>
<td>134</td>
<td>63.8</td>
<td>43</td>
<td>20.5</td>
<td>17</td>
<td>8.1</td>
<td>16</td>
<td>7.6</td>
</tr>
<tr>
<td>32</td>
<td>Drug taking makes one to be irresponsible</td>
<td>109</td>
<td>51.9</td>
<td>64</td>
<td>30.5</td>
<td>26</td>
<td>12.4</td>
<td>11</td>
<td>5.2</td>
</tr>
<tr>
<td>33</td>
<td>Drug taking is a gateway to failure</td>
<td>100</td>
<td>47.6</td>
<td>66</td>
<td>31.4</td>
<td>30</td>
<td>14.3</td>
<td>14</td>
<td>6.7</td>
</tr>
<tr>
<td>34</td>
<td>People who take drugs die prematurely</td>
<td>45</td>
<td>21.4</td>
<td>65</td>
<td>31.0</td>
<td>72</td>
<td>34.3</td>
<td>28</td>
<td>13.3</td>
</tr>
<tr>
<td>35</td>
<td>Taking beer, cigarette and hard drugs consumes money</td>
<td>87</td>
<td>41.4</td>
<td>74</td>
<td>35.2</td>
<td>19</td>
<td>9.0</td>
<td>30</td>
<td>14.3</td>
</tr>
<tr>
<td>36</td>
<td>Drug taking is a form of relaxation</td>
<td>71</td>
<td>33.8</td>
<td>58</td>
<td>27.6</td>
<td>52</td>
<td>24.8</td>
<td>29</td>
<td>13.8</td>
</tr>
<tr>
<td>37</td>
<td>Drug taking is necessary for effective study</td>
<td>105</td>
<td>50.0</td>
<td>65</td>
<td>31.0</td>
<td>27</td>
<td>12.9</td>
<td>13</td>
<td>6.2</td>
</tr>
<tr>
<td>38</td>
<td>One feels matured and popular among peers when taking drugs</td>
<td>52</td>
<td>24.8</td>
<td>42</td>
<td>20.0</td>
<td>63</td>
<td>30.0</td>
<td>53</td>
<td>25.2</td>
</tr>
<tr>
<td>39</td>
<td>It is necessary to take a drug to get started in the morning or stop the shake</td>
<td>97</td>
<td>46.2</td>
<td>57</td>
<td>27.1</td>
<td>32</td>
<td>15.2</td>
<td>24</td>
<td>11.4</td>
</tr>
<tr>
<td>40</td>
<td>To be energetic, one needs to take drugs</td>
<td>118</td>
<td>56.2</td>
<td>62</td>
<td>29.5</td>
<td>18</td>
<td>8.6</td>
<td>12</td>
<td>5.7</td>
</tr>
</tbody>
</table>

**Hypothesis 1**

There will be no significant difference between male and female students’ study habit. The result in Table 5 reveals a significant outcome ($t = 2.42$, df 208, p<0.05) with the mean score of females being higher ($M = 27.65$) than those of males (26.21). This result indicates that the females have better study habits than male students. The hypothesis is therefore rejected.

Table 5. t-test Comparison of male and female students’ study habit.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Std Error</th>
<th>df</th>
<th>t</th>
<th>p</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>90</td>
<td>26.21</td>
<td>4.46</td>
<td>.498</td>
<td>208</td>
<td>2.42</td>
<td>.016</td>
<td>*</td>
</tr>
<tr>
<td>Female</td>
<td>120</td>
<td>27.65</td>
<td>3.98</td>
<td>.349</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant P<0.05
Hypothesis 2
There will be no significant difference between male and female students’ interest in schooling. The result in Table 6 showed that there was a significant difference in male and female students’ interest in schooling ($t = 3.50$, $df = 208$, $p < 0.05$); with the females having higher means ($M = 31.74$) than males ($M = 29.33$). This result indicates that the females are more interested in school than male students hence the rejection of the null hypothesis.

Table 6.  t-test Comparison of Male and Female students’ interest in schooling

<table>
<thead>
<tr>
<th>Locations</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Std Error</th>
<th>df</th>
<th>t</th>
<th>p</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>90</td>
<td>29.33</td>
<td>5.01</td>
<td>.560</td>
<td>208</td>
<td>3.50</td>
<td>.001  *</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>120</td>
<td>31.74</td>
<td>4.76</td>
<td>.417</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant $P < 0.05$

Hypothesis 3
There will be no significant difference between male and female students’ attitude to substance abuse. The result on Table 7 showed that there was a significant difference in male and female students’ attitude to substance abuse ($t = 3.83$, $df = 208$, $p < 0.05$) with the females having higher means ($M = 31.39$) in attitude to substance abuse than the males ($M = 29.01$). This result indicates that the females are more favourably disposed to substance abuse than male students. The null hypothesis is therefore rejected.

Table 7.  t-test Comparison of Male and Female students’ Attitude to Substance Abuse

<table>
<thead>
<tr>
<th>Locations</th>
<th>N</th>
<th>Mean</th>
<th>Std Dev</th>
<th>Std Error</th>
<th>df</th>
<th>t</th>
<th>p</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>90</td>
<td>29.01</td>
<td>4.33</td>
<td>.484</td>
<td>208</td>
<td>3.83</td>
<td>.000  *</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>98</td>
<td>31.39</td>
<td>4.39</td>
<td>.385</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Significant $P < 0.05$

Discussion
This study examined gender differences in some indicators of educational attainment (study habit, interest in schooling and attitude toward substance abuse) among the secondary school adolescents in Barbados. The profile of students’ ratings on study habit, interest in schooling and attitude toward substance abuse was examined. The outcomes of students’ ratings on the three variables appear contradictory. The students’ ratings on their study habits showed that majority of the students don’t concentrate in the class and they also confirmed that social activities always interfere with their studies. Surprisingly on the average, they agreed that they reviewed their work regularly and majority of them do their assignments regularly. A probable reason for this could be that the students just read amiss and they just make sure that they do their assignments anyhow to avoid punishment or embarrassment. This indicates that the students need to improve in their level of concentration and avoid daydreaming by asking questions about the material being read, as earlier suggested by ("Concentration tips," 2008). This result also corroborated the earlier findings of Risko, et.al (1991); Hadwin & Winne (1990); Archambeault, (1992); Meyer, et.al (1994); Boll, et.al (1995), that in order to be successful, students must relate world knowledge and experience to what they know about any given topic they are studying and manage their time properly as no single time management plan works for all students in all learning situations.

The result of students’ ratings on their interest in schooling also revealed that majority of the students were interested in schooling, they also enjoyed listening to their teacher(s) in the class and they still wished to go to post-secondary school institution yet they complained that school life is boring to them and that their parents have been forcing them to come to school. This result indicates that in spite of the teachers’ effort to sustain the students’ interest, they are still bored. The reasons for this may not be far fetched; the curriculum may be overloaded, the timetable may not be properly planned, the students may not be allowed to take their subjects of interest. This result supported the earlier suggestion by Evans, Heidi, Schweingruber & Stevenson (2002) that boys preferred science, math, and sports, whereas girls preferred language arts, music, and art, students will excel in their areas of interest.

An investigation of students’ ratings on attitude toward substance abuse showed that majority of them viewed drug taking as being injurious to health and that it is a gateway to failure. Despite this, the students still felt that drug taking is necessary for effective study, and were of the opinion that to be energetic, one needs to take psycho active drugs and also to get started in the morning or stop the shake. This means that the students are
favourably disposed to substance abuse and this may be affecting their study habit and interest in schooling. This result corroborated earlier findings of King, Meehan, Trim & Chassin (2006) that heavy adolescent substance use can lead to problems with working memory and attention which decreases academic performance and engagement in school, and ultimately increase risk for school problems and dropout. Though the adolescents in this study are not yet involved in substance abuse, yet it is necessary to take precautions because of their vulnerability.

The results of hypotheses one and two also revealed that females have better study habit and they are more interested in schooling. This indeed accounted for females’ outperforming their male counterparts in schools in Barbados and in the Caribbean. This result is not surprising, it confirms and corroborates the age long and popular research findings in gender literature that boys have been underachieving: in schools in Barbados, (Cumberbatch 1993) and in the Caribbean (Kutnick, Jules, Layne, 1997).

The result of hypothesis three also revealed that female students are favourably disposed to substance abuse. This is surprising because it is expected that the males will be more favourably disposed. This result is in consonance with the popular research findings in gender literature that women and men appear to differ in their vulnerability to some drugs, both are equally likely to become addicted to or dependent on cocaine, heroin, hallucinogens, tobacco, and inhalants or dependent on sedatives and drugs designed to treat anxiety or sleeplessness, and less likely than men to abuse alcohol and marijuana (The National Institute on Drug Abuse 2000).

Conclusion and recommendations

The findings of this study have contributed to existing literature on gender differences in students’ academic performance which had always been in favour of girls in Barbados and in the Caribbean schools. The outcome of this study indicated that female students have better study habits and they are more interested in schooling than the males hence their better academic performance. This result suggested that male students should be motivated to study more effectively and be more interested in schooling. On the measure of attitude toward substance abuse, the females too should be monitored so that they will not derail from their academic achievement. The findings of this study also suggested that generally; students have not been concentrating in the class and when studying, they are being distracted by social activities, they found school life boring, their parents have been forcing them to school and they are vulnerable to substance abuse.

Based on the findings of the study, the following recommendations are suggested for the purpose of ensuring quality education for both male and female students in Barbados in particular and in the Caribbean in general. There should be periodic lectures/talks on how students should:

- manage their time,
- take better notes,
- concentrate when studying,
- study more effectively,
- improve memory,
- take tests, and
- handle the stresses of college or school life.

Consolidated Research in Study Skills (2009) also highlights other behaviors that pertain to various school- and home-related situations which will help improve students’ academic performance. These include: preparing to learn (personal discipline, organizational skills, attitude, ability to self-monitor), how do learners acquire knowledge (e.g., listening, note taking, outlining, and organizing), and applying knowledge (e.g., test-taking, writing, remembering, and self-monitoring). It is hoped that when students are exposed to these skills, they will achieve more in the school, they will be useful to themselves and contribute to the economic growth and development of the country.

References


Caribbean Examinations Council (2008a). In their own words. The Caribbean Examiner, 6(1), 18–19.


Evaluating the link between learner assessment and teacher development: Implementation of Integrated Quality Management System in South Africa

Azwidohwi Philip Kutame*

University of Venda, Thohoyandou, Limpopo Province, RSA

For more than two decades, the South African experience of teacher assessment and school evaluation especially in black schools has not been a positive one. Teachers felt that assessments were faultfinding resulting in being victimised. The purpose of this study was to evaluate the link between learner assessment and teacher development which is guided by the results of the Integrated Quality Management System (IQMS). Self-administered questionnaires from 305 educators were used to assess the link between educator and learner performance. Teachers believe that learner performance is dependent on teacher performance. Results show a significant difference for teachers of different gender groups in the rating of the item regarding teacher performance impacting on learner performance (Chi-square = 16.857; p< 0.05; Cramer’s V= 0.236). Significantly more females than males believe that learner performance is directly linked to how the teachers perform while in class. The results suggest that learner performance would affect that of their teachers thereby having effect on the teachers’ development. The IQMS signals a new approach to teacher performance evaluation in the South African education system, presenting an opportunity for the education authorities to build a quality education system.

Background

The desire to use assessment to drive the quest for standards and quality education is a worldwide phenomenon manifested in the surveys, conducted internationally, regionally and nationally to measure the quality of educational attainment. There is a strong move in many parts of the world for education to become an evidence-based practice and for teaching to become an evidence-based profession, based on a model of professional action.

This paper is based on the study undertaken on behalf of the Professional Educator’s Union in South Africa regarding debates on the assessment of educators for salary progression based on learner performance.

For more than two decades, the South African experience of teacher (‘teacher’ to be used interchangeably with ‘educator’ in this study) assessment and inspection especially in black schools has not been a positive one. Educators felt that evaluations were faultfinding resulting in being victimised (Mathula, 2004). Educators had no access to the reports that were written about their performances and did not know how and why the judgements that were made about them were arrived at. They were also not given any developmental support that was linked to these inspections. It is very possible that this situation is contributory towards the unsatisfactory results we see in learner achievement. The classroom teacher is central in the process of educating children and therefore a performance-based teacher evaluation system is critical to improving teaching and learning.

Although politically and legally the scenario in South Africa has changed since the democratic government in 1994, a large number of South Africans are still under-prepared and disadvantaged in relation to educational attainment. The requirements of public education have changed substantially in the last fourteen years and schools as well as education managers at all levels of the system are required to respond to the heightened expectations of parents and society. The response from the education system where some schools have even been labelled as dysfunctional has to be direct and convincing in order to address quality education and opportunity to all. Schools are expected to teach all children, regardless of the level of skills or personal

*Email: pkutame@univen.ac.za

ISSN 1727-5512
©School of Education, The University of the West Indies Cave Hill Campus
http://www.cavehill.uwi.edu/hed/education/CERJ.htm
circumstances they present, to a high level of academic achievement for this new age. In order to succeed in this most important endeavour, schools must improve the quality of teaching and learning.

School management teams must focus the collective efforts of all school personnel on primary goals of improved student learning. The performance of educators is the foundation for achieving the goal of increased learner achievement. Evaluation of programmes and practices is essential to any ongoing effort to improve any profession. Evaluation is not apart from but is a part of the educational process. Both teachers and learners need assessment to identify their needs and to determine the most appropriate and effective means of helping learners to learn and grow.

Debate about the importance of teacher quality in improving students’ academic performance and experiences of schooling (Ingvarson & Rowe, 2008; Kennedy, 2008) is still going on. Kennedy (2008) states further that everyone wants to measure it, reward it, or improve it. What gets measured is what gets changed, and it is therefore important that the indicators are carefully chosen to reflect true measures of quality schooling (Taylor, 2006).

Within the organized teaching profession the need was felt to develop an appraisal instrument that would be acceptable to all stakeholders and would enhance the development of competency of educators and the quality of public education in South Africa. The Integrated Quality Management System (IQMS) was introduced through Collective Agreement Number 8 of 2003 (Education Labour Relations Council, 2003), which would align the different Quality Management Programmes and implement the Quality Management System which includes Development Appraisal (which appraises individual teacher) and Performance Measurement (which evaluates individual teachers for salary progression, affirmation of appointments, rewards and incentives). Through negotiations, research and piloting of the various proposals in which educator unions participated, an agreement which represented the good faith which existed between various stakeholders, and embraces the democratisation that is prevalent in education in South Africa was reached.

Following this, Collective agreement number 1 of 2008 was signed (Education Labour Relations Council, 2008) which indicates that educator pay progression would be dependent on satisfactory performance in terms of the IQMS to be conducted at school. Learner performance was included as a basis for assessing the performance of educators through this agreement though the extent to which it may be an integral part is still being debated. On the other end, literature suggests that evaluations that determine teacher salary or influence a teacher’s professional designation are more likely to affect instructional practices and teaching outcomes than ones that do not (Goldrick, 2002). Knowledge and skill-based classification and pay-for-performance systems are revolutionary changes in the teaching profession, and they have yet to happen in most jurisdictions.

One of the aspects of the IQMS that was regarded as crucial in its implementation is the development of a professional growth plan that informs further professional development processes through up-skilling of educators and improvement of their qualifications as determined by the assessment results of the IQMS (Education Labour Relations Council, 2008). In section three of the guidelines, educators were encouraged to develop a professional growth plan and to comment on their achievement on some of the stated outcomes (Raven, 2005). The appraisal system tied performance ratings to salary rewards, advancements and increments (Machingambi, 2008) though the system was not well received by many teachers, who argued that the system was among other things, open to abuse by school managers who could even use it to settle scores with teachers. However, for the South African education system, the main objective of the IQMS is “to ensure quality public education for all and constantly improve the quality of learning and teaching...” (Education Labour Relations Council, 2003: 3). The validity and reliability of the system was therefore brought into serious questioning.

According to the agreement (Education Labour Relations Council, 2003: 4), the philosophy underpinning the IQMS is based upon the fundamental belief that the purposes of the IQMS are fivefold:

- To determine competence;
- To assess strengths and areas of development;
- To provide support and opportunities for development to assure continued growth;
- To promote accountability, and
- To monitor an institution’s overall effectiveness.

The department of education considers this policy a shift from the system of inspection to a system of self-evaluation and external evaluation. The IQMS endeavours to bring together three instruments which are
moral and philosophically very different, based on the philosophy of support and development. It also views teachers as professionals who are able, with the inputs of their peers, to identify their developmental needs. The performance measurement system is based on managerialism which does not acknowledge the ability of teachers to devise their own development paths.

Literature suggests that some states in America considered developing or implementing performance assessments of teachers requiring demonstration of subject knowledge and pedagogy with a view measuring the effectiveness of teachers based on student learning (Goldrick, 2002). However, lack of assessments, data systems, and evaluation processes capable of capturing the complexity of teaching skills and their impact on student learning makes teacher assessment difficult. There are also concerns about the reliability of test scores, student achievement reflects numerous influences unrelated to an individual teacher. For example, a single test may or may not properly reflect a student’s true knowledge and skill. For these reasons, and because of the inherent volatility of small data samples, experts generally agree that teacher performance should never be based on the achievement of a single cadre of students; neither should it be based on student achievement alone (Goldrick, 2002).

Teaching should be seen as dependent on environmental, institutional, and structural factors such as resources, staffing, workload venues, libraries, time-tabling, leadership and management, incentives and human resource policies and practices (Goldrick, 2002; Higher Education Quality Committee, 2004). Teaching is a transaction, a process, an emotional connection between educator and learner (Moore, 1982; Du Plessis, 2005). Teaching cannot, therefore, be assessed as an attribute of a skill of a lecturer or a department, independent of learners who have their own characteristics which affect whether or how much they learn from a particular educator. This implies that teaching cannot be assessed along any single dimension of quality (Walker, 1988; Reddy, 1998; HEQC, 2004).

Concerns about the reliability of test scores have influenced policymakers against holding teachers accountable for student learning (Goldrick, 2002). Goldrick indicates further that student achievement reflects numerous influences unrelated to an individual teacher—past schooling, family background, behavioural and health problems, and other external factors. A single test may or may not properly reflect a student’s true knowledge and skill. For these reasons, and because of the inherent volatility of small data samples, experts generally agree that teacher performance should never be based on the achievement of a single cadre of students; neither should it be based on student achievement alone (Kane, Douglas, Staiger & Geppert, 2002).

Teaching does not automatically result in learning—there is no direct cause and effect relationship between the two activities (HEQC, 2004). If the link between teaching and learning is uncertain and unpredictable, then it follows that any attempt to define good teaching would be limited. However, there is empirical evidence that suggests that teacher inputs have impact on student outcomes (Singh & Stoloff, 2008).

It is against this background that debates have been going on whether teacher performance and development should be linked to learner performance and whether this would contribute to quality education for all. This paper investigates the link between teacher and learner assessment and whether IQMS can effectively be used to evaluate teachers with the aim of building their capacity for quality education. I argue that teacher assessment through Integrated Quality Management System, can be based on learner performance, and can adequately measure the performance of educators towards their professional development. I explored the implications of evidence-based practice in education and suggested to educators, researchers and policy makers to broaden the scope of thinking about education and assessment during the 21st century.

**Purpose**

The research objective was an assessment of the perceptions of teachers on the use of IQMS in assessing teacher performance (which is based on learner performance) to identify areas of development in order to improve the quality of education.

The purpose of this paper was to:

- investigate the attitudes and perceptions of teachers on the effectiveness of the IQMS assessment system;
- assess the link between learner and teacher assessment towards teacher professional development;
- assess the extent to which teacher development can be determined by learner performance; and
- demonstrate how teaching excellence within the changing pre-higher education landscape can be measured and improved.
Methodology

Sampling
A total of 305 teachers conveniently sampled in the public and private primary, special, combined and secondary schools in both the urban and the rural communities from four of the nine provincial departments of South Africa participated in the survey. Of these, 57.4% were females and 42.6% were males; 19.8% were of the ages 30 to 39 years, 49.3% were 40 to 49 years of age, 28.4% were 50 to 59 years of age while 2.5% were 60 years of age or older; 27.2% had a first degree and a training certificate only, 32.9% had a second degree and a teaching qualification, and 4.5% had a masters degree and a teaching qualification; 89.1% had been teaching for 10 years or less, 6% for 11 to 20 years and 4.9% for 21 to 30 years; 20.2% were teaching in the Foundation phase, 31.5% in the Intermediate phase, 15.7% in the General Education Band (GET) and 32.5% in the Further Education Teaching (FET) band.

Instrumentation
A self- administered Educator Performance Questionnaire (EPQ) was constructed following a literature review of the studies on implementation of IQMS and from personal experiences. Piloting of this questionnaire indicated that South African teachers judged it to be suitable for local use, in respect of both language and content. The instrument measured seven characteristics of the educator that were chosen as variables, namely gender, age, academic qualifications, professional qualifications, length of teaching experience, teaching phase and name of province from which the educator comes. The inventory covered several aspects regarding implementation of the IQMS. For the purposes of this paper, only those parts of the EPQ relating to the link between learner and educator assessment established through implementing IQMS will be described in detail. The educators were requested to rate the aspects of the teaching quality that could be assessed to establish the link between learner and teacher assessment towards teacher professional development on a five-point Likert-type scale to indicate the general attitude associated with implementation of IQMS indicated as Strongly Agree, Agree, Not sure, Disagree and Strongly disagree. They responded to the questions by indicating the extent to which they agree or disagree with each of the aspects by ticking on the appropriate box. Questionnaires were completed anonymously with respondents asked only to check details of gender, age, qualifications, years of teaching experience and teaching band.

Procedure
With the permission of circuit managers and conference organizers, copies of the EPQ were distributed to educators by members of the Professional Educators’ Union Education Committee from four of the nine provinces of South Africa. These members were guided on the completion of questionnaires to ensure as far as possible, standardized administration, and to secure respondents’ guarantee of confidentiality. Each province has several districts; each district vice chairperson was assisted by selected members to reach respondents in distributing and collecting the questionnaires. Other means of reaching members were used; some questionnaires were distributed and collected during conferences and workshops for teachers. All data were collected between 1 May and 30 November 2008.

Data capturing and editing
Data were entered into data editor loaded with Statistical Package of Social Sciences (SPSS) file. Although I had taken considerable care in entering the data from the study, with the help of the data analysis expert, we checked for errors that might have occurred during capture. Two approaches to error checking were used so that errors that occurred during capture are corrected: examining the data set directly using the case summaries approach and running the procedure, frequency, which produced a summary table of values for each variable. One approach could have been used but we used two to double-check for errors.

Data analysis
Data were analysed using SPSS 16.0 for Windows to examine the link between learner and educator assessment based on the implementation of the IQMS as reported by educators and their association with the following factors:
The following SPSS procedures were used to develop a description of the characteristics of the respondents: frequencies, crosstabs, and graphs. Bivariate analyses were conducted to test for statistical significance of the association between the variables using the chi-square test procedures. Factor analysis was done to discover patterns among variations in values of the variables. This was done through the generation of artificial factors that correlate highly with several of the real variables and that are independent of one another.

Results

Perceptions towards application of IQMS
The majority (64%) of respondents felt that assessment through IQMS empowers educators and increase their level of responsibility; 64% showed that IQMS promotes individual professional growth of teachers, more females (65.3%) agreed with this statement.

Assessing learner and educator performance
Most participants (61.3%) believed that educator performance can be determined by learner performance, poor learner performance would suggest poor educator performance. While 42% did not think that IQMS instrument is reliable for assessing educator performance, 41.4% thought it is reliable. This kind of response was elsewhere observed; for purposes of educator salary increment, 38.8% indicated that performance should be determined through application of IQMS. A significant number of respondents (41.3%) thought that linking IQMS to salary increment improves educator performance while a majority (62.4%) agreed that such educator performance measurement for salary increase should consider environmental conditions of service.

Assessment period
IQMS bases its evaluation on work done during one calendar year. Results show that 35.3% agreed and 10.2% strongly agreed that educators’ performance based on their work done during one academic year is a reliable measure of the educator’s performance linked to pay progression. More than a quarter (41.7%) of respondents agreed and 8.6% strongly agreed that measurement based on the educator’s work done during one academic year is a reliable measure of the educator’s performance based on the learner’s performance, 24.7% thought that determination of educator performance should be based on the performance of learners in the educator’s subject. These results suggest that the number of learners passing examinations indicate the level of educators’ performance.

Linking educator to learner performance
Nearly half of the respondents (49.5%) indicated that the implementation of IQMS improves teaching and learning. Only 24.7% of respondents believed that educator performance should be based on the performance of learners in the educator's subject, while just more than half (54.7%) of respondents agreed that performance of learners in Grade 12, the exit point to Further Education and Training in South Africa, is directly linked to educator performance. The majority (64%) of respondents further indicated that learner performance in all grades is directly linked to how the educator performs while in class. Nearly half (49%) of the respondents believed that learner performance in Further Education and Training is directly linked to how the educator performs while in class.

Correlations coefficient for gender
Results show a significant difference for teachers of different gender groups in the rating of the item regarding learner performance dependent on educator performance (Chi-square = 9.705; p< 0.05; Cramer’s V= 0.179). Significantly more females than males agreed that learner performance is dependent on educator performance. Significant differences for educators of different gender groups were also observed in the rating of the item regarding performance of learners in Grade 12 (Chi-square = 12.565; p< 0.05; Cramer’s V= 0.204); more males agreed that performance of learners in Grade 12 is directly linked to educator performance; more females (67.6%) agreed that learner performance in all grades is directly linked to how the teacher performs while in class (Chi-
The Caribbean Educational Research Journal 101

square = 16.857; p< 0.05; Cramer’s V= 0.236). Significant differences were also observed on “Linking IQMS to salary increments improves educator performance” and “IQMS promotes individual professional growth of educators” as shown in Table 1 below.

Table 1. Correlations coefficient for gender and percentage of respondents rating IQMS implementation factors as agree or strongly agree.

<table>
<thead>
<tr>
<th>IQMS implementation factors</th>
<th>Chi-Square</th>
<th>Male (N=130)</th>
<th>Female (N=173)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Learner performance is dependent on educator performance</td>
<td>9.705*</td>
<td>76.3</td>
<td>83.8</td>
</tr>
<tr>
<td>2 Linking IQMS to salary increments improves educator performance</td>
<td>16.816**</td>
<td>39.2</td>
<td>42.8</td>
</tr>
<tr>
<td>3 IQMS Promotes individual professional growth of educators</td>
<td>11.121***</td>
<td>62.3</td>
<td>65.3</td>
</tr>
<tr>
<td>4 Learner performance in all grades is directly linked to how the educator performs while in class</td>
<td>16.857****</td>
<td>59.2</td>
<td>67.6</td>
</tr>
<tr>
<td>5 Performance of learners in Grade 12 is directly linked to educator performance</td>
<td>12.565*****</td>
<td>56.1</td>
<td>53.8</td>
</tr>
</tbody>
</table>

*p<0.04;  **p<0.00;  ***p<0.02;  ****p<0.00;  *****p<0.01 All correlations are Pearson’s r.

Significant differences were also observed for educators of different age groups in the rating of “Learner performance is dependent on educator performance” and “Through IQMS educators are empowered to increase their level of responsibility”. These can be clearly observed in Table 2 below.

Table 2. Correlations coefficient for age and percentage of respondents rating IQMS implementation factors as agree or strongly agree.

<table>
<thead>
<tr>
<th>IQMS implementation factors</th>
<th>Chi-Square</th>
<th>30-39</th>
<th>40-49</th>
<th>50-59</th>
<th>60+</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Learner performance is dependent on educator performance</td>
<td>22.350*</td>
<td>76.3</td>
<td>76.5</td>
<td>85.9</td>
<td>85.8</td>
</tr>
<tr>
<td>2 Through IQMS educators are empowered to increase their level of responsibility</td>
<td>21.095**</td>
<td>63.6</td>
<td>59.4</td>
<td>73.5</td>
<td>71.4</td>
</tr>
</tbody>
</table>

*p<0.03;  **p<0.04 All correlations are Pearson’s r.

Discussion

These findings are limited by the reliance on quantitative data. The findings of the study support that there is a link between learner and teacher assessment towards teacher professional development.

In terms of the Integrated Quality Management System departments of education are held accountable for development of educators with a special focus on teachers (ongoing and accelerated teacher development) by ensuring that they make maximum impact. Such impact can be visible through assessment of learners’ knowledge and skills. The results indicate that the application of the IQMS clearly benefits learners as it promotes professional growth of educators and improve their skills. Student learning should be incorporated into teacher evaluation to transform evaluation from a traditionally input-based process into an outcome-driven one. Evaluators should consider measurable student achievement as a principal outcome on which teachers are evaluated.

IQMS is an informational tool to help school administrators identify teachers who need additional or specialized assistance and to help individual teachers improve their instructional practices. The data would seem to suggest that teachers consider the implementation of IQMS to be contributing significantly to their professional growth which enable them to improve their teaching skills. Career ladders can provide education departments an opportunity to strengthen teacher evaluation policy and align it with performance-based teaching standards. Teachers are in favour of being assessed through this system which diagnoses their strengths and weaknesses through assessment based on learner performance.

Teachers feel that they should be assessed through this system which is based on learner performance. The results link learner performance to teacher performance in a bid to grade, remunerate and develop the teacher. Teachers also regard this teacher assessment system a reliable measure of their performance. However, results indicate that effective training of educators is pivotal to the successful implementation of IQMS and its quality assurance. Evaluators need pre-service training to conduct a more accurate and effective teacher assessment. Training might focus on skills such as analyzing effective teaching practice, determining a teacher’s impact on student learning, and providing leadership for professional development and remedial assistance.
There are some aspects of the data which more specifically highlight the current experiences of teachers within South African schools system. In particular, more respondents agree that linking IQMS to salary increment would improve teacher performance, a requirement of the presently signed agreement on the Occupation Specific Dispensation (OSD). The incentive to improve salary on the basis of learner performance, an indicator of teacher performance, should motivate teachers to avail themselves for development and improve their performance. Other conditions play a role in contributing towards improving quality of teaching.

Consistent with literature, results indicate that environmental conditions should be considered when implementing IQMS. It needs to be stressed that owing to inadequate opportunities and resources for teaching and learning in traditionally disadvantaged schools, black learners (particularly in rural parts of South Africa) find themselves in an educational situation that rarely promotes optimal actualisation of their personal potential and satisfactory acquisition of new knowledge and skills. The schools within South Africa vary greatly and schools within rural areas and townships are still disadvantaged in terms of resources and facilities even after the democratic government took office in 1994. Results show that these complexities within which disadvantaged schools work should be considered in order to evaluate the true performance of teachers and learners. This system can only be effective if the appropriate human resources are provided at each level of the system. This includes educators, evaluators, managers and subject advisors.

With the increasing demand of the provincial and national education departments to ensure that schools become accountable for their learners’ performance, the need for a system, which assesses teacher performance, has become imperative. Results show that there has to be support for this process by all key role-players in the system, since the system advocates quality as an integral part of each process and phase. Assessment systems are important mechanisms that education institutions can use to gauge their effectiveness. If quality education is to be attained then some form of assessment is needed. This study established that teacher development can be linked to learner performance for improvement of quality teaching and learning. The more developed teachers are, the more they should be able to improve their teaching skills which should ultimately improve learner performance.

As Goldrick (2002) concluded, teacher quality affects student achievement more greatly than any other school based variable. The IQMS evaluates teacher performance, identifies weaknesses, and establish a basis of upgrading teachers for improved quality of education. The results of this survey point out clearly that assessing teachers using IQMS is a viable approach to identify areas of teacher development. Further, the results indicate that by linking evaluation with academic standards for students and professional standards for educators, policymakers can transform teacher assessment into a more effective tool for improving instructional practice and raising student achievement. The best intentions of assessment through IQMS are to improve standards and quality of education, but, if close watch is not kept on all the processes, then it can have the opposite effect, and our analysis so far indicates that the Department of Education succumbed to this temptation in the years through poor management.

The study will make a major contribution to our understanding of educational assessment, practice and policy. This research is in progress and the data are not yet fully explored. Interviews need to be conducted to get first hand evidence and information where respondents will be able to express their views. Further, the findings of this study would need to be verified by studies carried out in other countries than South Africa to enable a cohesive body of research to be established on the link between learner and teacher assessment and the extent to which teacher assessment through IQMS may be used to promote quality of education. This would help in extending the frontiers of knowledge on learner and teacher assessment and teacher development.

References


Will Technical and Vocational Education and Training (TVET) Guarantee Economic Development of Caribbean Islands?

Halden A. Morris

For many decades, several arguments have been put forward that Technical and Vocational Education and Training (TVET) is the key to economic development of developing countries throughout the world. This argument appears valid when one investigates the progress made by countries such as Malaysia, Japan, Singapore and others that have invested enormous capital in TVET as a key ingredient in planning their economic development. During the last decade several countries in the Caribbean such as Jamaica, Barbados, Trinidad and Tobago and the Organization of Eastern Caribbean States have recognized the importance of this type of education and have taken steps to implement significant changes to their education and training curriculum to include aspects of TVET. This paper focuses on some of the imperatives to be considered by Caribbean Islands when attempting to implement TVET and to determine if this approach will contribute significantly to the economic and national development anticipated by governments and peoples of the Caribbean.

**Key Words:** Technical and Vocational Education and Training; Sustainable Economic Development; National Development; TVET Curriculum.

**Introduction**

During the last four decades, developing countries in their efforts to implement some level of sustainable development, have experimented with technical and vocational education and training (TVET). Their involvement is termed experimental because of their lack of trust in the potential of this type of education. It appears reasonable to believe that TVET is potentially capable of satisfying people’s basic needs when one reflects on Maslow’s theories of basic individual needs. The usual method to satisfy hunger and thirst is through money from the job. Money can be exchanged for food and drink. Likewise, money can be used to secure shelter, medical care and to a large extent self esteem and eventually self actualization. During the last decade developing nations have been challenged to establish new targets towards their growth and development. Targets such as the Millennium Development Goals (MDGs) and Developed Country status are two such targets. In order to meet these targets, some governments have placed emphasis on the development and implementation of TVET programmes which is in-fact adherence to calls made by organizations such as the United Nations Educational, Scientific and Cultural Organization (UNESCO), International Labour Organization (ILO), Caribbean Community (CARICOM) and others.

Park, Majumdar and Dhameja (2009) termed sustainable development as being ‘elusive’ since many people misunderstand this to mean environmental protection or economic development. They suggested that sustainable development is about “maintaining and improving people’s quality of life without compromising the ability of future generations to meet their own needs” (page 225). Sustainable development is based on integrating socio-cultural, environmental and economic considerations, consequently, TVET systems must respond to the changing nature of the world of work as influenced by globalization and technological changes which are driven by research and development and the demand of workplaces for a skilled, knowledge based workforce. Workforces in developing nations such as those in the Caribbean need to exhibit a high degree dynamism and entrepreneurial spirit as well as incorporating research in their TVET pursuits in order to meet the parameters of growth and development.
The Caribbean, though a relatively small population (approximately 6.5 million) is a region with a wide ethnic diversity. Traditionally, the economies of the Caribbean rely primarily on agriculture, livestock, fishing, tourism, localized mining such as Bauxite in Jamaica and oil in Trinidad and Tobago. A particular concern is how the population can be motivated to assume responsibility for developing sustainable economic livelihoods, especially against the background that traditional markets have removed preferential treatment for the purchase of banana and other agricultural products. Caribbean nations are particularly exposed economically and as such must take action in implementing strategies for economic stability and survival. Some persons in the Caribbean believe that TVET is one of the primary avenues through which economic stability and prosperity will be achieved. However, many are yet to be convinced of the power and ability of this means to achieving prosperity. Perhaps more would be convinced if the necessary infrastructure was in place to facilitate this growth and development.

What is Technical & Vocational Education and Training (TVET)?
Irrespective of geographic location, the acceptable definition for TVET comprises three major ingredients: Organized programmes, preparation for the world of work, education that does not necessarily require a baccalaureate degree. According to Calhoun and Finch (1982), in 1976, the United States Congress defined vocational education as:

“Organized educational programmes which are directly related to the preparation of individuals for paid or unpaid employment, or for additional preparation for a career requiring other than a baccalaureate degree or advanced degree” (Page 2).

They further argued that this definition gives broad and inclusive meaning of vocational education and includes such fields as agricultural education, business and office education, distributive education, trade and industrial education, health occupations education, home economics education. UNESCO –UNEVOC, the international centre for technical and vocational education and training, in their outline of “what is TVET?” stated:

“TVET is concerned with the acquisition of knowledge and skills for the world of work. Throughout the course of history, various terms have been used to describe elements of the field that are now conceived as comprising TVET. These include: Apprenticeship Training, Vocational Education, Technical Education, Technical-Vocational Education (TVE), Occupational Education (OE), Vocational Education and Training (VET), Professional and Vocational Education (PVE), Career and Technical Education (CTE), Workforce Education (WE), Workplace Education (WE), etc. Several of these terms are commonly used in specific geographic areas”. (Page 1)

At an International Labour Organization (ILO)/Organization of Eastern Caribbean States (OECS) workshop aimed at strengthening national vocational training policy in the Caribbean, held in St. Lucia in 2002, Mr. Payne, TVET-Co-ordinator of the OECS Education Reform Unit (OERU), proposed the following definition of TVET:

“Technical and Vocational Education and Training is defined as any education or training programme, course, module or scheme that contributes towards the collective development of the necessary knowledge, skills and attitudes required for further education and training and/or for gainful employment.” (Page 8)

The 2001 UNESCO/ILO Revised Recommendation concerning Technical and Vocational Education use “technical and vocational education” as “a comprehensive term referring to those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupations in various sectors of economic and social life” (Page 1).

(a) an integral part of general education;
(b) a means of preparing for occupational fields and for effective participation in the world of work;
(c) an aspect of lifelong learning and a preparation for responsible citizenship;
(d) an instrument for promoting environmentally-sound sustainable development;
It includes “aspects of education that are technical and vocational in nature, provided either in educational institutions or under their authority, by public authorities, the private sector or through other forms of organized education, formal or non-formal, aiming to ensure that all members of the community have access to the pathways of lifelong learning”

Captured in Payne’s definition are two key elements which can be consideredParallel to UNESCO/ILO’s definition. The inclusion of attitudes is important and can be considered critical for developing countries to embrace. Without the right attitude, it is unlikely that young persons will appreciate the benefits that can be derived from such education. The second element focuses on advance education. This definition anticipates that recipients will be prepared for further education and training. The inclusion of these elements suggests that considerable work needs to be done on existing programmes and curriculum to meet these demands. According to Montaque (2009), researchers and policymakers in several countries have tried to provide guidance for TVET curriculum developers by identifying competencies that TVET programmes should develop to address needs such as these. He made reference to the Australian Qualifications Framework in which competency standards such as those related to “life-cycle thinking, eco-efficiency and design, sustainable purchasing strategies, product stewardship and ecological foot-printing” (p. 376) are included.

The foregoing definitions suggest that relevant TVET will provide a sound basis for individuals to become employable and hence a productive member of the society. With appropriate attitudes and access to available work, persons should at all times be gainfully employed. This sustained employment will indeed contribute to national development.

Relevance of training and training systems
TVET is described as an indispensible component for building economies, however this education will be useless as it is relevant and aimed at addressing national and regional priorities. According to Fluitman (1999), “a national training system may be considered to lack relevance if it does not produce, or no longer produces, enough of the skills that contribute in one way or another to meet macro-economic and social objectives such as income growth and equity; or if it does not respond adequately to changing circumstances, notably those in the labour market” (p. 57). Training systems should respond to the country’s current and future skills requirements. They should be outward looking and anticipate employment realities. Fluitman explained the relevance of training systems in terms of internal and external efficiency (See Figure 1). He suggested that the relevance of the training and training systems, referred to as their external efficiency should be of particular concern to countries undergoing rapid economic and social change.

Figure 1. Training Systems’ Supply & Demand (Fluitman,1999).

Pressures may be placed on the training system because of demand which may result in active or passive structural adjustment with measures aimed at increasing competitiveness in international markets. Fluitman suggested that among the common symptoms of deficiencies is the relevance of a country’s training system in
meeting skills related productivity problems in the national economy, together with vacancies in certain skilled occupations and significant surpluses in others. The training system will be deemed inefficient if it is not making the best use of the resources at its disposal. The system may be perfectly relevant and effective in meeting its targets and at the same time quite inefficient if the facilities and staff are underutilized. Courses may be too long or contain unnecessary content.

Quisumbing (2005) presented the global scenario as a challenge to TVET. He pointed to the rapid advances in just about every field but laments the magnitude of human suffering which exists in the form of injustice, inequity, poverty, sophisticated forms of violence, torture and war, the frequency of terrorism, ethnic conflict and genocide, escalating degradation of the environment, destruction of various forms of life, breakdown of human, ethical and spiritual values. He drew inspiration from two documents produced through TVET namely “Lifelong Learning and training: a bridge to the future”, a final report of the second International Congress on TVE held in Korea in 1999 and “Technical and Vocational education and training: a vision for the twenty-first century”, the UNESCO and ILO Recommendations dating from 2001. He declared that “There is no doubt that skills development and knowledge are not sufficient for achieving a lasting culture of peace and sustainable, human centered development” (P. 292) and added that values and ethics must be central to any TVET programme.

There is no doubt that the relevance of training and training systems is of paramount importance, especially to developing states and regions such as Jamaica and the rest of the Caribbean where training must focus on real needs and not just perceived ones. Central to this is the need to conduct ongoing research to provide empirical data which will determine which needs are essential and those which can be considered perceived needs. Although one might argue that TVET training can be applied in various situations and that there are certain generic skills that can be structured into developmental framework, the question of relevance cannot be overlooked. Park, Majumdar, & Dhameja (2009) analyzed Kerns (2001) model for clustering generic skills which is structured into the following domain independent groups: cognitive, interpersonal, enterprise, innovation and creativity and work readiness and work habit clusters. In addition to these domain independent groups, they proposed economic, environmental and social sustainability for all disciplines and trades. Clustering of these skills brings us closer to understanding the link between TVET and economic development, however, without appropriate policies; challenges will be faced in implementing an effective TVET system.

Articulating a TVET policy
In order for Jamaica and other Caribbean Countries to benefit from TVET programmes, a platform to facilitate TVET must be provided. This necessitates articulating and formulating policies that will drive the TVET development process. Policies should be developed, agreed upon and implemented in consultation with as many stakeholders as possible. According to Morris (2009) TVET policy formulation, like other policy formulation cannot take place in a vacuum. Policy makers must be prepared to investigate all variables and aspects that will influence the policy before embarking on such activity. Morris further suggested that in order to formulate effective policies for the Caribbean, the policy makers should:

- Review existing policies and plans and source documents
- Consider the Regional context
- Include as many stakeholders as possible
- Encourage partnerships
- Consider economic variables
- Consider social variables
- Develop and implement a vision

Policies will form the basis on which appropriation of funds can be justified by governments and developments can be approached with high levels of confidence. Policies will not by themselves stimulate economic growth and development, however these will articulate clearer processes for involvement, generate interest and perhaps a level of confidence that will facilitate participation and in the long term stimulate sustainable economic development.

At a National Workshop on Technical and Vocational Education and Training in Pyongyang, Democratic People’s Republic of Korea during 30 August to 01 September 2006, Hans Kröner in an effort to emphasize the
importance of TVET, advocated that TVET constitutes more than just education policy. He claimed that TVET policy needs to relate to:

- general education policy
- youth policy
- adult education policy
- vocational rehabilitation
- public service employment and remuneration conditions
- economic policy
- private sector and enterprise promotion policies
- industrial development policies
- labour market and employment policies

Investigation of these stipulations reveals the scope and the reach that can be achieved through TVET.

Rajput (2009) called for a reorientation of policies to reshape TVET to address the emerging concerns of sustainability. By linking TVET to economic, environmental and social aspects of sustainability, formulation of policies has become a critical concern of policy makers as well as curriculum developers. In India for example, special consideration has been given to ensure greater participation of girls and women in TVET. Today, many women are interested in technology including refrigeration, repairs and maintenance; however there is need to comprehensively integrate this education with the “Education For All” initiatives that are currently taking place. In the Caribbean, countries are taking steps to incorporate policies to include TVET as a way forward in meeting established development goals. In Jamaica, Barbados, Trinidad and Tobago for example, organizations are established to provide TVET and hence train a workforce that will be capable of stimulating economic growth and development.

TVET for sustainable economic development

According to the UNESCO (2009), “the primary objective of all technical and vocational education and training (TVET) programmes is the acquisition of relevant knowledge, practical skills and attitudes for gainful employment in a particular trade or occupational area. Skills acquisition is vital for an economy to compete and grow, particularly in an era of economic integration and technological change. Skills needs are widespread in most developing countries - they are not only demanded by the modern wage sector but also by the agricultural and informal sectors. TVET is a direct means of providing workers with skills more relevant to the evolving needs of employers and the economy” (United Nations Economic and Social Council, 2009).

Fien and Maclean (2009) used a Five Capitals approach to identify principles for a sustainable society and suggested that maintaining a dynamic and balanced integration of the five forms of capital is essential for sustainable development. The Five Capitals approach is based upon the five types of capital that an organization and by extension a country needs to function properly. These are:

- **Natural Capital**: the life support systems that provide air, water, materials and energy that support all life both bio-physically and socio-economically. Natural capital provides the renewable (timber, grain, fish and water) and non-renewable (fossil fuels) resources used to satisfy human wants and needs, as well as the physical processes, such as wind and climate regulation, we depend upon, and the sinks that absorb, neutralize or recycle wastes.
- **Human Capital**: the systems and processes developed by society for advancing the health, knowledge skills and motivation of individuals, and which give them the personal resources with which to engage with the world.
- **Social Capital**: the structures or institutions such as families, communities, businesses, trade unions, schools and voluntary organizations that enable individuals to maintain and develop their dignity and skills in partnership with others, thus, enhancing the vitality and resilience not only for individual human capital but also of a community.
- **Manufactured Capital**: the tools, machines, buildings and other forms of infrastructure produced by humans, which enable us to more efficiently utilize natural capital in the extraction, production, distribution and consumption of goods and services.

- **Financial Capital**: the system of exchange value established by society that allows types of capital to be owned, compared and traded. (Fien et al, 2009, P. 25)

The Five Capitals approach advocated by Fien and Maclean, appears comprehensive and encompasses Castro’s (1999) claim that modern economies require strong cognitive development as a foundation for vocational skills. Learning an occupation requires increasingly higher levels of understanding of scientific theories and the technological component of occupations. According to Castro, part of this education should precede training, thus facilitating and shortening it. Training could benefit from more emphasis on language, mathematics and science as taking place in Germany, the United States and in Brazil. Training programmes should not underestimate the potentials of such integration. Training consists not only in imparting cognitive skills and dexterity but also in developing the requisite values, attitudes and behaviours. Acquiring the values and the skills takes place simultaneously and with interactions between cognitive and non-cognitive areas. Well trained workers can be more productive as long as they work in an environment that allows them to deploy their higher skills. This environment encourages good habits that will in the long term benefit all stakeholders.

Castro (1999) embraces the notion that economic modernization and sustainable development requires increasingly complex forms of training. He suggested that institutions should upgrade some of their courses in order to cater to new needs. Technician training, undergraduate programmes and, eventually post graduate courses need to be offered in areas such as computer-aided design, computer assisted manufacturing, robotics, welding technology and industrial automation. Eventually, these will go beyond regular training to offer training in areas such as quality control, applied research and development and other advanced areas.

Training for the modern economy requires solid bridges between the training institutions and industries. Schools cannot provide the environment required and enterprises are unable to provide the full range of theoretical preparation which new technologies demand, therefore, bridges between training and work must be established. In addition to internships, technology students in the School of TVET at the University of Technology, Jamaica are required to pursue a seminar entitled “Interaction with Industrial Organizations”. The students are required to engage in discussion with industrial personnel to gain understanding of their operations as well as offering ideas to help industries in their way forward. Internships require more intensive planning and supervision from both the educational institution’s perspective and the industrial organization’s perspective. These activities will foster the development of research and development activities between the industries and the educational institutions. Castro’s (1999) conclusion that “well-focused training is investment in human capital at the best and is indispensable for economic development” (p. 53) is timely.

Quisumbing (2005) claimed that education is key to any development strategy but suggested that TVET is the master key that can transform the world of work and the economy, alleviate poverty, save the environment and improve quality of life. He suggested that a paradigm shift is taking place in TVET with respect to its philosophy, vision and mission; policies and practices, content and methodologies. This shift is leading to an expanded and strategic role for TVET in the twenty-first century which will be characterized by rapid changes and dramatic revolutions, globalization and democratization and breakthroughs that has never been experienced before. Quisumbing suggested that skills development and knowledge are not sufficient for achieving a lasting culture of peace and sustainable, human-centred development. The role of values and ethics must be central to any TVET programme. He reemphasized the UNESCO International Congress on Technical and Vocational Education 1999 stance that ‘the values, attitudes, policies and practices of TVE must have their foundations in this paradigm, which will encompass inclusiveness and wider access, a shift to human development needs and empowerment for effective participation in the world of work. The focus must be on the needs and potential of individuals in society’ (P. 292) He further suggested that emphasis must be placed on making our knowledge based society ‘values-centered, anchored on the respect for life, human dignity, the plurality and diversity of societies and cultures, human labour and work as source of self-actualization and self-fulfillment as well as the power that fuels economic and social development’ (p. 292) and added that TVET programmes should also prepare individuals with:

- deep human and spiritual values and attitudes – a sense of self worth, self esteem and dignity;
an ability to work by oneself and with others in a team, with integrity and honour, with honesty, punctuality and responsibility;
the ability to adapt to varying situations; to know and understand problems and issues;
the ability to work out solutions creatively;
the ability to resolve conflicts peacefully;
a good grasp of the reality of the world, of oneself and of others;
some general knowledge and with specialization in some field of area of work;
the aptitude and ability to continue learning and pursue lifelong education in a learning society.

Power (1999) views the basic challenge of the globalized economy as the requirement to adjust and compete in a rapidly changing environment and suggested that the creation of a productive, flexible workforce is central in meeting this challenge. He claimed that every country will be obliged to enable its citizens to acquire the skills necessary for survival and for improving their quality of life. He further suggested that all educational programmes and activities should provide education for employment and include self-employment, entrepreneurship; and education for life skills. He added that TVE is the component of education most directly concerned with the acquisition of knowledge and skills required by all citizens and workers in manufacturing and service industries.

Power (1999) claimed that some countries have begun restructuring their TVE systems to produce graduates that are suitable for the twenty-first century. Some proposals to facilitate this include designing courses in modular format, introducing competency based assessment, self paced learning to meet individual needs and recognizing the experience, knowledge and skills possessed by trainees prior to their entry into the programmes. Another intervention is the integration of TVE into general education accompanied by guidance on attitude to work, careers. In such cases the status of TVET has increased significantly.

Recently, TVET has been seen as a tool to enhance human development by creating capabilities and putting them to use for further human development and sustained growth. The new theory of economic development does not accept Gross Domestic Product (GDP) as the prime indicator of wealth because it can rise without enriching lives. The new approach stipulates that growth of income is essential as a means, not an end, and explicitly states that the primary objective of development is to benefit people, enhancing human capabilities to make a better life for all (Varma, 2009).

The new wave of economic transformation has made training at once more important and more difficult to calibrate to the new and more stringent requirements of the world of work. It is evident that enterprises working at the leading edge of technological change are avid producers and buyers of training. Traditional industries face the threat of open borders, internationalization and fierce competition (Castro, 1999). The current recession has proven that without significant focus on the quality of their workforce; they risk being wiped out of the market as evident in the American auto industry. In order to survive, industries would require workers with much higher levels of education and training and those that are capable of performing new tasks as the need arises.

Global competition is forcing developed countries to move away from traditional labour intensive industries such as textile, rubber steel, auto, towards skill-intensive, high tech industries. This results in increased productivity, growth and the export of more goods of higher technologies. Varma (2009) reported that mounting evidence shows that TVET is vital to accelerated growth and that workforce education is a significant determinant of productivity.

**Conclusion**

TVET intersects with many of the key elements identified as necessary for sustainable economic growth and development. It is evident that relevant TVET programmes will stimulate economic growth and development, however, this will not be accomplished unless deliberate actions are taken to incorporate TVET as part to the strategy for national or regional development. While there is no evidence that economic growth and development will be guaranteed with the implementation of a robust TVET system, it is highly likely that significant economic benefit will be derived from such programmes.

TVET programmes which incorporate deep human and spiritual values and attitudes as well as some general knowledge along with specialization in some field or area of work and at the same time developing a good grasp of the reality of the world, of oneself and of others should succeed in preparing persons to stimulate economic growth and development. Programmes of this nature should prepare individuals with a sense of self
worth, self esteem and dignity and should develop the ability of persons to work alone as well as with others in a team. The programme should develop the aptitude and ability of individuals to: adapt to varying situations; know and understand problems and issues; work out solutions creatively; resolve conflicts peacefully while continuing to learn and pursue lifelong education in a learning society. Programmes with these characteristics will succeed in encouraging entrepreneurial activities which will lead to incremental economic growth that will eventually lead to sustainable national and regional growth and development.

References


Influence of Television Behaviour on Academic Performance among some secondary students in Ibadan, Nigeria

Adebowale Titilola Adedoyin

Institute of Education, Olabisi Onabanjo University, Ago Iwoye, Nigeria

Television viewing could be educative for useful information if properly guided. On the contrary, it has become a bane in our society, has watered down the quality of education in this generation. The learning capabilities of the students have been greatly affected making their performance to dwindle. This study investigated the influence of television behaviour on academic performance among some secondary students in Ibadan, Nigeria. The study adopted descriptive – survey research design. 12 schools were randomly selected from each of the 2 Local Government Areas used, which comprised of seven public and five private schools. 50 students (27 boys and 23 girls) were randomly selected from each school, making a total of 600 students. Television Viewing Assessment Scale (TVAS) @ = 0.72 and well structured English and Mathematics achievement tests were used. Four hypotheses were tested at 0.05 level of significance. Data were analysed using Pearson Product – Moment Correlation and t-test. The study revealed that the academic performance of the students is being influence by television behaviour. The findings will help parents and teachers to highlight the importance of real studying which may include watching of educative programmes only on the television set. The government could also sensor what is being aired by the television stations. This will surely boost the students’ academic performance and education would worth its salt.

Key words: television viewing (behaviour) secondary students, academic performance.

Introduction

Education is a way of enlightenment to the citizenry. It is a great tool to sustaining development in all ramifications. At the era in which Nigeria is embarking on Universal Basic Education (UBE), that is, education for all, the quality of education is declining. One of the factors contributing to the declining in quality is poor academic performance due to much television viewing of the adolescents. Globally education is seen as the bedrock of a nation’s development; hence its quality should be well enhanced and ascertained (Adebowale, 2007). She also pointed out that the decline in academic performance of students in Nigeria Schools has become a great concern to the stakeholders in educational sector. Among many factors that have contributed to the students’ poor academic performance, television viewing happens to be one.

Television viewing was first available for consumer use at the 1939 world fair in New York. The history of television in Nigeria can be dated back to 31st of October, 1959 when the Western Nigeria Television (WNTV) beamed out the first television signal. Since then, other forms of television spring up, such as satellite and cable projecting varieties of programmes such as sports, movies, music. The public and the government has some increasingly critical contribution of television influence on secondary school students. This issue touches on several subjects such as violent behaviour, educational tool and academic performance in which this study hinges. Guest & Schneider (2003) discovered that formal and informal (Leisure) activities directly or indirectly influence students’ academic performance. Marsh and Kleitman (2002) in their study found that more time in leisure activities was related to poorer academic performance while more time in structured activities, and less time watching television were associated with their test scores and school grades. However, television has become an
integral part of adolescents’ lives because they feel like knowing what is going around the world, and the effects are controversial.

Many studies have reported several consequences of television viewing such as increasing in obesity, attentional problems, aggression and decrease in several measures of academic achievement (Anderson, Huston, Schmitt, Linebarger, & Wright et al., 2001; Robinson, Wilde, Navracruz, Haydel, & Varady, 2001; Zimmerman & Christakis, 2005). The effects of television viewing are not only felt in the academic performance of the students, it also affects them morally, culturally, and socially. Long before television viewing became rampant and addictive attitude among students, there used to be great cultural sense of value. Children had moonlight tales. They were also taught cultural values of the environment which used to be highly educative. Obasi and Ekon (2001) posited that children may become sensitized to violence and more aggressive because violence sometimes begs for imitation which is often promoted as a fun and effective way to get what one wants. Donnerstein, Slaby and Eron (1994) also revealed in their study that compelling body of research shows that children watch a large amount of television at the detriment of their studies and also that exposure to violent images is associated with controversial and aggressive behaviour.

The relationships between television viewing and academic performance of children and teenagers have been the subject of great controversy. Popular opinion and some educators have held that television generally has a detrimental effect, by taking time that might be spent acquiring basic skills or doing homework. Therefore the level of academic performance in Nigeria is dwindling compared to what it used to be in the past (Aremu, 2005). McDowell (2009) asserted those adolescents who watch a lot of television consistently score lower on academic achievement tests. He confirmed that the researchers have found that high levels of television viewing have negative impact on school performance.

Most of the literature reviewed reported a negative relationship between television viewing and academic performance. Few studies have found a large and significant relationship, although most have discovered a small, yet significant relationship (Thompson & Austin, 2003). Shin (2004) posited that watching television displaces or takes time away from intellectually demanding activities, such as doing homework studying which has a negative effect on grades and academic performance. Shin went further to say that watching television leads to mental laziness. He found some evidence that implies that watching television requires less mental effort than reading, meaning the brain and intellect are not being triggered and exercised while watching television as it is during other activities. He concluded that spending time watching television inhibits the viewers intellectual processing or leads to specific behaviours that may hinder student academic performance.

Television viewing can negatively affect the student health while watching programmes or advertisements that are injurious to their health; ignorantly they practice what they see. This can indirectly affect their academics performance. Zimmerman (2000) opined that television watching reduces time available to participate in healthy activities and increases exposure to the marketing of unhealthy products. Children who watch a lot of T.V have greater risk for a range of health problems. Excessive T.V watching is also linked to poor academic performance. Shejwal and Purayidathil (2006) in his study found television viewing had significant negative correlate with academic achievement. Heavy viewers of television were found to be poor, compared to light viewers in their academic achievement and mathematical reasoning.

Television viewing is generally thought as having mainly negative effect on learning abilities of the students. In contrary, other studies have shown that some types of programming are associated with positive developmental outcomes (Wright et al., 2001). Potter (2006) in his study indicated that television viewing does not adversely affect achievement until viewing exceeds about ten hours per week. Parents, educators and many others are concerned about the quality of programmes especially the amount of violence and sexual scenes children are seeing on television which has led to increased pressure on the television industry to curb and sensor programme content. Some wise parents have taken it as a routine to sensor what their children watch on the television. Jordan, James, McDivitt and Heitzler (2006) in their study found that parents who focused on scholastic achievement this priority seemed to drive many of their divisions about television. A few parents were said to have restricted television use during the week to encourage homework completion and early bedtimes, and others took away television privileges when children did poorly in school. Gross and Morgan (2001) opened that parents can help their adolescents to interpret to television materials and overcome the effects televised violence has on their attitude and behaviour. Fletcher (2006) concluded in his study that reducing the number of hours of television being watched could also positively affect adolescent obesity, emotional problems and academic achievement.
Various studies have been carried out on adolescents’ television viewing. This study hinges on the fact that the adolescents in the secondary schools have been performing poorly in their academic endeavours. Many factors have been attributed to this poor performance. The researcher wanted to know whether television viewing could also be attributed to the poor academic performance of the Students.

Statement of the problem
This study sought to examine the influence of television behaviour on academic performance of secondary school students in Ibadan, Nigeria.

Research hypotheses
The following hypotheses guided the conduct of this study and they were all tested at 0.05 level of significance.

(1) There is no significant relationship between television viewing and academic performance.
(2) There is no significant difference between the television viewing of the private and public school students.
(3) There is no significant difference between the academic performance of the private and public school students.
(4) There is no significant difference between the academic performance of male and female students.

Methodology
Research design
The descriptive survey research design was adopted in the study.

Population and sample
The target population for the study consists of both S.S. and J.S students from 12 randomly picked public and private schools from the 2 Local Government Area used within Ibadan. Fifty percent of the students (27 boys and 23 girls) were randomly selected from each school, making a total of 600 students. The two local government areas were chosen for this study because of power outage in Nigeria at this period. Usually the power failure could last for days. Most people in the areas chosen are averagely rich enough to buy generating set which make their children watch television at free will.

Research instrument
Well structured achievement tests by the researcher in both English and Mathematics were used. Those questions were structured from their syllabus for both J.S.S II and S.S. II respectively. One questionnaire for television viewing was also constructed by the researcher; Television viewing Assessment Scale (TVAS) has four Likert Scale type. The students were asked to indicate their feelings by ticking “Strongly Agree”, “Agree”, “Strongly disagree”, Disagree”, one at a time in front of each item in the TVAS. The questionnaire consists of fifteen items. The questionnaire was given to experts for moderation. The split half reliability co-efficient of TVAS is 0.72

Data analysis
Data analyses used are moment correlation and t-test.

Results
HO1: There is no significant relationship between Television Viewing and Academic Performance of the students.

Table 1. Correlation between Television Viewing and Academic Performance using Pearson Moment Correlation.

<table>
<thead>
<tr>
<th>Variables</th>
<th>N</th>
<th>Mean</th>
<th>Std.Dev.</th>
<th>Television viewing</th>
<th>Academic Performance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Television Viewing</td>
<td>600</td>
<td>41.8900</td>
<td>5.99704</td>
<td>1</td>
<td>.084</td>
</tr>
<tr>
<td>Students Performance</td>
<td>600</td>
<td>54.9470</td>
<td>14.25656</td>
<td>.084</td>
<td>1</td>
</tr>
</tbody>
</table>

Correlation is significant at the 0.05 level (2-tailed)
The result from table 1 shows that there is relationship between the independent variable (television viewing and the dependent variable academic performance). It means television viewing is a predictor and determinant of academic performance. The hypothesis is hereby rejected.

HO2: There is no significant difference in the Television Viewing behaviours of the private and public school students.

Table 2. Comparison of Television Viewing of private and public school students.

<table>
<thead>
<tr>
<th>Television Viewing</th>
<th>N</th>
<th>Mean</th>
<th>Std.Dev</th>
<th>Std. Err</th>
<th>df</th>
<th>t.cal</th>
<th>t.crit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>350</td>
<td>42.1486</td>
<td>6.57256</td>
<td>.35132</td>
<td>598</td>
<td>1.250</td>
<td>1.96</td>
<td>N.S</td>
</tr>
<tr>
<td>Public</td>
<td>250</td>
<td>41.5280</td>
<td>5.07387</td>
<td>.32090</td>
<td>598</td>
<td>1.250</td>
<td>1.96</td>
<td>N.S</td>
</tr>
</tbody>
</table>

Table 2 shows that there is a significant difference in the television viewing of both the private and the public school students. Both watch television at free will regardless of the type of school they attend. Thus, the hypothesis is upheld.

HO3: There is no significant relationship between the Academic Performance of the private and public school students.

Table 3. Comparison of academic performance of private and public school students.

<table>
<thead>
<tr>
<th>Academic Performance</th>
<th>N</th>
<th>Mean</th>
<th>Std.Dev</th>
<th>Std. Err</th>
<th>df</th>
<th>t.cal</th>
<th>t.crit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Private</td>
<td>350</td>
<td>61.0963</td>
<td>12.19179</td>
<td>.65168</td>
<td>598</td>
<td>14.529</td>
<td>1.96</td>
<td>Sig</td>
</tr>
<tr>
<td>Public</td>
<td>250</td>
<td>46.3380</td>
<td>12.37105</td>
<td>.78241</td>
<td>598</td>
<td>-.251</td>
<td>1.96</td>
<td>NS</td>
</tr>
</tbody>
</table>

Table 3 shows that significant difference exists between the academic performance of both the private and the public school students. This could have been due to some other factors apart from their television behaviour, so the hypothesis is hereby rejected.

HO4: There is no significant difference between the Academic Performance of the male and female students.

Table 4. Comparison of Academic Performance of male and female students.

<table>
<thead>
<tr>
<th>Gender</th>
<th>N</th>
<th>Mean</th>
<th>Std.Dev</th>
<th>Std. Err</th>
<th>df</th>
<th>t.cal</th>
<th>t.crit</th>
<th>Remark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>324</td>
<td>54.8123</td>
<td>14.14948</td>
<td>.78487</td>
<td>598</td>
<td>-.251</td>
<td>1.96</td>
<td>NS</td>
</tr>
<tr>
<td>female</td>
<td>276</td>
<td>55.1062</td>
<td>14.40630</td>
<td>.86873</td>
<td>598</td>
<td>-.251</td>
<td>1.96</td>
<td>NS</td>
</tr>
</tbody>
</table>

Table 4 shows that there is no significant difference between the academic performance of male and female students. It shows gender has nothing to do with their academic performance. Both do watch television and have various interests which could affect their academic performance. Hence, the hypothesis is therefore upheld.

Discussion
The findings of the study revealed that television viewing can influence academic performance of the students to a large extent. There are other factors that were not mentioned here that could have easily contributed to the poor academic performance the secondary school students are battling with in this generation, but television viewing has greatly contributed to the problem. It is a universal phenomenon. Most of the students do not concentrate
while studying. Some even stay glued to the television while reading forgetting that one cannot do two things at the same time. Television viewing is fast taking the place of study habit skills needed by student. According to Hassan (1982), Haisman (1997), Kleijn, van der Ploeg and Topman (1994) and Adebowale (2007), a good study habit will lead to good academic performance. From the findings a good number of students are not actually interested in educative programmes on the television but interested in entertainment. The stations available are numerous that they have the option of tuning the set to any station because they want to know what is on course especially in the entertainment industry. It is found that television viewing is taking too much time of the student which is having negative impact on their school performance as McDowell (2009) and Shin (2004) also found in their studies. The time devoted to television viewing is found to be more than the time devoted to studying. 90% of the students love to watch television for more than 15 hours a week which is rather too much and outrageous for students that have series of assignments, studies and house chores to cope with, definitely other things will have to suffer which will include academic studies. This is in support of Potter’s (2006) assertion that academic performance can be affected when television viewing is more than 10 hours a week. Television viewing for long period of time can make the brain dormant and not well activated and charged as expected due to mental laziness as corroborated by Shin (2004). More importantly the brain is a type of computer, it brings out what it is been fed with. In this study heavy television viewers actually performed poorly. Many of the students have lost the educational values that parents tenaciously hold unto for their children.

The study also showed that both the private and public school students watch television in the same manner and at the same rate. Both do have social interactions. They are in the same community, they gist about the various programmes they watch on the television. Some are even in the same house as co-tenants and live in the same neighbourhood. To support this assertion, Adebowale (2008) in her study opined that adolescents are generally not only influenced by their strength and vulnerabilities but also by the character of the settings they live their lives. These settings include the schools they attend, the neighbourhoods, their families and their friends. It is also discovered that in some homes, they have no other form of relaxation apart from television viewing. In such homes, the children could watch television tirelessly without anyone cautioning them.

The study also found an existing gap between the academic performance of the private and public school students. This may not be due to the rate at which they watch television respectively. Many factors could have contributed to the private school students performing academically better than the public ones some researchers in their various studies have found some of the factors, which includes: Quality of teachers (Igbeh, 2004); Qualifications and experience of teachers (Oloyede & Amosuro, 2006); Readiness of the students (Wilson, 1993); Parental influence (Olubela, 2005); The school environment with the infrastructures and teaching aids (Ekeh, 2001). All the above factors and others are better found and realistic in private schools than public schools. And they all contribute in no small measure to academic performance of the students.

It is also noted that there was no difference between the academic performance of the male and the female students respectively. Gender has not been established as a contributing factor to intelligence. The relationship of gender to classroom performance has inspired considerable research that has taken a definite direction. In an effort to find out gender bias, teacher – student and student – student interaction patterns, curricular, contents, and testing have all been scrutinized (Pinker,1994). But the effects of television viewing have not been found to be gender undertone. It’s effect on academic performance could be individualistic and not gender based. This supports the assertion of Pinker (1994) that humans are quite similar, regardless of any male – female distinctions. In conclusion, in order to obtain quality education, it has to be salvaged from all the contributory factors such as television viewing and the rest militating against academic performance.

**Implications of the findings for counselling practice**

The importance of academic performance in education cannot be over-emphasized; this is the reason for researches revolving around it. It is one of the major areas to know if a student is actually learning or not. In fact there is no essence of going to school if a child is not performing academically. One of the objectives of counselling is for the students to be academically sound. However, television viewing has become a problem to effective learning and academic performance, so it is an issue that needs urgent attention. A guidance counsellor needs to proffer solution to this problem as soon as possible. Whenever a child is referred to him/her on academic performance, the counsellor needs to add the television viewing as probably one of the genesis or root of the problem while probing into the likelihood of the causes of poor academic performance, the counsellor needs to create awareness to make student realize the damaging effect of television viewing at this level before they get to
the higher institution when the situation may be more critical. Solving this problem, the counsellor will not only be helping the students, but helping indirectly the family, teachers, school and the government. Every education stake holder would surely benefit from good academic performance of the generality of the students.

**Recommendations**

Each school, either private or public, is expected to have functional guidance counselling unit, where the students can be referred to the counsellor, who uses his/her professionalism to explore the area the student is academically underperforming and the possible cause(s). He helps to solve such problems and others that may be staring at the students. He could also help to organize good programmes that can be continued at home by the individual students to shift their focus away from television viewing.

The public schools are often written off in this era of qualitative education. It should be noted that not every parent can afford to send his/her child to private school. It is high time government woke up from her slumber to salvage education by providing everything it takes to make education worth its salt. The government should not hesitate to call for parent assistance when the need arises. Government should also sensor what is being aired on the television, encourage and sponsor educative and interesting programmes that will be beneficiary to the student and the society at large. Family should be encouraged to have different means of relaxation.

The parents should be in control of television viewing of their children, identifying the type of programmes their children watch and the rate which they watch it. This must have been done at their tender age, so that they get used to watching good programmes. Parents should also make sure their children watch television at a minimal rate, and encourage them to study and do school assignments as at when due. They can also help the children in time planning and management to improve their study habits skills. The children must not be left alone watching television in the night when they are supposed to be sleeping.

**References**


