

## EDITORIAL ADVISORY GROUP

Mr. I. Beddoe  
Dr. B. Brereton  
Prof. M. Cain  
Ms. S. Craig-James  
Mr. M. Morrissey  
Dr. V. Pollard  
Prof. G. Rohlehr

Mr. E. Brandon  
Dr. D. Broomes  
Dr. D. Clarke  
Dr. J. Glasgow  
Dr. E. Newton  
Mr. E. Ramesar

## EDITORIAL COMMITTEE

Janet Fullerton-Rawlins  
Jeanette Morris  
June George  
Ian Robertson

**EDITOR:** Lynda Quamina-Aiyejina

**SUBSCRIPTION INFORMATION:** Caribbean Curriculum is published once a year. **Price per issue:** TT \$20.00 in Trinidad and Tobago. US \$5.00 in the Caribbean, and US \$10.00 elsewhere. *Prices include postage and handling.*

© School of Education, UWI, St. Augustine, 2005

**ISSN 1017-5636**

# CARIBBEAN CURRICULUM

Volume 12

2005

## CONTENTS

Reflections of Science Teachers in an In-Service Teacher Education Programme	1
<i>Joycelyn Rampersad and Susan Herbert</i>	
Graded Examinations in Solo Steelpan Performance: A Caribbean Innovation in Music Education	25
<i>Anne Marion Osborne</i>	
Gender and Academic Achievement in Math: An Examination of the Math Performance Data On Seven to Nine-Year-Olds in Trinidad and Tobago	37
<i>Launcelot I. Brown</i>	
Themes and Metaphors in the Authobiographical Narratives of New Sector Secondary Teachers in Trinidad and Tobago: A Case Study	59
<i>Cynthia James</i>	
Notes on Contributors	
Information for Contributors	



# REFLECTIONS OF SCIENCE TEACHERS IN AN IN-SERVICE TEACHER EDUCATION PROGRAMME

*Joycelyn Rampersad and Susan Herbert*

This instrumental case study was conducted to determine the nature and levels of science teachers' reflections during a year-long in-service postgraduate Diploma in Education programme. Four science teachers comprised the case. The data were analyzed inductively through a process of open coding and categorizing to determine patterns and themes. Van Manen's (1977) framework was used to determine the levels of reflections. The following themes emerged: "Confronting fears/limitations/insecurities;" "Students take centre stage;" "Trying something new;" and "Breaking down barriers." The four teachers reflected at all levels—technical, practical, and emancipatory. However, only two teachers reflected at the emancipatory level. These findings have implications for the manner in which we, as science teacher educators, facilitate the development of the reflective habit.

## **Introduction**

Reflection is considered to be central to the professional development of teachers, and since the 1980s, there has been a proliferation of teacher education programmes that incorporate reflective practice. In keeping with this movement, reflective practice is now a component of the teacher education programme at the School of Education (SOE) at the St. Augustine Campus of The University of the West Indies (UWI) in the Republic of Trinidad and Tobago.

The Diploma in Education (Dip. Ed.) is a one-year postgraduate in-service programme, designed to provide graduate teachers who are employed full-time in secondary schools with the relevant knowledge, values, attitudes, and skills for their personal and professional development. It begins in July and runs to the end of May of the following year. Teachers attend classes at the university on a full-time basis during the July/August vacation, and part of the Christmas and Easter vacation periods. They are released from school for one day during the normal school terms.

For the majority of teachers who enter the programme, this is initial teacher education since professional certification is not a requirement for entry into the Teaching Service. The entry requirement for a graduate teacher is a first degree in the area of subject specialization. Consequently, the model of teaching that guides the practice of the new entrants into the programme is often based on (a) their own experiences as students, (b) their observations of peers, (c) advice from a senior teacher/mentor, or (d) combinations of these.

At the beginning of the programme, all teachers are exposed to courses/modules in the Foundations of Education, Curriculum Process, Media in Education, Assessment in Education, Research Methodologies, and Elective Areas (e.g., photography, videography, dance, music, yoga, and creative writing). The teaching of science is one of the options of the course "Curriculum Process." The aim of this option is to encourage science teachers to bring theoretical perspectives to their classroom practice, as well as to confront their beliefs about the nature of science and the teaching/learning process. Teachers are therefore given opportunities to engage in reflection as "systematic enquiry into [their] own practice to improve that practice and deepen [their] understanding of it" (McIntyre, 1993, p. 42).

The other course related to the teaching of science is "The Practice of Education." The focus here is on school practice, under the guidance and supervision of curriculum tutors who conduct the field experiences (practicum). During field visits teachers are provided with opportunities for guided experimentation with new methods. Teachers are assessed in two areas: classroom practice, and a curriculum portfolio that documents and provides evidence of growth and development in specified areas. The portfolio includes a reflective journal in which teachers are expected to critically appraise educational issues and events as well as classroom practice, and to plot significant growth points.

This paper reports on the nature and levels of the reflections of four "experienced" science teachers who were enrolled in the Dip. Ed. programme. Most of the literature on reflective practice reports on novice teachers enrolled in pre-service programmes. The research we are reporting here is significant because it focuses on "experienced" teachers, that is, teachers who have been teaching for some years without any formal teacher training, as opposed to what the literature refers to as

“expert” teachers. It attempts to give some insights into how these “experienced” science teachers reflect when they come to a programme for initial training, having gained considerable practical knowledge in the classroom. Specifically, our research study sought to answer the following questions:

- What is the nature of science teachers’ reflections?
- At what levels do science teachers reflect as they attempt to articulate their knowledge of practice?

### **Review of Related Literature**

The works of Dewey (1933) and Schon (1983) have shaped the ways that researchers and teacher educators have thought about reflective teaching. Dewey separates reflective teaching from routine action. The Deweyan notion is that education is reconstruction, so that reflective teaching involves the reformulation and recreation of teachers’ knowledge.

In the literature on reflective practice, there is a link between reflection and the empowerment of teachers. Calderhead and Gates (1993), for example, suggest two main functions of reflection in initial teacher education, which speak to the empowerment of teachers through greater knowledge and understanding of the teaching/learning process. The first is to give student teachers an understanding of their own problems and needs, in order to give direction and purpose to their search for ideas from other sources and to their theorizing about these ideas. The second is to provide guided practice in the skills and habits of reflection. The critical theory of Habermas (cited in Calderhead & Gates, 1993) has also stimulated thought about the importance of increasing teachers’ awareness of the causes and consequences of their actions. The theory holds that teaching is a process of constructive self-criticism whereby teachers examine and reflect upon underlying assumptions, norms, and rules that constrain and shape their practice (cf. e.g., Calderhead & Gates, 1993; Zeichner & Liston, 1996), and which leads to emancipatory knowledge.

Drawing on the critical theory of Habermas, Van Manen (1977) proposes a hierarchical model of *levels of reflectivity*. He identifies three levels, each of which focuses on a particular aspect of knowledge. The first level (technical) is concerned with the effective application of skills and

technical knowledge in the classroom. The second (practical) involves reflection about the assumptions underpinning classroom practice, as well as the purposes and consequences of actions in the classroom. The third (critical/theoretical/emancipatory) focuses on the development of emancipatory strategies, and involves the questioning of moral, ethical, and other issues, such as fairness and justice, that relate directly or indirectly to institutional and wider social and political contexts. Van Manen sees these three levels as spanning the growth of the teacher from novice to expert, so that as teachers engage in the highest forms of reflection they should be empowered to make decisions that would not only be beneficial to classroom practice but would also inform educational policy.

Fuller's (1969) model of concerns has also been used to explain teachers' stages of development during initial pre-service teacher training. This model describes three stages of development, which are characterized by concern for self, concern for the task, and concern for impact. While Fuller's model has been used as the framework for analyzing teachers' concerns during their development, its use has traditionally been in the context of pre-service teacher education. It is important, therefore, for us as teacher educators to gain some insights into how experienced teachers engage in the reflective process, so that we, in turn, may be empowered to make decisions about our classroom practice.

The literature also refers to five traditional approaches to reflective teaching (Zeichner & Liston, 1996) that have guided reform efforts in teaching and teacher education. They are labelled *academic*, *social efficiency*, *developmentalist*, *social reconstructionist*, and *generic*. With the exception of the generic approach, each of these approaches identifies a particular emphasis in the content of teachers' thinking. The academic tradition stresses subject matter and how it translates into student understanding. The social efficiency tradition focuses on application of teaching strategies. The developmentalist tradition looks at teaching that builds on students' experiences and patterns of developmental growth, while the social reconstructionist tradition explores the social and political contexts of schooling. The generic tradition emphasizes thinking about teaching actions without deliberate attention to the quality or substance of that thinking. A modified generic approach might best describe the strategy that was adopted with the teachers in the science option of the Dip. Ed. programme. While we did not attempt to prescribe the substance of the teachers' thinking, our responses, either through

probing questions or pertinent comments/suggestions, were influenced by Van Manen's levels of reflectivity and Fuller's model of concerns.

### **Methodology**

The study is qualitative in nature and is situated within the interpretive inquiry paradigm. The goal was to achieve, through inductive and qualitative modes of analysis, understandings, interpretations, and meanings of particular contexts (cf. Hoy & Miskel, 1987). The design used was an instrumental case study (cf. Cresswell, 1998), in which the focus was the issue of reflective practice with the case used instrumentally to illustrate the issue.

At the beginning of the programme, teachers were engaged in formal sessions on developing the reflective habit. They were exposed to the "four commonplaces" of schooling, that is, the features common to any teaching situation—the teacher, the subject matter, the learner, and the milieu or context (Schwab, 1971). They were also introduced to different formats for writing reflective pieces, including the structured format of Posner (1985). Posner's approach was suggested for those who preferred some structure in the beginning. It involves identifying and describing some educational situation or problem, analyzing the problem to generate possible solutions, and identifying learning experiences and emerging issues. The teachers were also given opportunities to analyze, individually and collectively, selected reflective pieces from the literature. They were, however, given a free hand in terms of choice of format and the issues upon which they chose to reflect.

During the July/August session, the teachers reflected upon the issues raised during lecture sessions as well as past practice. The process of developing the reflective habit continued after the teachers returned to school and during formal sessions on campus. For example, during the field experiences, there were one-on-one conferences between tutor and teacher, and group conferences among groups of teachers and tutor. During these sessions there were opportunities for oral reflection on practice. The issues discussed ranged from their attempts to meet student needs, their approaches to teaching, the rationale for these approaches, classroom management, the theory/practice interface, and peer and administrative support. These discussions informed subsequent journal entries.

Teachers were encouraged to write as often as possible, but a minimum of two entries per week was suggested. They were asked to submit their journals once a month. The reflective pieces were read and, in direct response to the issues raised, comments and questions were recorded. Some of the questions that were posed to teachers in response to their written pieces were:

- What does this episode tell you about how students learn?
- What does this episode tell you about your teaching?
- What does the literature say?

Sometimes teachers responded to the questions in subsequent journal entries, but this was not generally the case. Our intention in the beginning was to have teachers move from merely describing practice to making their underlying beliefs and assumptions explicit. Later, they were encouraged to use public knowledge such as educational theories, teaching principles, and other research evidence to appraise their practice.

Four teachers, three of whom were female, were the participants in the study. They were selected by purposive sampling from the cohort of graduates at the end of the programme. The main criterion for selection was a Grade A in the course *Practice of Education*. These teachers excelled in classroom practice and attained the required quality levels for curriculum portfolio entries. Their reflective journals were further examined and final selection was based on overall number of entries, spread over the course of the programme, and regularity of submissions. The participants selected were Joan, Brad, Kay, and Lynn (not actual names). They taught at different types of schools and came with varying experiences of classroom teaching including length of service, which ranged from 5-11 years. While gender was not a key factor in the selection process, the composition of the selected group did reflect the ratio of females to males in the cohort.

Data collection, as mentioned earlier, was confined to the reflective pieces in the journals of the four teachers. The data were analyzed using open coding to arrive at themes. Further in-depth analysis was done to identify assertions and interpret meanings in an attempt to arrive at levels of theorizing and reflecting. This interpretive phase drew on Van Manen's (1977) analytical framework of levels of reflectivity.

A limitation of this study is that data collection was confined to a single source—the reflective journals of the four participants. The data, therefore, were subjected to continuous examination/analysis by the researchers, both individually and collaboratively, in order to clarify meanings and ensure that the grounds for the interpretations were sufficient. In addition, the findings and interpretations were subjected to external audit by another colleague.

## **Findings**

The findings follow in the form of responses to the two questions posed earlier. For the first question, a description of each emerging theme is presented supported by verbatim examples from teachers' journals. This is followed by a brief summary. For the second question, a short analysis of the levels of reflection is provided along with a summary table.

### **What is the nature of science teachers' reflections?**

The common themes that emerged from the analysis of the data from the four teachers were "confronting fears/limitations/insecurities," "students move to centre stage," and "trying something new." Another theme that emerged from two of the teachers was entitled "breaking down barriers." These are discussed below.

#### Confronting fears/limitations/insecurities

All four teachers were engaged in a critical self-analysis, and they identified their fears and uncertainties. Kay, for example, mentioned her concerns about exposure to scrutiny as she revealed private thoughts and feelings, which could make her vulnerable to criticism. She wrote of her desire to "flee" from the process:

Knowing that over the year as a Dip. Ed student, I will have to face some negative truths about myself and my work, and worse yet, admit them in the presence of someone else (via reflections) is somewhat disconcerting.... Therefore, I must resist the 'flight' response, and confront my fear head-on. I am willing to change for the better, so I must submit to the process.

She also reflected on her limitations with respect to incorporating practical work in science teaching. She expressed feelings of insecurity

because she did not have first-hand experience of the kind of laboratory activities that she was expected to have students involved in:

I was not fully satisfied with this lesson. I must admit that I am somewhat uncomfortable about practicals - it stems from my not having done A-level physics and hence, I have had little exposure to the kind of labs that are required. Thus, I tend to feel unsure of myself in practicals.

Lynn also wrote about her perceived limitations and the accompanying emotions. She said that her inability to conceptualize the planning and design component of the examination syllabus led to feelings of inadequacy:

I think that I have not as yet gotten the idea of planning and design clear in my head, and I sometimes feel inadequate teaching it.

In addition, she described her teacher-centred approach with the classes, which are being prepared for external examinations [Caribbean Secondary Examination Certificate of the Caribbean Examinations Council], as a shortcoming. She concluded that institutional forces had shaped her beliefs about her worth as a teacher and that these beliefs had impacted on her actions:

I tend to be teacher-centred with the 3s and 4s [Grades 10 & 11]. Experiments with 1s and 2s [Grades 8 & 9] only. In a school where your worth equals your results, I have not been very successful in separating myself from the mainstream of thought.

Joan identified what she also perceived as her shortcomings as a teacher, and she attributed these to the lack of congruence between her beliefs and her actions:

I began to realise that my tendency to sometimes snap and hurl insulting comments at students who I considered to be asking stupid questions was rooted in selfishness and impatience. Mentally, I knew that students learn in different ways but it was never reflected in my attitude and style.

In other reflections she continued to focus on her perceived limitations. For example, she recognized a deficiency in her teaching when she failed

to make important conceptual linkages during the execution of a lesson so students did not always see the bigger picture:

After all the inquiry into the nature of the respiratory surfaces, I failed to make the link with gaseous exchange.

She was also uncertain about how to achieve the balance between institutional demands and what she considered to be good teaching:

I tend to be over ambitious, i.e. attempting to achieve too many objectives in one period .... I always have at the back of my mind the syllabus to be finished. After eleven years of being syllabus-driven, it is difficult to remove the concept from my mind. I recognise mentally that if my lesson plans are well conceptualised and executed then I need have no fear of completing the syllabus in ample time.

Brad recognized his inability to delegate responsibilities to students as a limitation that he needed to address:

The excitement and high level of motivation I experienced today have only reinforced what I have long known about myself as a student and teacher. I get bored and demotivated in highly structured environments.... Rigid schedules and demands stifle me. I am largely self-directed and work best when minimum restrictions are placed upon me.... This forces me to consider whether I am a “controlling teacher” who imposes rigid demands on my students. In some ways I am. Delegating has never been one of my strengths. I must remember the emphasis is on “student-oriented” ... learning strategies.

### **Summary**

The issues raised in this theme were vulnerabilities to criticism, perceived shortcomings—both personal and professional—insecurity in effectively carrying out teaching functions in the classroom, and a tendency to be controlling. For the first time, teachers had begun to articulate their feelings and to look at themselves as teachers in a critical way, and to revisit their assumptions about teacher efficacy. These reflections show their attempts to move away from routine and unrealistic behaviours.

### Students move to centre stage

As the teachers reflected, their students became a central focus of their thinking. Brad, who had encountered some difficulty in understanding some readings in philosophy in the programme, and had expressed his frustration at trying to make sense of unfamiliar words and a complex language style, quickly came to empathize with his own students who were experiencing similar conceptual and linguistic problems at their level. He began to explore ways of helping them:

The language barrier, which may exist in the classroom, has never been more real to me. I have experienced some of their [his students] frustrations today. When I return to the classroom, I'll have to ensure that students have an easier task understanding what they read.... A long-term solution would be to systematically build up the vocabulary of my students.

As Joan's understandings about student learning developed, she began to involve the students more actively in learning activities:

I myself had always believed that more student learning took place during lecturing. I now see that students can effectively learn from each other. I should reduce my talking and allow students to participate in group work, discussions, role-play and so on.

Lynn removed herself from being the focus of the teacher/learner interaction and began to view the interaction from the students' perspective. She became aware that her values and beliefs could impact on the students:

From the lecture, I understood how my world of class, culture, religion, intellect, etc. can impact on a child. I previously always looked at the impact of the child's world on mine.

Kay placed more emphasis on her relationships with her students. In this piece, she demonstrates her concern for issues of fairness and justice in the classroom:

Writing now has led me to consider something I never have before - what has come to the fore is the vast difference between my schooling background and that of my students. Therefore, I now ask myself, "Is it fair to expect of him the same, as I would expect of a "convent girl"? It is clear to me that if I would like to see long-term changes in the students' behaviour, then I must first make the effort to understand their current and historical situations. (Wow! What an eye-opener?! I am actually

stunned to find myself thinking along these lines after just beginning to write this reflection.) This is a tall order- Am I up to it? I wonder.

She also began to use students' interests as an important criterion for her choice of teaching/learning strategies:

My unenthusiastic feeling was beginning to disappear as I realised that I had already captured the students' interest. Further use of this technology appeared to interest the students. I guess the change in modes of delivery accounts for the additional interest. My challenge is to be creative and find other modes to attempt with my class, in an effort to provide variety and, hence, maintain interest.

All teachers experimented with small-group, student-centred approaches. The following vignettes (from Joan and Kay) demonstrate how the students became the central focus:

This lesson taught me a lot about student learning ... the wider the range of methods you use in the classroom, the greater the number of students reached.

This episode showed me that I should distribute questions more evenly, taking into consideration sex, ability, and location in the classroom. Too often I tend to take the path of least resistance and ask those who I know would answer or participate readily.

V [male student] was probably more motivated [today] because he was asked to participate.... Based on my reflection on the previous lesson, I was very particular to have more male participation. It tells me ... that it is counter-productive to (wittingly or unwittingly) exclude some students.

### **Summary**

The teachers focused on making the students central to the entire learning process through their selection of teaching and management strategies. They encouraged full participation, and identified strategies to promote equity in the classroom. Their own difficulties with particular aspects of the programme made them empathize with their students and recognize the importance of improved student-teacher relationships.

### Trying something new

The teachers all accepted the challenge to attempt new strategies in their classroom. Brad acknowledged the value of formal lesson planning after his first attempt and described the experience as most satisfying:

I used my first lesson plan today.... The lesson was quite a success. The set induction fulfilled its purpose ... the lesson just flowed naturally into the development phase.... This was a most satisfying experience for me. The extra effort involved in formally planning the lesson paid off.

He also wrote of his attempts to use various types of graphic organizers and the perceived benefits in terms of developing independent learners:

We have also been using concept trees showing the hierarchical relationships among concepts. The response has been very favourable. The graphics have led to the classes becoming more vocal as we discuss the relationships between concepts.... I am learning that I don't have to "teach" everything. I am gradually letting the students take more responsibility for their learning while guiding them along.

Joan looked at whole-group teaching through different conceptual lenses. Her previous approach was to get as much information as possible across to her students. After attempting an interactive whole-group approach, she wrote:

This class went much better than my whole group teaching in the past.... Whole group teaching does not mean no student-student interaction and boredom. I used to have to work extremely hard asking question after question to get student participation.... It is good that I have a clearer understanding of this "teaching stuff" now.

Kay was enthused by her attempts to introduce a new strategy on model building that allowed her to concretize abstract science concepts:

I was thrilled with this response to my first attempt to incorporate model construction into the science classroom. I found that this exercise seemed to reinforce the students' knowledge and to bring alive and make concrete the information/theory to which they had been exposed. Consequently, model construction will definitely form part of my teaching repertoire in future.

Exposure to the multiple roles of practical work in science on the Dip. Ed. was an "eye-opening experience" for Kay. She recognized that her old

approach to laboratory work was limited to verification of theoretical concepts, and she attempted a new approach in which students were given the opportunity to construct knowledge from their practical work. This episode demonstrates her evolving understandings of this aspect of the nature of science:

The session on the role of practicals was another one of those eye-opening experiences that have occurred during the Dip. Ed. - the kind that are signalled by an internal churning that suggests a subtle paradigm shift.... Like most science teachers, I usually use the practical as a means of verifying some taught theory. We learnt that practicals could actually be used for investigations from which the theory could be drawn out. Last week, I attempted the latter approach.

Lynn implemented a new strategy in which the students were expected to create notes on various topics. She termed this activity the "great note-taking experiment." She became aware that students' motivation might be directly linked to the teaching/learning strategy:

I had initially thought that note taking was about creating independent learners. Never in my wildest dreams did I connect this to improved learning and further away still, to an increased desire to learn.

All the teachers came to a new understanding of the importance of affective outcomes of science lessons and the challenges that they face in marrying the affective with the cognitive. Examples are drawn from the writings of Kay and Lynn:

Once again our consciousness is being prodded. ...We have been encouraged to raise the impact of our lessons by teaching for affective outcomes. This is a new and appealing idea.

In the past, I have approached this lesson [the effects of smoking] from a strictly cognitive viewpoint, hoping that at the end ... students would be able to describe the effects of smoking. Any affective outcome would have been achieved unintentionally. This time around, I approached the topic ... from a health education perspective. Through this experience, I have learned that affective objectives can be interwoven with cognitive objectives in the teaching of science. Maybe the more frequent inclusion of affective objectives will result in better-adapted, more rounded students.

## Summary

Teachers increased their repertoire of strategies, and they recognized that by employing a wide range of strategies more students became engaged in the learning process. They also came to appreciate that teaching strategies can focus on the product as well as the process of learning, on affective as well as cognitive outcomes, and that practical work in science can facilitate concept development and theory formation. Finally, new assumptions about effective science lessons led teachers to identify new criteria for evaluating and developing their practice.

### Breaking down barriers

A theme that emerged from the analysis of the reflections of two student teachers was termed "breaking down barriers." It was obvious that these teachers were moving into uncharted waters. Although this theme is not representative of all four teachers, it is included because it demonstrates tentative questioning of past and present actions, and considerations of how to go about making the best choices in the future. In these reflective pieces, the teachers addressed the wider political and social contexts of schooling. Kay, for example, began to think of new roles that she could play within the educational system as she reflected on issues raised during a lecture session on an educational issue:

As he [lecturer] spoke, I felt a churning within- something of an awakening of consciousness. He spoke of teachers and their perspectives. I became aware of some internal changing, a move from a helpless, "one drop in the bucket" kind of feeling in the macro perspectives, to a sort of individual empowerment, "I can make a difference" kind of feeling....His overall message? We cannot sit and simply allow things to go by. Be aware of the ripple effects each of us has, and execute desired behaviours accordingly.

She also attempted to influence students' out-of-school behaviour through infusion of health-related issues and associated high-risk behaviours into a science lesson. The lesson, entitled "AIDS and me," was taught during the pre-Carnival period [a period of time devoted to calypso music, steelpan orchestras, and masquerade]. She encouraged students to explore issues related to sexually transmitted diseases:

This represents an area that I usually address with my students- young adults aged 18-22 years. The strong points of this lesson are its relevance to the students' experiences, the mode of delivery that draws on their prior knowledge and the creativity-based method of

evaluation. It was not a difficult lesson to attempt because I am accustomed to practising some kind of pastoral role with my students and I believe that this has always been a part of my teaching.

Lynn reflected on reform in education and began to question the lack of support systems to assist teachers in the delivery of new curricula:

I understand that youth is in crisis. As the children at the forum [panel discussion during which school students shared experiences of learning] pointed out, it is really the parents in crisis and of course the teachers are required to pick up the slack. It is my society too and I hope to make a difference. The problem is that we were not even asked. HFLE [Health and Family Life Education] will be taught in schools. Apparently CARICOM States have signed documents. No problem. But where's the support system for teachers who implement such a mentally burdensome system? The children are saved, but what about the teachers?

She also expressed concerns about the moral and ethical bases of her actions in the classroom. Negotiating issues of values clarification and establishing supportive learning environments could sometimes be problematic. In the latter case, she looked to the educational literature for support:

How do we marry morals with critical thinking? Can we trust students who lack experience to choose? Is it only if we are assured that they will [choose wisely] that we are comfortable opening up critical discussions on morals?

Every class... same story. Then I'd fire the speech, 'if you don't feel to do chem. go and do whatever subject you like, I won't keep you.' Kutnick and Jules (1993) have students defining 'good' teachers as disciplining students' misbehaviour, asserting class rules, and maintaining order. The good teacher was also respectful and friendly. Humble too. S and K struck my raw nerve. Disrespect always sends my head swirling. Finally, I am calm enough to read Beihler. I know that in their search for identity they must challenge me and that out of my love for them I must correct them. But I needed [sic] to change my methods of disciplining.

### **Summary**

This theme highlights the teachers' examination of the contexts of schooling. These excursions into reflections about wider societal issues revealed the teachers' attempts to revisit their roles as teachers, and to

bridge the theory/practice divide as they grappled with moral, ethical, and policy issues and sought to validate their practice.

**At what levels do science teachers reflect as they attempt to articulate their knowledge of practice?**

When the themes were analyzed within the Van Manen framework, we found that all four teachers theorized primarily at the practical level. The ratio of reflections at the practical, emancipatory, and technical levels was 4:2:1 respectively. Only two teachers, however, reflected at the emancipatory level. The focus of teachers' thinking at the emancipatory level was on issues related to the wider social and political contexts of schooling.

When the reflective pieces were analyzed within the themes identified, we found that teachers reflected at all levels in themes 1 and 3; in theme 2 there was no evidence of reflection at the technical level; and in theme 4, teachers reflected at the emancipatory level only.

Table 1 shows the main themes that were identified, with illustrated examples from the teachers' reflections, and how these were classified within Van Manen's (1977) analytical framework.

**Discussion**

The aim of this paper was to report on the nature and levels of reflections of experienced science teachers. We found that while the substance of individual teachers' reflections varied, there were concerns about knowledge of the following: self, their students, the subject matter of their lessons, and the context of teaching (cf. Schwab, 1971). They spoke about their fears, limitations, and vulnerabilities. They were concerned about providing environments that were conducive to student learning. They were sometimes unsure about how to teach with the bigger picture in mind, or how to organize their subject matter in ways that fostered creativity while still meeting syllabus requirements. They were also very sensitive to institutional and other constraints that impacted on their work. The study therefore provided us with some understandings of how these teachers interpret and give meaning to their practice, how they attempt to come to terms with their own realities, how they theorize about their practice, and how this knowledge could inform our own practice.

**Table 1. Themes, Selected Examples, and Levels of Reflection**

THEMES	ILLUSTRATIONS	LEVELS OF REFLECTION
<p><b>Confronting fears/limitations /insecurities</b></p>	<p>I was not fully satisfied with this lesson. I must admit that I am somewhat uncomfortable about practicals - it stems from my not having done A-level physics and hence, I have had little exposure to the kinds of labs that are required.</p>	<p>Practical</p>
	<p>After all the inquiry into the nature of respiratory surfaces, I failed to make the link with gaseous exchange.</p>	<p>Technical</p>
	<p>I tend to be over ambitious i.e. attempting to achieve too many objectives in one period.... I recognise mentally that if my lesson plans are well conceptualised and executed then I need have no fear of completing the syllabus in ample time.</p>	<p>Practical</p>
	<p>I tend to be teacher-centred with the 3s and 4s. Experiments with 1s and 2s only. In a school where your worth equals your results, I have not been very successful in separating myself from the mainstream of thought.</p>	<p>Emancipatory</p>
<p><b>Students move to centre stage</b></p>	<p>I myself had always believed that more student learning took place during lecturing. I now see that students can effectively learn from each other. I should reduce my talking and allow students to participate.</p>	<p>Practical</p>
	<p>From the lecture, I understood how my world of class, culture, religion, intellect etc. can impact on a child. I previously always looked at the impact of the child's world on mine.</p>	<p>Emancipatory</p>
	<p>The language barrier, which may exist in the classroom, has never been more real to me.... When I return to the classroom, I'll have to ensure that students have an easier task understanding what they read.</p>	<p>Practical</p>

**Table 1. (continued)**

THEMES	ILLUSTRATIONS	LEVELS OF REFLECTION
<p><b>Trying something new</b></p>	<p>I used my first lesson plan today.... The lesson was quite a success. The set induction fulfilled its purpose ... the lesson just flowed naturally into the development phase.... This was a most satisfying experience for me.</p>	<p>Technical</p>
	<p>I was thrilled with this response to my first attempt to incorporate model construction into the science classroom. I found this exercise seemed to reinforce the students' knowledge and to bring alive and make concrete the information/theory to which they had been exposed. Consequently, model construction will definitely form part of my teaching repertoire in future.</p>	<p>Practical</p>
	<p>This class went much better than my whole group teaching in the past.... Whole group teaching does not mean no student-student interaction and boredom. I used to have to work extremely hard asking question after question to get student participation.... It is good that I have a clearer understanding of this "teaching stuff" now.</p>	<p>Practical</p>
<p><b>Breaking down barriers</b></p>	<p>I understand that youth is in crisis.... It is really the parents in crisis and of course the teachers are required to pick up the slack. It is my society too and I hope to make a difference. The problem is that we were not even asked. HFLE will be taught in schools.... But where's the support systems for teachers?</p>	<p>Emancipatory</p>
	<p>I became aware of some internal churning, a move from helpless, "one drop in the bucket" kind of feeling in the macro perspectives, to a sort of individual empowerment, "I can make a difference" kind of feeling.... Be aware of the ripple effects each of us has, and execute desired behaviours accordingly.</p>	<p>Emancipatory</p>

There was no established pattern of levels of reflection among the four teachers. The teachers operated at the three levels at various times throughout the course of the programme. This supports the position of Martinez (1990), cited in Dobbins (1996), that elements of all levels may (and indeed should) be present as characteristics of reflection rather than a strict developmental stage hierarchy as suggested by Van Manen (1977). It should be noted that we made no direct attempts to make teachers aware of the various levels at which they were thinking, or of how this awareness could contribute to praxis.

It is instructive that all four teachers theorized at the practical level, and there were very few attempts at theorizing at the technical level. There may be two explanations for this trend. The first explanation is that the teachers were not novice teachers, and so were not overly concerned about developing technical proficiency. It is plausible that teachers who have had some years of teaching experience may have mastered some technical aspects of teaching, and may be more concerned with interrogation of their practice to make explicit their assumptions, and the purposes and consequences of actions in the classroom.

The second explanation is that while we wanted them to reflect on their attempts to apply their skills and technical knowledge, and to become aware of instances where skills need to be developed, we may have inadvertently presented a model of reflection during the classroom sessions that did not highlight technical proficiency. For example, in our selection of illustrative pieces, a lot of the discussion focused more on assumptions and underlying beliefs that guided practice, and on educational theories that informed desirable practices, rather than on technical issues. In retrospect, this focus was also apparent in the kinds of responses that we made to their written pieces. There was also a heavy focus on the teaching/learning process during field visits, and in our dialogue with the teachers we focused primarily on pedagogical issues that bounded the discussions within the classroom walls. The teachers, in turn, used these issues as stimulus for their reflective pieces. In the absence of any direction from us on the degree to which their reflections should focus on examining the social and institutional contexts in which they work, we surmise that the four teachers focused primarily on the knowledge gained from their actions in the classroom. There are implications here for the kinds of models that we present to teachers in the future.

It was noted that the teachers attained the higher emancipatory level of theorizing only when they reflected explicitly on the context or milieu of teaching and learning. For example, both Kay and Lynn revisited the role of the teacher in policy formulation and curriculum reform. They moved outside the mandated syllabus requirements and made deliberate decisions about what should be included in science lessons in order to respond to students' needs. They also addressed ethical and moral issues that impinge on the profession. Lyn, for example, confronted such questions as, "What is right?" (How to meet institutional goals that focus on examination results without compromising good classroom practice). "What is fair?" (How to discipline effectively while recognizing students' need to search for identity). "Whose values?" (How to negotiate issues for values-clarification).

In addition, both teachers made conscious efforts to increase professional knowledge and to enhance their professional development as they attempted to integrate educational theory and classroom practice. While this finding is commendable, in retrospect, we would have liked all four teachers to reach this emancipatory level of theorizing. It is also significant that Lynn and Kay were unable to demonstrate this same level of theorizing about the subject matter. Science by its very nature encompasses ethical, political, and societal issues. It is evident, then, that we will have to revisit what we do in the curriculum sessions if we want to provide opportunities for, and support attempts by, all teachers to theorize at the emancipatory level about the four commonplaces.

It is clear that the existing structure of the in-service Dip. Ed. programme has provided some practice for the teachers to develop the skills and habits of reflection. This is one of the functions of reflection in initial teacher education, which speaks to the empowerment of teachers (see Calderhead & Gates, 1993). It is apparent, however, that our teachers need to be encouraged to further develop the skills of critical inquiry, if they are to be empowered to systematically make decisions about teaching and learning, based upon analysis and consideration of alternatives within an ethical and political framework. The absence of pedagogy to promote this higher level of reflective inquiry is obviously a shortcoming of the science option of the Dip. Ed. programme. Beattie (1997), citing the work of Barone et al. (1996), speaks to the need for teachers to be educated in three dimensions of professional knowledge. One of these is the political dimension, in which teachers describe and analyze the social and cultural contexts and curriculum content, in order

to be capable of inspiring and influencing others to respect their ethically grounded set of beliefs and practices. Perhaps there should be greater focus on this dimension in the science option of the programme.

### **Reflections and Recommendations**

Our reflections on the findings of this study have led to the conclusion that our actions as teacher educators have been congruent with the stated aims of the Dip. Ed. programme. We now recognize, however, that our interpretation of these aims may have been limited, or that the stated aims do not fully reflect our expectations for teacher empowerment and transformation of classroom practice.

We have also become aware that there are gaps between our actions and the outcomes that we expect from the teachers in the programme. Raines and Shadiow (1995) suggest that reflection has the potential to benefit both teacher and student, and that “thinking-beyond-doing” challenges teachers at all levels to be more conscious about how and why they teach as they do, as well as about how the new awareness benefits their students.

We may need to re-examine our orientation to reflective teaching. Since we concur that higher levels of reflection are directly related to deeper understandings of the contexts of schooling, we may need to adopt aspects of the social reconstructionist tradition (Zeichner & Liston, 1996) that encourage reflection at the emancipatory level. We also suggest that the aims of the Dip. Ed. programme should be revisited to include the third dimension of strong professionalism (Beattie, 1997) in which emancipatory thinking is facilitated.

The challenge for us as teacher educators is to inspire our teachers to set off on a journey of exploration during which they will become transformed and empowered. To do this, we must enter into the kinds of relationships with our teachers that will help them to develop their voices and understandings. As we engage in this dialectic we can, in turn, reform and transform our own understandings.

In the short term, the following are some strategies that we plan to implement:

- ❑ Facilitating the process of reflection by providing opportunities during the curriculum sessions for science teachers to engage in dialogue about their teaching and learning. Such a forum that allows for the critical examination of experiences, beliefs, values, and attitudes should enhance the quality and direction of their written reflections.
- ❑ Including in curriculum sessions a critical examination of the impact of the current educational landscape on teachers' practice and professional development. This should also include the social, institutional, and political contexts of schooling.
- ❑ Writing and critiquing of reflective pieces during curriculum sessions so as to emphasize the substance and levels of teachers' reflections.
- ❑ Structuring reflection time into the teaching practice experience, for example, during the conferencing sessions, to provide a context for written reflection (see Zeichner, 1992) and to underscore the importance of reflection in practice.

## References

- Beattie, M. (1997). Fostering reflective practice in teacher education: Inquiry as a framework for the construction of a professional knowledge in teaching. *Asia-Pacific Journal of Teacher Education*, 25 (2), 111-128.
- Calderhead, J., & Gates, P. (Eds.). (1993). *Conceptualizing reflection in teacher development*. London: Falmer Press.
- Cresswell, J. W. (1998). *Qualitative inquiry and research design: Choosing among five traditions*. Thousand Oaks, CA: Sage.
- Dewey, J. (1933). *How we think: A restatement of the relation of reflective thinking to the educative process*. Boston, MA: D C Heath.
- Dobbins, R. (1996). The challenge of developing a 'reflective practicum.' *Asia-Pacific Journal of Teacher Education*, 24 (3), 269-280.
- Fuller, F. (1969). Concerns of teachers: Developmental conceptualisation. *American Educational Research Journal*, 6 (2), 207-225.
- Hoy, W. K., & Miskel, C. G. (1987). *Educational administration: Theory, research and practice* (3<sup>rd</sup> ed.). New York: Random House.

- Kutnick, P., & Jules, V. (1993). Pupils' perceptions of a good teacher: A developmental perspective from Trinidad and Tobago. *British Journal of Educational Psychology*, 63, 400-413.
- McIntyre D. (1993). Theory, theorising and reflection in initial teacher education. In J. Calderhead & P. Gates, (Eds.), *Conceptualizing reflection in teacher development* (pp. 39-52). London: Falmer Press.
- Posner, G. J. (1985). *Field experience: A guide to reflective teaching* (4<sup>th</sup> ed.). NY: Longman.
- Raines, P., & Shadiow, L. (1995). Reflection and teaching: The challenge of thinking beyond the doing. *Clearing House*, 68 (5), 271-274.
- Schon, D. (1983). *The reflective practitioner: How professionals think in action*. New York: Basic Books.
- Schwab, J. (1971). The practical: Arts of eclectic. *School Review*, 79 (4), 493-542.
- Van Manen, M. (1977). Linking ways of knowing with ways of being practical. *Curriculum Inquiry*, 6, 205-228.
- Zeichner, K. M. (1992). Rethinking the practicum in the professional development partnership. *Journal of Teacher Education*, 43(4), 296-307.
- Zeichner, K. M., & Liston, D. P. (1996). *Reflective teaching: An introduction*. Mahwah, NJ: Lawrence Erlbaum Associates.



**GRADED EXAMINATIONS IN  
SOLO STEELPAN PERFORMANCE  
A Caribbean Innovation in Music Education**

*Anne Marion Osborne*

The syllabus for graded examinations in solo steelpan performance was developed in 1994 as a collaborative effort among four lecturers at the Centre for Creative and Festival Arts (formerly the Creative Arts Centre), The University of the West Indies (UWI), St. Augustine. These pioneering examinations were first held in 1995, and they fill a gap in the existing British system of graded instrumental examinations that have been available in Trinidad and Tobago for all instruments, except the pan, for more than 80 years. To date, almost 2,000 persons, most of them children, have been examined, with approximately 95% obtaining certificates. Although designed for national use, pan examinations have been held in St. Lucia, St. Vincent and the Grenadines, Grenada, and extra-regionally in Maryland, USA.

**Background**

The *Graded Examinations in Solo Steelpan Performance* (hereafter referred to as pan exams) were developed to fill a need for practical music certification of pannists attending primary and secondary schools in Trinidad and Tobago. The syllabus was publicly launched on August 25, 1994 during Steelband Week, and the first exams took place in April 1995. From its inception, the pan exams were designed for the most commonly used solo instruments—the tenor pan, double tenor, and double second pans.

The family of instruments ranging from the highest (tenor pan) to the lowest (bass pans) is known collectively as the steelband. The steelpan, or pan as it is known in Trinidad and Tobago, emerged from disadvantaged areas of Trinidad's capital city, Port of Spain, in the late 1930s. Some years later, for performances at the 1951 Festival of Britain held on London's South Bank, new pans were created and existing ones were chromaticized. Still, it was not until 1992 that certain events hastened the rate at which the instrument was gaining recognition in the land of its

birth. Firstly, the steelpan was declared the national instrument of Trinidad and Tobago on August 31, 1992 (30<sup>th</sup> anniversary of Independence). Secondly, and unrelated to this announcement, the Trinidad campus of The University of the West Indies (UWI) admitted students to its first accredited music programme with the steelpan as the principal instrument in October 1992 (Osborne, 2000, p. 59).

When the pan exams syllabus was launched in 1994, learning to play the instrument did not include reading and writing music notation as a norm. Whether as a result of, or resulting from, this practice, there was little notated repertoire transcribed, adapted, or composed specifically for solo pan. While arrangers created complex music for national pan competitions, all the music was in their heads and in the memory of the players, and even then it was for a group of performers (steelband) rather than for soloists. Many arrangers of the older generation still follow this traditional practice of creating music aurally, without notation. However, the younger generation is different, and an interest in learning to read and write music is evident, with some scoring their music before entering the panyard. Now, music literacy programmes for children are being offered, especially as part of vacation camps at panyards and at other venues.

This article examines the extent to which the syllabus has impacted on steelpan teaching practices in Trinidad and Tobago since the inception of the exams 10 years ago. After an outline of the syllabus' general structure, specific features are explained. A discussion about outcomes growing out of research data collected from a small sample of teachers follows, and the article ends with comments on ramifications arising from this innovation of graded examinations in solo steelpan performance.

### **General Structure of the Syllabus**

Four lecturers in the music unit developed the syllabus for pan exams at the Creative Arts Centre (now Centre for Creative and Festival Arts), UWI, Trinidad, during the academic year 1993-94. The basic format of two established British music examination boards--Trinity College of Music, London and the Associated Board of the Royal Schools of Music--was adopted. These boards have been honing their syllabus structure for more than 100 years.

Four objectives are stated in the syllabus. The first objective is “to provide pan students with an opportunity to be systematically assessed in a non-competitive setting” (The University of the West Indies [UWI], 2003, p. 1). The second and third objectives focus on music notation. The second objective, “to encourage pannists to become musically literate” (p. 1), results from the instrument’s history. While it is taken for granted by the British music examination boards that students of the various instruments being examined are musically literate, this skill is not acquired as a matter of course in the case of pan students. The third objective, “to widen the scope of instruction in pan playing to include music reading in addition to rote learning” (p. 1), suggests a methodology for teaching the pan whether students are learning in preparation for a future career or merely as a leisure activity.

The fourth objective, “to encourage composers to write for solo pan so that the repertoire of original pan compositions can be enlarged” (p. 1), is a long-term goal that is slowly being fulfilled through the set pieces. For example, the present syllabus includes a piece written by a student of the BA Musical Arts composition course. Reasons for the slow pace of fulfilling this fourth objective include: 1) the formal study of pan is still in a relatively early stage while the tradition of oral/aural transmission is common; 2) as is the case with famous European composers who were also performers, pieces of music for solo pan are created for the use of pan virtuosos themselves. Thus, original works by outstanding pannists are found as set pieces only in the higher grades of the examination; and 3) the choice of contemporary music is restricted by copyright concerns.

The current syllabus (2003-2005) of the pan exams provides opportunities for assessment from Preliminary (pre Grade 1) to Grade 8 on the tenor pan, and from Preliminary to Grade 6 on double second and double tenor pans. The syllabus has five components:

1. Scales/arpeggios subdivided into traditional and calypscscales
2. Pieces—three are to be played from six set pieces, one chosen from each list A, B, and C
3. Reading at Sight (sight-reading)
4. General Musicianship
5. *Viva Voce*, where the examiner asks questions relating to the pieces played.

The pass mark is 65%, 75% is a pass with merit, and 85% is a pass with distinction. In Grade 8, candidates choose any three of five set pieces. In the Preliminary grade, scales are replaced by technical exercises and there are no tests of sight-reading or *viva voce* questions.

### Specific Features of the Examination

#### Calypscalcs

Calypscalcs (and in higher grades, calypsevenths) are compositions of Orville Wright (Berklee School of Music, Boston), who serves as a consultant to the Centre for Creative and Festival Arts on the pan exams. They were added to the traditional scale and arpeggio requirements with the second edition of the syllabus in 1998 (see Figure 1).



Figure 1. Calypscale in F major.

The syllabus explains the benefits: “in addition to the obvious relevance of the rhythm, practice of these patterns provides a system of gaining facility in moving from key to key, a pre-requisite for improvisation” (UWI, 2003, p. 18). Eleven different connecting passages provide a natural transition for the modulations. Teachers have found that the calypscalcs are attractive to their students who immediately identify with the Caribbean-type rhythm. Some candidates in the practical component of the Caribbean Examinations Council (CXC) music examinations also use the calypscalcs as technical studies.

## Set Pieces

Set Pieces for the pan exams present a challenge that is peculiar to the pan as a solo instrument. Unlike instruments such as the piano where there is a standard repertoire from which pieces can be drawn, no such material exists for the pan due to the instrument's origins in the oral/aural tradition.

Two members of the original team are responsible for choosing suitable repertoire and adapting the music for solo pan. They are both experienced pannists and music educators, having majored at undergraduate level in music education before pursuing graduate work. Sources of pieces in lists A and B include music originally written for solo voice, piano, strings, and wind instruments. A great deal of effort is expended to ensure that music composed for other instruments is playable on the pan. One technique of adaptation is transposition for a variety of reasons:

- limitations of the pan's range may necessitate transposition to a new key
- the change to a new key may also be necessary where music that is easily playable on the instrument for which it is written is awkward to play on the pan because the placement of notes on this instrument does not follow a scalar pattern. Instead, notes on a standard tenor pan are arranged in a circle of fifths (in an anti-clockwise motion)
- the manipulation of a melody to disguise octave transposition of a few notes or entire phrase is more challenging than moving to another key altogether. The melody line with octave displacements must flow so naturally that listeners are hardly aware of differences from the original.

Other common adaptations are addition of marks for legato playing (rolling), dynamic markings, and omission of embellishments and non-harmonic tones to simplify passages in the lower grades (1-4). Choosing and adapting set pieces for pan exams and arranging them in order of difficulty is pioneering work as far as can be determined.

Most of the set pieces in lists A and B come from a repertoire of European Art Music composed for other instruments. However, it is in list C that the pan exams differ radically. The pieces in this category are

either arrangements of Caribbean folk songs, adaptations of calypsoes, or original pieces for pan written by Caribbean composers. Teachers have commented on the pride they experience as list C pieces are considered on par with those chosen for lists A and B. This comment suggests that the struggle for credibility and recognition of the pan locally is ongoing.

### **Reading at Sight (sight-reading)**

Reading at sight is a skill that can be developed and should form part of any examination in music, no matter the instrument. In the case of the pan, the ability to read music, rather than relying on learning by rote, hastens the acquisition of new repertoire and facilitates the recall of music learned some time ago.

### **General Musicianship Tests**

General Musicianship Tests incorporate two sides of aural skills— that of aurally recognizing musical features (commonly known as Ear Tests) and tests requiring a practical response, for example, candidates are asked to reproduce what they hear by playing it back on the pan.

There are four tests in each grade. Requirements range from aural recognition of musical features such as tonality, quality of triads, and intervals to those that include practical responses such as improvisation on specific tone sets, rhythm, or as an answering phrase. One set of tests in Grades 1 to 4 is meant to develop a skill that is important for pannists— that of playing a phrase on pan after hearing it once or twice. This practice is known as “playing by ear.”

It is important to explain why playing by ear is important for pannists. It is still a misconception that this skill of playing by ear is practised by thousands of pannists across Trinidad and Tobago as they learn an arrangement for Panorama. Instead, what actually occurs is the development of a phenomenal memory for music, which is retained in the short-term by “drill” – playing a passage of music hundreds of times at each rehearsal. This process of learning repertoire is a laborious one in which the musical director or section leader calls out pitch names and then taps out the rhythm pattern for those pitches, phrase by phrase. Another practice is for the director to physically show the placement of notes (hand position) to section leaders, who in turn teach other members phrase by phrase. If more band members truly learn to play by

ear (play a phrase on their instruments after hearing it once or twice), a greater amount of repertoire could be learned during rehearsals.

Another practical component in General Musicianship Tests is the transposition of a melody up or down a tone or semitone in Grades 5 and 6. This skill is required when the pianist has the role of an accompanying instrument. For example, a pianist accompanying singers transpose the accompaniment if the singers' vocal range is outside that of the original key of the music. Similarly, if a pianist replaces the part of another instrument such as a trumpet or clarinet (transposing instruments in which the notated pitch is different from the sounding pitch), pianists are required to transpose their part in order to harmonize with the other instruments. Transposing at sight takes the ability to sight read one step further, as it is impossible to make musical sense of this test if one has not mastered the most efficient skill in sight-reading—the ability to read by grasping rhythmic and melodic patterns (contour and intervals) instead of reading by naming individual notes in isolation.

### *Viva Voce*

*Viva Voce*, in which questions are asked on pieces chosen for the exam, involves another facet of musical literacy. Answering these questions ensures that the student has not learned to perform the music by rote and emphasizes the second objective of the syllabus, “to encourage pianists to become musically literate” (UWI, 2003, p. 1). Questions increase in difficulty according to grade. They range from basic information such as names and values of notes and rests, explanation of key and time signatures, and advance to questions about the structure of a piece, information about the life of the composer, and awareness of the work's technical and musical demands (see Figure 2).

<i>Grade 6</i>
<ol style="list-style-type: none"> <li>1. Indicate where the main modulations occur.</li> <li>2. Explain the form of the piece.</li> </ol>
<i>Grade 8</i>
<ol style="list-style-type: none"> <li>1. In your opinion, what is the most difficult technical feature of this piece?</li> <li>2. How did you go about learning to master difficult passages?</li> </ol>

Figure 2. Examples of *Viva Voce* questions.

### **Outcomes of the Pan Exams**

Ten teachers were surveyed in order to determine the benefits of these exams. They were selected because they had consistently entered a number of candidates for the examinations in the preceding six years. All were experienced music teachers who had been teaching the pan for a number of years before the advent of the graded pan exams. Nine of them responded and their comments are summarized in this section of the paper.

A questionnaire was used to collect data during the period mid-June to early August 2004, largely by e-mail. With one exception, the sample of teachers was drawn from Northern Trinidad (the so-called East-West Corridor, specifically Diego Martin to Sangre Grande). The exception was a teacher located in San Fernando.

Before the questionnaire was sent out, a face-to-face interview was held with the most senior teacher (67 years of age) on June 17 at the music building of the Centre for Creative and Festival Arts. This teacher did not have Internet access. The questionnaire consisted of six items, which were couched in an open-ended format (see Figure 3).

1. What were your thoughts on first hearing about pan examinations?
2. How have these examinations influenced your teaching?

Figure 3. Examples of questionnaire items.

The following provides a summary of teacher responses.

### **Benefits to students who register for the exams**

All teachers mentioned overall motivation. This is in keeping with the acknowledged perception that “the prospect of an examination provides extra motivation for pupils to undertake the hard work that is needed to do well in an examination” (Salaman, 1994, p. 210). Some respondents pointed out that it is not only motivation for students who need an event for which to prepare, but even for the teacher. A music teacher at an inner-city secondary school went as far as to state that the pan exams give her a reason for teaching pan. One primary school music teacher said that her students now have a better sense of purpose and have been able to set annual goals towards which they can work. It was especially encouraging to hear about a secondary school where successful students are recognized at the school’s Merit Awards Day. At that school, too, it has been reported that some students borrow sheet music from the library to teach themselves pieces they find attractive. Another teacher relates a different type of motivation—these exams are the only impetus for some pannists to learn to read and write music. She traced the music literacy journey of a student, already an experienced performer at age 21, who gained confidence to continue his studies in the USA after passing an intermediate pan exam. Today, he is a graduate with a BA in music education and has made a career in that field in his adopted homeland.

To summarize, the benefits to pan students according to their teachers include the opportunity to:

- gain self-confidence that they can perform as soloists (playing pan is a group [steelband] rather than solo activity)
- extend their technique (e.g., hand positions in calypsevenths and in set pieces)
- acquire a repertoire of musically challenging pieces from which to choose

- gain self-sufficiency in music reading. A student of one teacher credits the requirements of the pan exams for the development of her ability to analyze pieces and to study them on her own. She was the only one of her year group to pass the CXC music examination at her school and credits the pan exams for her success.

### **The influence of pan exams on the teaching of the instrument**

It was found that either directly (6 responses) or indirectly (3 responses), the sample treated the syllabus as a teacher's guide for the content of their pan lessons. Responses included the following:

- the requirements of the syllabus have expanded their teaching to include aural training and sight-reading
- the *viva voce* component has forced them to cover a bit more theory than would have been done ordinarily
- these exams have provided a good framework for practical teaching and all solo work is done with the syllabus in mind
- [her] teaching has become more structured because the students are required to develop their auditory skills, build their reading competence, and improve their playing technique
- the *viva voce* questions have helped the concepts learned in music theory to come alive for the students.

A British researcher has found this influence of a syllabus being used as a curriculum. She gives the reason for this dual function: "Although instrumental teaching does not always involve an explicit curriculum, the ... influence of the graded exams means that a great deal of teaching occurs with reference to a syllabus ...." (Green, 2002, p. 128).

### **Summary**

The pan exams have influenced teachers and students to go beyond the traditions learned in an informal setting. The exams are a systematic assessment for those learning the instrument in a formal setting where music notation is central. The aim, however, is not to advocate the use of music literacy to the detriment of other ways of teaching and learning. Indeed, one of the objectives is "to widen the scope of instruction in pan playing to include music reading in addition to rote learning" (UWI, 2003, p. 1). It is acknowledged that "literacy ... is a means to an end

when we are working with some [types of] music" (Swanwick, 2000, p. 10). Designers of the pan exam syllabus agree that other methods of teaching the instrument are valid in certain circumstances.

The pan exams have impacted music education and several teachers use the syllabus as an instructional guide whether or not they are preparing students for exams. Another benefit is that a repertoire of notated pieces for tenor, double tenor, and double second pans—classified in order of difficulty from elementary to advanced—is being compiled as different editions of the syllabus are released. Locally, these pieces are heard in competitions, at CXC practical exams, and at various types of concerts. The supporting tests (sight-reading and musicianship) aid in the development of all-round musical skills that in turn underpin performance.

### **Conclusion**

This insistence on the need for examinations is largely due to the influence of the British music examination boards that have offered graded instrumental exams for all instruments, except pan, for several decades. In our society, parents and others measure progress in music lessons by the passing of graded examinations. It is perceived that such examinations provide a benchmark from which to gauge a student's progress.

In socio-cultural terms, full acceptance and recognition of the pan's worth by our society lags behind that of the wider musical world, where the instrument is considered on par with any of the so-called traditional instruments. Implementation of the pan exams—a systematic method of assessment—has raised the pan's status and has caused a shift in thinking by some parents and school administrations. For example, the small sample of teachers expressed enthusiasm about the initiative of the pan exams, as the formal structure has legitimized the instrument in the eyes of a society still clouded by the pan's humble origins. The thoughts of these teachers were captured by the most senior respondent, who expressed the pride he feels now that the pan is being treated like any other instrument and considered worthy of graded examinations. This way of thinking is further illustrated by the response of a secondary school teacher who claimed that certain parents have only allowed their children to be involved in the school's pan ensemble because they can see a future in learning the instrument now that there are graded exams

offered by UWI. In the perception of these parents, then, the exams have given pan the validity that it previously lacked.

In musical terms, the pan is being moved into the mainstream of music making by the addition of compulsory piano accompaniment. Thus, the pan is being treated like all other solo instruments in the jazz, contemporary, or classical idioms. The use of piano accompaniment also reflects the growing trend of using the pan in combination with instruments outside of the steelpan family.

Other noticeable gains include an increasing number of former candidates beginning to enrol in UWI's Certificate and BA Musical Arts programmes. In addition to supplying better prepared students for music programmes at UWI, the existence of the graded pan exams confirms to the local society, what has been long recognized in metropolitan countries, that the pan has come of age.

### References

- Green, L. (2002). *How popular musicians learn: A way ahead for music education*. Hampshire, UK: Ashgate.
- Osborne, A. (2000). Steel pan in academia: Establishing a programme at the University of the West Indies, Trinidad. *Caribbean Journal of Education*, 22(1&2), 56-62.
- Salaman, W. (1994). The role of graded examinations in music. *British Journal of Music Education*, 11(3), 209-221.
- Swanwick, K. (2000). Why composing, why audience-listening? *Libretto*, 2, 10-11.
- The University of the West Indies. Centre for Creative and Festival Arts. (2003). *Graded examinations in solo steelpan performance - Syllabus valid for examinations: 2003-2005*. St. Augustine, Trinidad: Author.

## **GENDER AND ACADEMIC ACHIEVEMENT IN MATH**

### **An Examination of the Math Performance Data on Seven to Nine Year Olds in Trinidad and Tobago<sup>1</sup>**

*Launcelot I. Brown*

There is general concern in Trinidad and Tobago and the wider English-speaking Caribbean about the gender differential in performance on regional and national examinations. Previous studies had shown boys not performing as well as girls. Utilizing scores from the math component of the Continuous Assessment Programme (CAP), this study investigated whether the trend was evident among the younger primary school students. The final sample comprised 1,682 students in Standard 1, Standard 2, and Standard 3 (age group 7-9 years). Total scores, Zscores, scores for students attempting all items, and composite scores for the low-level and high-level items were computed. The proportion of boys and girls in the upper ( $\geq 1.00$ ) and lower ( $z \leq -1.00$ ) tails of the distribution were examined, as was the gender differential in the number of students omitting test items. Overall, girls scored higher than boys, more boys than girls omitted items, and a significantly greater proportion of boys were in the lower tail of the distribution. The Hindu schools were the exception to this general finding. The non-response to items could be addressed by schools teaching test-taking skills. However, more important may be the underlying reasons for the phenomenon, and the implications for boys' future academic achievement and employment opportunities.

From the 1970s to the present, the debate on sex-related differences in academic achievement has continued unabated. However, while the differential academic outcomes have remained a focus of published research, the emphasis has shifted from the performance of girls in the separate sciences and higher-level mathematics to the academic achievement level of boys.

---

<sup>1</sup> This research was made possible through the kind cooperation of the Department of Educational Research and Evaluation, Ministry of Education, Trinidad and Tobago.

Previous research had found that to varying degrees boys consistently scored higher than girls on a number of indicators of mathematical proficiency, resulting in boys' better performance in higher-level mathematics (Fennema & Peterson, 1985; Leahey & Guo, 2001; Manning, 1998; Peterson & Fennema, 1985; Randhawa, 1991, 1994). However, cementing these findings were Hyde, Fennema, and Lamon's (1990) meta-analysis on gender differences in mathematics performance, and the 1992 report of the American Association of University Women (AAUW). These studies had a profound impact on pedagogical approaches and overall classroom environment, resulting in increased attention to the mathematical achievement of girls, and the active adoption of policies to support and encourage girls in the study of mathematics.

Challenging the perceptions of male mathematics superiority, Hyde et al. (1990) and Leahey and Guo (2001) argued that it is misleading to assert an evident gender difference in mathematics achievement favouring males. At the primary level, existing differences were not consistent across mathematics skill areas, and where differences existed they were small but in favour of girls. However, their data did substantiate the perception of male superiority in mathematics at the secondary level, indicating that in the areas of problem-solving (Hyde et al., 1990) and reasoning skill and geometry (Leahey & Guo, 2001), there were slight consistent advantages in favour of boys.

Despite the above statements, there remains a growing concern over the academic performance of boys—a concern that is also the subject of intense debate in Britain. The Office for Standards in Education (OFSTED) in its 1996 report "The Gender Divide: Performance differences between boys and girls in school" stated that girls out-performed boys at ages 7, 11, and 14 in English, and were similar in performance in mathematics and science on the National Curriculum Assessment (NCA). On the General Certificate of Secondary Education (GCSE) examinations taken at 16+, their performance remained superior to that of the boys, achieving more grades at A\* to C, and showing success even in the traditional male subject areas. The only area of boys' dominance was GCSE physics, the subject area in which boys also did better on the NCA.

Younger, Warrington, and Williams (1999) caution that in discussing the sex-related differentials in academic performance, it is possible to overlook the rising achievement levels of both boys and girls. But, as can be gleaned from the headline of the August 22, 2002 BBC World Edition "Addressing the gender gap: What's to be done about the boys?" the academic performance of the male student has become one of the central issues in the discourse about education in the UK. The results of the 2002 GCSE show that girls beat the boys by 9 percentage points at the top grades; the gap ranging from 14.3 percentage points in French and Spanish to 1 percentage point in mathematics. The only two areas in which boys did better than girls were physics and biology (0.7 and 0.8 percentage points respectively). Whether these results represent an increasing achievement gap (see Gorard, Rees, & Salisbury, 1999), there is no denying the existence of a performance differential, which must be of concern to the educational community and the society as a whole.

Although the cultural setting may be different, and the resulting dynamics may contrast with those common to the traditional settings of the more developed Western societies, the issue of performance differential is also the subject of active debate in the English-speaking Caribbean (Caribbean Education Task Force, 2000).

### **The Trinidad and Tobago Context**

In Trinidad and Tobago, as in the wider English-speaking Caribbean, on average children start primary schooling at age 5. After two years in the Infant department they proceed to Standard 1 (Std. 1), moving up each subsequent year until Std. 5 where they take the Secondary Education Assessment (SEA) examination, the results of which are the main criteria for accessing the stratified secondary education system.

The public primary education system consists of government funded and managed non-religious schools, and others that are two-thirds government funded but denominationally managed. Parental choice of school is based on the family's religious affiliation, proximity of the school to the home or place of employment, and reputation of the school (for example, the number and quality of the secondary school placements gained on the SEA).

As stated in the *Caribbean Education Strategy*--the report of the Caribbean Education Task Force (2000)--there is general concern in the English-speaking Caribbean over the low academic achievement of students in the region. This low academic achievement is reflected in the unacceptably "high drop out rates beyond [age 15] the age of compulsory education" (p. 9), and poor performance of too high a percentage of students on the examinations of the Caribbean Examinations Council (CXC)--the Caribbean equivalent to GCSE--taken in Form 5, which roughly corresponds to Grade 11 in the US system. The report, in citing national and Caribbean-wide data, states that on completing primary school, 25% to 30% of students do not acquire the basic cognitive skills to benefit from education at the secondary level. Additionally, of the students who complete the secondary cycle, only about 30% achieve a level that allows access to education at the tertiary level.

But the problem of low academic achievement is not limited to performance at the CXC level. Commentaries in the Trinidad and Tobago daily newspapers (Baldeosingh, 2003; Ramcharitar, 2003) situate the problem as a manifestation of the core issue of the quality of public primary education. For example, Morgan Job comments in the *Trinidad Guardian* (June 19, 2003) that, "of 120 children placed in Form 1 in a state [secondary] school in Tobago in 1994, 115 scored less than 50 per cent in English and math" on the Common Entrance Examination (CEE), now the SEA. Because of the selective purpose of the examination, such an occurrence would not apply to all secondary schools receiving students transiting the primary system. Nevertheless, these figures are not encouraging and do present a reason for concern.

Within this concern is a subcomponent of equal importance: the gender differential in academic performance as evidenced by scores on mandated exams (Kutnick, Jules, & Layne, 1997; Parry, 2000). However, the issue of male underachievement is not a recent concern. As stated in the conference report, *Addressing Male Underperformance in the Education System: Intervention Strategies* (Trinidad and Tobago [T&T]. Ministry of Education, 1997), the "Male Identity Crisis in the Caribbean" and the resulting disengagement from the education process were brought to public attention by Miller in 1986 (p. 3). Using Miller's work as a frame of reference, the conference report observed that perhaps, in addressing in the society "issues of inequality with regard to females ... the pendulum had swung too far from them [the males] resulting in the disequilibrium

that was being observed in terms of male identity and achievement” (p. 3). The continued debate indicates that from 1986 to the present, the issue has defied resolution.

With reference to Trinidad and Tobago, Jules and Kutnick (1990) and Kutnick and Jules (1988) stated that a gender differential in academic performance is reflected across all curriculum areas. Girls perform better than boys on teacher-made tests at all ages between 8 and 16, and in all curriculum subjects. They achieve better results on the SEA, and also achieve better results on the CXC examinations across all subjects including subjects within the differential sciences (Kutnick et al., 1997). However, contrasting with this general finding, Jules and Kutnick (1990) noted that on the CXC, Muslim boys performed better than Muslim girls overall and in social studies.

A review of the 2000, 2001, and 2002 CXC O’Level General Proficiency results for Trinidad and Tobago (T&T. Ministry of Education. Division of Educational Research and Evaluation, 2004) gives general support for the finding that girls are academically outperforming boys; however, this does not hold true for mathematics. In 2000, 2001, and 2002, a higher proportion of girls than boys attained Grades I - III—the grades normally accepted as passing grades—in integrated science, chemistry, and physics. In 2001, boys did better in biology; however, the proportion of girls getting Grade I exceeded that of boys. The pattern of girls’ academic dominance was evident in almost all other subject areas including technical drawing and information technology. The disproportion in the number of girls to boys in the technical subject areas did not allow for valid comparisons; however, the few girls who sat the Technical Proficiency examinations performed as well as, and in some cases better than, the boys. The only subject area in which boys consistently did better than girls was mathematics. In 2000, of the students who sat mathematics at the General Proficiency level, 47.4% of boys to 44.9% of girls earned Grades I-III; in 2001, the proportion was 44.8 to 43.4; and in 2002, there was a general improvement with the proportions increasing to 52.5 and 50.1 respectively.

It is important to note that mathematics is compulsory for all students and there are approximately equal numbers of boys and girls at the secondary level [data retrieved from the Division of Educational Research and Evaluation, Dec. 2004]. However, of the students taking mathematics at the General Proficiency level, girls comprised 58.3% in

2000, and 58.1% in 2001 and 2002. This suggests that a higher percentage of girls than boys are doing General Proficiency level mathematics and, alternatively, a greater percentage of boys are doing the Basic Proficiency level mathematics. Therefore, it is possible that the better performance of boys may be masking the issue of gender differentials in the students taking the General Proficiency examinations as against the Basic Proficiency examinations. While this may be so, the finding with regard to boys' mathematics performance gives support to the claim that boys perform better in higher-level mathematics (Fennema & Peterson, 1985; Leahey & Guo, 2001; Manning, 1998; Peterson & Fennema, 1985; Randhawa, 1991, 1994). However, it does not invalidate the overall concern about boys' performances, or the differential performance on the SEA.

There are many explanations offered for this difference in performance. Specific to the Caribbean, these range from Miller's (1986, 1994) theory of place in the marginalization of the black male, to differences in the classroom experiences of boys and girls (Kutnick et al., 1997; Parry, 2000), to male socialization and cultural expectations of male behaviour which conflict with the ethos of the school (Chevannes, 2001; Parry 2000), to the traditional independence of Caribbean women, and historic male privileging of which male educational underachievement has been an "ironic outcome" (Figueroa, 1997, p. 68).

Many Caribbean scholars have argued that the contrasting expectation and socialization have better prepared girls for performing in the modern school (Chevannes, 2001; Parry, 2000). Conrad's (1999) interview of a Caribbean female educator supports this assertion. As stated by the interviewee with reference to her childhood, unlike her brothers, a significant amount of her time was spent on home management responsibilities, supporting her mother. And again, unlike her brothers, she was not supposed to play much, but apply herself to her schoolwork and be obedient.

While the above arguments address important considerations, the extent to which these factors explain group variance in student academic performance is subject to continuing research. Nevertheless, they provide plausible starting points and directions for interrogating and illuminating the issue of gender differential in academic achievement.

With the exception of Kutnick and Jules (1988), all other studies on Trinidad and Tobago student performance at the primary level that I have reviewed have used scores on the CEE as the principal measure of student academic achievement. A consequence of this fact is that conclusions are based on the performances of the 11- and 12-year-old cohort at the end of their primary school experience, and do not give an insight into the academic performances of boys and girls at the lower levels.

In 2000, as part of an overall strategy to address educational standards, the Ministry of Education (MOE) piloted the Continuous Assessment Programme (CAP), a national assessment scheme which assesses all students in Std. 1, Std. 2, and Std. 3 (ages 7, 8, and 9) in the curriculum areas of reading, English, and math. This study utilizes the individual student scores on the mathematics component on the 2001 CAP at Std. 1, Std. 2, and Std. 3 as the measure of achievement to determine whether the findings of previous studies are replicated across this age group.

This study, in acknowledging the findings in the literature of the more developed countries, that at the lower primary level there are no significant differences between boys and girls' mathematics achievement, and supporting that ideally this should be the reality, also acknowledges the contrasting findings of Kutnick and Jules (1988). Of interest, therefore, is whether there is a significant difference in academic performance between girls and boys in Std. 1, Std. 2, and Std. 3 on the mathematics component of the CAP, and whether this difference, if there is one, is a reflection of differential performance based on item level difficulty.

Recognizing that there may be fundamental differences in performances between high-scoring and low-scoring students, the study also compares the performance of boys and girls classified as high-scoring and low-scoring. Furthermore, being cognizant of the importance attached to type of school (denomination) in the Trinidad and Tobago context, the study examines the relationship between type of school and girls and boys performance in mathematics. Also, in recognizing socioeconomic status as an important predictor of student academic performance, the study seeks to determine whether there is a significant difference in academic performance between girls and boys across different socioeconomic groupings.

An initial perusal of the math score sheets indicated that a number of students omitted items. There is a direct relationship between the number of items attempted and the probability of an individual achieving a higher final score. With this in mind, I examined whether there is a significant gender differential in the number of non-responses to items on the assessment.

## **Method**

### **Instrumentation**

The CAP mathematics for Std. 1 consisted of 20 items with a total score of 40. The content breakdown of the problems was: number (8 items), measurement and money (7 items), geometry (2 items), statistics (3 items). The Std. 2 instrument also consisted of 20 items but with a total score of 60. The content breakdown was: number (11 items), measurement and money (5 items), geometry (2 items), statistics (2 items). The Std. 3 instrument was out of a total score of 70 and comprised 22 items, with the following content breakdown: number (11 items), measurement and money (5 items), geometry (3 items), statistics (3 items). While the MOE did pay attention to total class by school score in each category, overall interest was in total score on the assessment.

Using Carpenter et al.'s definitions of item difficulty level (Peterson & Fennema, 1985) as a guide, the items were classified as either low-level (LL) or high-level (HL). LL items assessed knowledge and skills, and HL items assessed reasoning and application. Thus, LL mathematics problems required students to recall facts, or perform the steps involved in a mathematical procedure that did not require interpretation or demonstration of conceptual understanding through application and knowledge transfer (see Figure 1). Classification of items was conducted with the assistance of two mathematics teachers, with the final placement of items being based on 100 percent agreement.

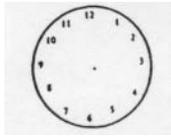
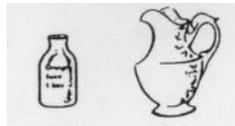
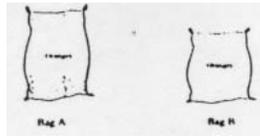
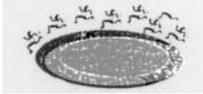
Low-level Items	High-level Items
<p>1. Asaph left home at 6:55 a.m.</p> <p>a. Draw in the hands on the clock below to show the time Asaph left home.</p>  <p>b. Asaph took 20 minutes to get to church. At what time did he get to church?</p> <p>Answer _____</p>	<p>1. The bottle below holds 1 litre of juice. The jug holds 3 times as much as the bottle.</p>  <p>How many litres will it take to fill the jug?</p> <p>Answer _____</p>
<p>2. I had 64 marbles. I gave Sue 26 marbles. I have _____ marbles left.</p> <p>3. Write the numbers below in ascending order.</p> <p>472    299    901    406</p> <p>Answer _____</p>	<p>2.</p>  <p>Bag A has 245 oranges. Bag B has 138 oranges. How many oranges must be added to Bag B so that both bags have the same number of oranges?</p> <p>Answer _____</p>
<p>4. Write &lt;, &gt;, or = in the boxes to complete the number sentences correctly.</p> <p>6051 <input type="text"/> 6510</p> <p>9909 <input type="text"/> 9099</p>	<p>3. Write in the boxes the missing numbers.</p> $\begin{array}{r} 64 \quad \times \quad 18 \\ = 64 \quad \times \quad (\quad + 8) \\ = (64 \quad \times \quad \quad) + (\quad \times 8) \end{array}$ <p>4. A class decided to raise funds for a sick child. Each student was paid \$4 for a lap around the savannah.</p>  <p>If 35 students ran 1 lap around the savannah, how much money did the class raise?</p> <p>Answer _____</p>

Figure 1. Examples of low-level and high-level math items.

## Sample

From the CAP score sheets available at the time from the MOE, 25 primary schools stratified by gender (boys, girls, or coeducational), school type (government non-religious, denominationally managed, private, and other), location (urban, sub-urban, and rural) and socioeconomic status (SES) were randomly selected to provide the sample for this study. SES is a school level variable. Principals and teachers of the selected schools were asked to define the SES of the school as upper, upper-middle, middle, lower-middle, or lower based on their perception of the socioeconomic status of the majority of the children attending the school. Two schools were classified as other, which were both small and managed by Christian denominations other than those identified in the study.

Of the 25 schools, 3 schools omitted three or more items in a class, and 2 schools did not accurately follow the scoring guide on the tests. Thus 20 schools provided the final sample. The sample comprised 1,682 students (f = 789, 46.9%; m = 893, 53.1%). Of this sample, 605 were in Std. 1 (f = 267, 44.1%, m = 338, 55.9%); 615 in Std. 2 (f = 290, 47.2%, m = 325, 52.8%); and 462 in Std. 3 (f = 232, 50.2%, m = 230, 49.8%). There is system degradation in the number of males from Std. 1 to Std. 3. The results of chi-square analyses indicate that these proportional differences could be attributed to chance. All data were retrieved from the score sheets housed in the MOE.

## Data analysis

Chi-square statistics were calculated to determine whether the number of students omitting one or more items on the assessment differed significantly by gender. To test whether students' performances differed by gender, means comparisons were run on total scores, on scores of students attempting all items, and composite scores for the low-level and high-level items. Because the total score differed by class level, I computed standard deviated scores for each class level, thus allowing for valid comparison of students across levels. Recognizing that small mean differences between groups do not preclude the existence of large differences in the tails of the distribution (Halpern, 2000), the chi-square analysis was computed to determine whether the observed frequencies of boys and girls in the high-scoring and low-scoring groups were

consistent with the proportion of girls and boys in the sample. Additionally, ANOVAs were computed to examine academic performance between girls and boys across type of school and the different socioeconomic groupings. Significance is determined at the .05 level of probability and, in addition, indices of Strength of Association are reported for all comparisons.

## Results

### Chi-square results for non-responses

There was a total of 786 items not attempted by students. Of these items, 327 can be attributed to girls and the remaining 459 to boys. This difference was significant at the .01 level, ( $\chi^2(1, n = 786) = 8.86, p < .003$ ),  $d = 0.22$ . Adding to the significance of this discrepancy, from one particular lower-income girls' school, all 17 students in Std. 1 omitted items 19 and 20, the 15 students in Std. 2 omitted item 20, and all 17 in Std. 3 omitted item 22. Despite including these classes, boys still omitted more items than expected by chance.

A total of 373 students were responsible for the 786 items omitted. Of these, 153 were girls comprising 19.4% of female students in the sample, and 220 were boys comprising 24.6% of the male students. The result of the chi-square was significant,  $\chi^2(1, n = 373) = 5.21, p < .023$ ,  $d = .24$ , with boys being over-represented. Testing frequency differentials at the various class levels revealed that whereas there was no significant association between gender and the number of students omitting items in Std. 1 and Std. 3, the difference in Std. 2 was significant,  $\chi^2(1, n = 119) = 4.16, p < .05$ ,  $d = .39$ . However, in all instances, for the boys the observed frequencies for non-attempts were higher than the expected frequencies.

### Chi-square results for proportions in the tails of the distribution

Examining the proportion of boys and girls in the upper ( $\geq 1.00$ ) and lower ( $z \leq -1.00$ ) tails showed in Std. 1, 18.7% of girls ( $n = 50$ ) and 14.8% of boys ( $n = 50$ ) were in the upper tail ( $n = 100$ , raw score  $\geq 37$ ),  $\chi^2(1, n = 100) = 1.46, p > .05$ ,  $d = .24$ . In Std. 2, 102 students scored above 1 standard deviation (raw score  $\geq 50$ ;  $n = 51$  girls, 17.6%; and  $n = 51$  boys, 15.7%), and 89 students did likewise in Std. 3 (raw score

$\geq 52$ ;  $n = 47$  girls or 20.4% and  $n = 42$  boys or 18%). All chi-square results were non-significant.

The results for the proportion of boys to girls scoring  $z \leq -1.00$  indicated a significant number of boys were in the lower tail of the distribution. In Std. 1, 13.5% of girls,  $n = 36$  and 22.2% of boys,  $n = 75$  scored at or below  $z = -1$  (raw score  $\leq 8$ ),  $\chi^2(1, n = 111) = 6.03, p < .02, d = .51$ . Similarly in Std. 2, 11.4% of girls,  $n = 33$  and 23.4% of boys,  $n = 76$ , boys scored at or below  $z = -1$  (raw score  $\leq 18$ ),  $\chi^2(1, n = 109) = 12.24, p < .001, d = .77$ . In Std. 3, 14% of the girls ( $n = 32$ ) and 20% of boys ( $n = 46$ ) were in the lower tail (raw score  $\leq 22$ ). However, while the effect size approached a moderate association between student gender and the probability of being in the lower tail of the distribution, the chi-square test was not statistically significant,  $\chi^2(1, n = 78) = 2.51, p > .05, d = .37$ .

### Means comparisons results

The first comparison used standard scores of the total sample as the dependent variable. Levene's test indicated the distribution of scores for girls and boys was heterogeneous; therefore  $t$  with adjusted degrees of freedom was used in the interpretation of the results. The result of the  $t$ -tests evidenced girls' significantly higher performance on the CAP,  $t(1680) = 4.42, p < .001, d = .22$ . A 2 (gender)  $\times$  3 (class level) analysis of variance yielded a significant  $F$  statistic for the main effect of gender, but non-significance for class level and the interaction effect between the two variables. However, unequal samples coupled with heterogeneity demand very cautious interpretation of  $F$ . To determine the extent of the gender differentials at the class level, I conducted a number of  $t$ -tests, and being cognizant of the increased probability of Type 1 error, set alpha at .015.

At the Std. 1 and Std. 2 class levels, there was statistically significant evidence that girls performed better than boys,  $t(603) = 2.94, p = .003, d = .24$ , and  $t(613) = 2.91, p = .003, d = .24$ . The same did not hold for Std. 3,  $t(460) = 1.68, p > .05, d = .16$ . Because a greater proportion of boys than girls omitted items, and the ratio of boys and girls to number of items omitted was also greater for boys,  $t$ -tests were run on standard scores to observe whether the mean math scores differed for those who completed all the items. The removal of non-responders from the analysis had the additional benefit of making the groups homogenous.

The result was statistically significant, but suggested the effect of gender on math performance was at best weak,  $t(1307) = 2.45$ ,  $p = .015$ ,  $d = .14$ . Further examination of mean comparisons at the class level showed non-significant differences in Std. 2 and Std. 3,  $p > .05$ , but approached significance in Std. 1,  $t(461) = 2.25$ ,  $p = .025$ ,  $d = .21$  (see Table 1).

**Table 1. t-Tests: Gender Differences**

Samples	Girls		Boys		<i>t</i>	<i>d</i>
	M	SD	M	SD		
Total sample <sup>a</sup>	0.11	0.94	-0.10	1.04	4.42**	0.22
All attempts <sup>a b</sup>	0.07	0.97	-0.07	1.03	2.45*	0.14
<b>Class</b>						
Std 1 <sup>b</sup>	30.52	7.54	28.87	8.12	2.25*	0.21
Std 2 <sup>b</sup>	38.11	13.30	37.19	14.08	0.74	0.07
Std 3 <sup>b</sup>	39.17	14.27	37.81	14.87	1.27	0.14
<b>High Level Items</b>						
Total sample <sup>a</sup>	0.11	0.94	-0.10	1.04	4.36**	0.21
All attempts <sup>a b</sup>	0.26	0.89	0.13	0.97	2.49*	0.14
Std 1	10.08	3.52	9.34	3.79	2.46*	0.20
Std 2	20.96	7.80	18.46	9.57	3.56**	0.29
Std 3	18.72	7.98	17.67	8.16	1.40	0.13
<b>Low Level Items</b>						
Total sample <sup>a</sup>	0.10	0.96	-0.09	1.03	3.75**	0.18
All attempts <sup>a b</sup>	0.24	0.92	0.14	0.95	1.84	0.10
Std 1	18.46	5.36	17.18	5.65	2.83**	0.23
Std 2	15.00	6.68	14.00	7.34	1.76	0.15
Std 3	19.38	7.11	18.11	7.52	1.86	0.17

<sup>a</sup>Standard scores. <sup>b</sup>Non-responses are omitted. All other means are raw scores  
\*  $p < .05$ . \*\*  $p < .01$

### Gender differences by item difficulty

Examining math scores based on the difficulty level of the item, the statistical evidence showed that the girls performed significantly better than the boys on both the high-level items,  $t(1680) = 4.36, p < .000, d = .21$ , and the low-level items,  $t(1680) = 3.75, p < .000, d = .18$ . A further examination of performance differentials at the class level showed significant differences in favour of girls in Std. 1,  $t(603) = 2.46, p = .014, d = .20$  for high-level items, and  $t(603) = 2.83, p < .005, d = .23$  for low-level items. In Std. 2, significance was found only on the high-level items,  $t(613) = 3.56, p < .001, d = .29$ , while in Std. 3, there was no statistically significant difference between the performances of girls and boys (see Table 1).

### Differences by type of school

A factorial ANOVA was conducted to examine mean differences in math scores in relation to the type of school the student attended. Three RC schools were included in the data. Of these, two were single-sex schools—one upper-middle SES boys' school and one lower SES girls' school--and the other, a small lower SES rural co-ed school with data for Std. 1 and Std. 2 ( $n = 38$ ). In addition to the fact that the two single-sex schools represented markedly different socioeconomic backgrounds, all the girls in the single-sex school did not give responses to the final items. As a result, including the RC schools in the analysis would have been, in reality, a comparison of mathematics performance between two inherently different populations. Therefore, to control for the confounding effects of socioeconomic status, the Catholic schools were excluded from this analysis.

The factorial ANOVA yielded significant F statistics for the main effects of gender and type of school, and the interaction effect. As indicated by the adjusted  $R^2$ , 18.8% of the variance in math is predictable from the two independent variables. The test of the simple main effects showed significant differences in performance in the Anglican schools,  $F(1, 196) = 16.56, p < .001, d = .58$ ; the Presbyterian schools,  $F(1, 360) = 14.85, p < .001, d = .40$ ; and the government schools,  $F(1, 208) = 13.91, p < .001, d = .51$ ; but non-significance in the Muslim schools,  $F(1, 245) = 2.05, p > .05, d = .18$ ; the Hindu schools,  $F(1, 350) = .032, p > .05, d = .02$ ; the private school,  $F(1, 57) = 1.85, p > .05, d = .34$ ; and schools designated other,  $F(1, 98) = 1.71, p > .05, d = .26$  (see Figure 2).

Figure 2. Plot of means for type of school by gender. RC schools excluded.

The results for Hindu schools were not surprising. Previous analysis had shown a reduced probability of significant mean score differences between students who attempted all items. Of the 352 students in the Hindu sample ( $f = 166$ ,  $m = 186$ ), only 8 students ( $f = 3$ ,  $m = 5$ ), or 2.27% omitted items. The difference was trivial.

#### **Gender comparisons by SES**

The final analysis examined mean math scores by gender and SES. The sample contained one school--a private school,  $n = 59$ --which could be classified as upper SES. Despite this limitation, it could be argued that the school and students are typical of the schools in Trinidad and Tobago

that fall into that socioeconomic category. Therefore, these data are included in the analysis.

The main effects of gender and SES, and the interaction effects are all significant at  $p < .01$  level. An examination of the means indicate that whereas the girls' overall performance was significantly better than the boys, and both groups did better as SES increased, the level of significance varied as a function of the SES of the school. As indicated by the simple main effects, there were statistically significant differences at the lower income,  $F(1, 558) = 52.42, p = .000, d = .61$ , and upper-middle income levels,  $F(1, 480) = 7.41, p = .003, d = .25$ , but not at the lower-middle and upper income levels,  $F(1, 480) = 3.23, p > .05, d = .15$  and  $F(1, 57) = 2.13, p > .05, d = .38$ , respectively. Note, however, that at the upper income level, the effect size of .38 approaches a moderate difference in math achievement between boys and girls.

## Discussion

In keeping with the findings of Jules and Kutnick (1990) and Kutnick and Jules (1988), the evidence suggests that girls' overall performance on the mathematics component on the CAP is significantly better than that of boys. With the exception of the Hindu schools in which differences were trivial, in all other comparisons girls had higher means.

The data did not allow for an examination of partially correct items, and so it could not be determined whether the items boys omitted were those for which girls were awarded partial marks. To educators, the number of non-attempts would be discomfoting, and of equal concern would be the disproportionate number of boys compared to girls who fell into this category. Accentuating this concern would be the fact that in one school, all 49 girls either did not attempt the final items or the scores were not recorded.

The statistically significant disparity between the genders on the probability of omitting an item may be reflecting a difference in the level of persistence between the boys and girls resulting from male socialization practices, alluded to by many Caribbean researchers (see Chevannes, 2001; Figueroa, 1997; Parry, 2000). Once again, these results do not apply to the Hindu schools. Although in the Hindu schools gender differences in mathematics performance were not significantly different, with regard to the effect of type of school on student

performance, these data do not allow for a valid interpretation of the results. In Trinidad and Tobago, in the case of the Hindu population, and to a lesser extent the Muslim population, religion can be used as a proxy for race/ethnicity, and thus race/ethnicity confounds the contribution of type of school. More than 90% of students in Hindu schools and 99% of the teachers are Indo-Trinidadians of East Indian descent. Yet, while there may be valid explanations for this finding, among the questions researchers would need to examine is whether the students' performances are the result of school input, or some aspect of the Indo-Trinidadian culture that facilitates parity in the performance of girls and boys.

A limitation of the study is in the classification of SES. In the absence of contextually relevant measure, schools were classified based on the perceptions of the principal and teachers. Also, the only private school in the sample was the only school in the upper socioeconomic bracket. In Trinidad and Tobago, this occurrence is not unique. Almost all regular education primary private schools cater to an upper-middle, or upper socioeconomic population. Accordingly, examining mean differences by gender in the private schools is synonymous with testing the performance differences between girls and boys classified as upper-middle to upper SES. This fact does not invalidate the results. However, it qualifies the discussion on the contribution of type of school to the math performances of girls and boys at the primary level.

Looking at the tail ratios, a higher but non-significant proportion of girls to boys scored in the upper tail, while a significantly larger proportion of boys was in the lower tail of the distribution. Again there is the evidence of the continuing disparity between the genders with regard to mathematics performance, and again the implications as previously discussed would apply.

## **Conclusion**

The findings in this study mirror many of the findings in the literature. Overall, girls did better than boys on the mathematics component on the CAP; the reported effect size statistics, in most instances, indicate weak to medium effects. In contrast to this general finding is the strength of the proportional difference in the representation of girls and boys in the lower tail of the distribution ranging from  $d = .37$  to  $d = .77$ . While one might argue that the mean gender difference in math performance is

small, this argument masks the disproportionate number of boys found in the lower tail of the distribution. This number is a source of concern, and certainly challenges the education system to address this imbalance.

With regard to the relevance of effect sizes to the importance of the findings, Cohen contends that depending on the context, even a small effect can be of critical importance. Agreeing with Cohen's view, the differential performance between students, although small in effect, translates into a disparity of thousands of male students. This gap in performance between the genders, unless addressed, has implications for later student placement at the secondary level.

In Trinidad and Tobago, while all students are guaranteed a place at the secondary level, the point at which they access the highly stratified secondary system is predicated on their performance on the SEA. There is a direct relationship between the type of secondary school attended and future academic achievement and employment. Thus the higher mean achievement of girls and, just as important, the significantly disproportionate number of boys in the lower tail of the distribution, portend to fewer future job opportunities for boys and fewer boys than girls accessing the tertiary education system,

The evidence indicates a greater tendency by boys to omit items, resulting in them negating the possibility of getting marks for partially correct items. Acknowledging the explanations proffered for this phenomenon, and the need for further research into the sociological and psychological factors, from a practical perspective, this is a test-taking strategy that can be taught at the class level. Any attempt at improving the performance of the boys must address this issue of omitted items.

This study does not suggest a shift in focus away from the girls. On the contrary, there needs to be more critical examination of school and classroom processes, girls' and boys' attitudes towards studying, their differences in persistence and goal orientation, and a number of other societal variables that influence student academic achievement. This is necessary in order to disentangle the factors that impact one group more than the other. In this way, as the education system aims for parity between the sexes, the focus would be on improving the academic achievement of both girls and boys.

## References

- Baldeosingh, K. (2003, September 21). The literacy problem. *Trinidad Express* [online edition]. Retrieved from <http://www.trinidadexpress.com>.
- BBC News World Edition. (2002, August 22). *Addressing the gender gap: What to do about the boys?* Retrieved March 5, 2003 from [http://news.bbc.co.uk/go/em/fr//2/hi/uk\\_news/education/2208596.stm](http://news.bbc.co.uk/go/em/fr//2/hi/uk_news/education/2208596.stm)
- Caribbean Education Task Force. (2000). *A Caribbean education strategy*. Washington, DC: World Bank.
- Chevannes, B. (2001). *Learning to be a man: Culture, socialization and gender identity in five Caribbean communities*. Mona, Jamaica: UWI Press.
- Conrad, D. A. (1999). *Educational leadership and the ethic of care: The experiences of four women educators of Trinidad and Tobago*. Unpublished doctoral dissertation, Virginia Polytechnic Institute and State University.
- Fennema, E., & Peterson, P. (1985). Autonomous learning behavior: A possible explanation of gender-related differences in mathematics. In L. C. Wilkinson & C. B. Marrett (Eds.), *Gender influences in classroom interaction*. NY: Academic Press.
- Figuroa, M. (1997, November). *Gender differentials in educational achievement in Jamaica and other Caribbean territories*. Paper presented at the Conference on Intervention Strategies to Address Male Underperformance in Primary and Secondary Education, Port of Spain, Trinidad.
- Gorard, S., Rees, G., & Salisbury, J. (1999). Reappraising the apparent underachievement of boys at school. *Gender and Education, 11*(4), 441-454.
- Halpern, D. F. (2000). *Sex differences in cognitive abilities* (3<sup>rd</sup>. ed.). Mahwah, NJ: Lawrence Erlbaum Associates.
- Hyde, J. S., Fennema, E., & Lamon, S. J. (1990). Gender differences in mathematics performance: A meta-analysis. *Psychological Bulletin, 107*(2), 139-155.
- Job, M. (2003, July 19). Tackling education crisis. *Trinidad Guardian* [online edition]. Retrieved from <http://www.guardian.co.tt/archives/2003-06-19/morgan-job.html>.
- Jules, V., & Kutnick, P. (1990). Determinants of academic success within classrooms in Trinidad and Tobago: Some personal and systemic variables. *Educational Studies, 16*(3), 217-235.
- Kutnick, P., & Jules, V. (1988). Antecedents affecting science achievement scores in classrooms in Trinidad and Tobago. *International Journal of Educational Development, 8*(5), 305-314.
- Kutnick, P., Jules, V., & Layne, A. (1997). *Gender and school achievement in the Caribbean*. London: Department for International Development. (Education Paper, No. 21)
- Leahey, E., & Guo, G. (2001). Gender differences in mathematical trajectories. *Social Forces, 80*(2), 713-732.
- Manning, M. Lee. (1998, Spring). Gender differences in young adolescents' mathematics and science achievement. *Childhood Education, 74*(3), 168-171.

- Miller, E. (1986). *Marginalization of the black male: Insights from the development of the teaching profession*. Mona, Jamaica: Institute of Social and Economic Research, UWI.
- Miller, E. (1994). *Marginalization of the black male: Insights from the development of the teaching profession*. (2<sup>nd</sup> ed.). Kingston, Jamaica: Canoe Press.
- Office for Standards in Education (OFSTED), Equal Opportunities Commission (EOC). (1996). *The gender divide: Performance differences between boys and girls at school*. London: HMSO.
- Parry, O. (2000). *Male underachievement in high school education in Jamaica, Barbados, and St. Vincent and the Grenadines*. Kingston, Jamaica: Canoe Press.
- Peterson, P., & Fennema, E. (1985). Effective teaching: Student engagement in classroom activities, and sex-related differences in learning mathematics. *American Educational Research Journal*, 22(3), 309-335.
- Randhawa, B. S. (1991). Gender differences in academic achievement: A closer look at mathematics. *Alberta Journal of Educational Research*, 37 (3), 241-257.
- Randhawa, B. S. (1994). Self-efficacy in mathematics, attitudes, and achievement of boys and girls from restricted samples in two countries. *Perceptual and Motor Skills*, 79(2), 1011-1018.
- Ramcharitar, R. (2003, September 14). Literacy and the school system: The education crisis. *Trinidad Express* [online edition]. Retrieved from <http://www.trinidadexpress.com>
- Trinidad and Tobago. Ministry of Education, Trinidad and Tobago National Commission for Unesco. (1997). *Addressing male underperformance in the education system: Intervention strategy: Final report of the regional conference. Port of Spain, Trinidad: Trinidad and Tobago National Commission for Unesco*.
- Trinidad and Tobago. Ministry of Education. Division of Educational Research and Evaluation. (2004). *CXC O' Level General Proficiency results by subjects and grades obtained, 2000, 2001, 2002*. Port of Spain, Trinidad: Author.
- Younger, M., Warrington, M., & Williams, J. (1999). The gender gap and classroom interactions: Reality and rhetoric? *British Journal of Sociology in Education*, 20(3), 325-341.

**THEMES AND METAPHORS IN THE  
AUTOBIOGRAPHICAL NARRATIVES OF  
NEW SECTOR SECONDARY TEACHERS  
IN TRINIDAD AND TOBAGO  
A Case Study<sup>1</sup>**

*Cynthia James*

This paper analyzes autobiographical narratives of 14 female and 2 male secondary school teachers of English, employed at schools in the new education sector of Trinidad and Tobago and enrolled in an in-service postgraduate teacher education programme. The study investigates the major themes and metaphors that shape the realities of these teachers and their students. A secondary aim is to find out what culture permeates Language Arts teaching at their schools. The analysis indicates that metaphors of control, blame, and survival are common signifiers of how teachers deal with perceptions of inadequate teacher preparation, helplessness, and a sense of failure. Teachers' narratives impute indiscipline and low academic ability to their students. With regard to Language Arts, teachers express feelings of inadequacy about language teaching as compared to literature teaching. In examining assumptions, contradictions, and hidden perspectives, the paper suggests that the valuable insights gained from self-referential documents need to play a more important part in teacher education programmes and planners' deliberations, if Universal Secondary Education is here to stay in its present format. Language Arts teachers, in particular, need to review their positions; also teacher educators who serve the sector should encourage teachers to review their narratives on a more frequent basis, in order to periodically reassess where they have been, in the context of future goals.

---

<sup>1</sup> I would like to thank the teachers of this study for permission to use their documents and the Diploma in Education programme for use of the Autobiographical Assignment and "Letter to Myself."

## **Introduction**

The need for a large cohort of “good” secondary school teachers is arguably the most crucial element of educational expansion in Trinidad and Tobago since the advent of Universal Secondary Education (2000). Through the Secondary Education Modernization Programme (SEMP), attempts are being made to address past and continuing educational failings such as:

the low level of literacy and numeracy; a noticeable general lack of creative, analytical and problem solving skills among students; unsatisfactory performance by way of examination passes and test scores; and an uncomfortably high level of cases of serious student misbehaviour. (Lochan, 2000)

Investment in areas such as curriculum development and the writing of new syllabuses aims at increasing student learning. Professional development initiatives target the enhancement of teacher effectiveness, and the construction of new, modern buildings provides environments aimed at ensuring equity for those previously left out of secondary education, and equipping them with facilities of high quality. If universal secondary education is here to stay as presently conceptualized, the Language Arts teacher is perhaps the teacher who will make the widest contact with students within the expanding secondary school sector. This is not only because Language Arts (also called English) is compulsory, but also because regardless of type of secondary education envisaged for the adolescent, proficiency in language is considered basic for communication.

It is against this background that this paper examines the metaphors and themes in the autobiographical narratives of 16 secondary school teachers of English at the commencement of their enrollment in an in-service postgraduate programme. It investigates the learnings that have informed their practices, as a platform for teacher reflection, before they undertake the in-service teacher education programme.

## **Research Questions**

1. What are the overriding themes and metaphors shaping the realities of teachers and students as they negotiate learning?

2. What culture permeates the teaching of Language Arts in the New Sector schools at which these teachers teach?

### **Explanation of Terms**

“New Sector school” in this study refers to schools constructed since 1975 to accommodate the expansion of secondary education in Trinidad and Tobago. The first schools were junior secondary and senior comprehensive schools, followed by composite schools. With the goal of universal secondary education, more schools have gradually been built under SEMP. New Sector schools receive 80% of the secondary school population, comprising of students who do not score a high enough mark on the Secondary Entrance Assessment (SEA) to get into the “prestige” and traditional grammar-type government secondary schools.

### **Significance of the Study**

The use of teachers’ life histories or autobiographical narratives to generate reflection toward professional development in teacher education programmes is well known. However, examination of autobiographical documents is rare in the Caribbean. Teachers’ conscious or unconscious selections of events, not only reveal their philosophies and beliefs, but do so in the context of the past and present social systems in which they have been, or are still, grounded. Themes or broad recurrent ideas in life histories or narratives are usually brought to light and analyzed. Also linguistic markers, such as metaphors and analogies that teachers use in describing their experiences, can be explored in an attempt to develop teachers’ critical thinking about the psychological dimensions that these markers imply.

The critical evaluation of themes and metaphors in narratives can guide not only professional development, but also the design of work programmes, based on insights into consciously and unconsciously expressed teachers’ needs. Judicious and ethical use of autobiographical narratives can ensure that they are not misused as indicators of the individual teacher’s potential, but as guides to developing pedagogical strengths and eliminating weaknesses. With specific reference to the New Sector schools, monitoring of school culture and teachers’ challenges can be an important insight into the state of the sector, and an indicator for informed action.

## Literature Review

According to Lakoff and Johnson (1980) “human thought processes are largely metaphorical” (p. 6). Our experiences are bonded in conceptual frameworks that are systematic and coherent. In both language and actions we express one thing in terms of another quite as a matter of course, since metaphors are embedded in human communication in ways that have become natural. The systematicity and coherence of our conceptual frameworks are not simply self-referential. They remain experiential, because they go outward to embrace notions of participants, actions, and sequential structures as reference points (p. 82). When a teacher describes her school as a “war zone” for instance, it is this type of multidimensional, interrelational gestalt that is being projected.

While metaphor underpins the coherence of texts, themes distinguish patterns, not only of presences and similarities, but also of silence, omission, and difference. And herein lies the usefulness of the conjunctive deployment of both thematic and metaphorical analysis of teachers’ autobiographical texts. For since themes and metaphors interlock and encode the tensions inherent in texts, examining them can help with unravelling and deconstructing meaning, which is so crucial to framing and reframing situations, leading to learning from reflective practice. Current research is aware of “the powerful effect of the [teacher’s] childhood heritage as a learner, and the quality of the relationships experienced in educational contexts” (Tann, 1993 p. 55) to undermine the impact of teacher education programmes, thus making them “low impact-enterprise[s].” Therefore, the focus is now on maximizing the usefulness of autobiographical statements, through applying post-structural and deconstructive approaches to their interpretation. The purpose behind this more rigorous scrutiny of narratives is to get them to yield much more than the platitudinous and self-satisfying outcomes that have been known to limit their usefulness.

Andy Convery (1999), for instance, examines the linguistic conventions of the autobiographical genre, and cites a lack of understanding of the manipulation of audience inherent in the genre. Therefore, he acknowledges past research on the usefulness of life histories; however, more pointedly, he explores the susceptibility of the genre to identity enhancement. Using deconstructive approaches on his own teaching narratives, he shows how autobiographies can be used to enact “moral individuality through the selection, organization, and presentation of

personal experience" (p. 132). He argues that the conventions and linguistic devices inherent in autobiography predispose the genre to the "narrative tradition of completeness," (p. 134) thus allowing epiphanies, for example, to lead to expected "successful narrative conclusion" (p. 136). Convery sees autobiographical narrative as a performative genre that creates identity rather than reveals it. Through implied and direct comparison of themselves with discredited peers, teachers can impute a superior integrity to themselves, when, in fact, the "discreditable self might be privately anxious lest his or her practice is publicly exposed as being inadequate" (p. 141).

The result can often be the heroic teacher displaying a missionary zeal, which "may conflict with the students' learning needs" (p. 140). Additionally, autobiographical narratives can propagate psychological manipulation by projecting a voice that attracts the uncritical sympathy of the audience to the role of teacher as victim. In the final analysis, Convery's attack is not on teachers' autobiographies, but on researchers' use of them.

Like Convery, Greer Cavallaro Johnson (2002) goes after deeper introspection, but her emphasis is on the usefulness of combining different types of teachers' accounting. She "resists the romantic view" (p. 21) of teachers' accounting, arguing for greater interrogation, because, as she says, "those accounts are not 'out there' and fixed, waiting to be retold time and time again in the same manner" (p. 21). In a case study involving one teacher, she uses three methods of accounting:

1. A teacher-generated picture book with a comic book, bubble style, which engages other voices.
2. An interview protocol (question sheet) given to the teacher half an hour before an interview, which requires the teacher to talk about the meaning the picture book intended to convey and to challenge the assumptions therein.
3. The interview itself.

The three-pronged strategy positions the teacher to resist storytelling, confession, and the happy-ending format that come from linear narratives. It forces the teacher to "position" at the centre of her reflection, a multiplicity of other stakeholders' voices, including that of

the student. Citing Britzman (1986), Johnson says she intends the interview to move the teacher from the personal to a “post-personal” focus, and so engender a “reconceptualization of school teaching as a social rather than as an individual practice, thus liberating the teacher ‘to challenge her institutional biography’ ” (p. 28).

Both Convery and Johnson advocate a post-structural investigative approach to themes and metaphors of teachers’ personal accounts, which inverts the power play, the positioning, and the assumptions of teachers’ conventional stances. They also exhort researchers and interviewers to “recognize the part they play in making data, as opposed to passively collecting it” (Johnson, p. 36).

### **Design and Methodology**

This study uses a qualitative case study approach in its analysis of the autobiographical narratives of 16 of the 22 teachers of English enrolled in a postgraduate teacher education in-service teacher education programme. The autobiographical narratives were collected during the first week. Of the 16 teachers, 14 are male and 2 are female. What the 16 teachers have in common is that they teach at non-grammar type schools (New Sector schools) in Trinidad and Tobago, built for secondary school children since the secondary school expansion in 1975. The six teachers excluded from this study teach at schools structured on the traditional grammar-type model.

Three types of personal narratives were collected from the 16 teachers:

- an Autobiographical Assignment
- a “Letter to Myself”
- a 3-5 minute self-introduction

The Autobiographical Assignment and Letter to Myself are course requirements submitted in the first week of the programme to initiate the reflective process that takes place throughout the programme (The University of the West Indies [UWI], 2004). They reflect the positions of teachers as they enter from their respective schools. To supplement the Autobiographical Assignment and the Letter to Myself, which are take-home components of an ongoing teacher portfolio, the researcher utilized a videotaped self-introduction on orientation day—the first day of the teachers’ entry into the programme—particularly aimed at the teachers’

curriculum area of Language Arts teaching. In the self-introduction, teachers were asked to talk about their teaching history, to give an idea of their strengths and weaknesses, and to say what they expected from the Language Arts curriculum component of the course. Thus, one oral and two written documents are the materials on which this study is based. The guidelines for the three autobiographical narratives are appended (Appendix A).

### **Procedure**

The Autobiographical Assignment was used to address Research Question 1, looking at overriding themes and metaphors shaping the realities of teachers and students as they negotiate learning. The 3-5 minute self-introduction was used to provide data for Research Question 2, investigating the culture that permeates the teaching of Language Arts in the teachers' schools. The Letter to Myself was used as a triangulating tool and findings from it are included under Research Question 2. An overlap of data was anticipated, given the autobiographical nature of three documents. The entire study tried to maintain an autobiographical unity. Much less data were collected in the self-introduction, which was devised to extend the autobiographical focus to take in the consciousness of teachers as Language Arts practitioners. The analysis of data is poststructuralist and deconstructive in design. In other words, the documents are analyzed for what they say as much as what they do not say, in their unconscious erasures and contradictions.

### **Limitations of the Study**

The limitations of "truth" and the tendency to self-enhancement, as they affect autobiographical documents, apply to this investigation, but triangulation enhances its validity. With regard to the self-introductions, the fact that the teachers were in a new environment and were called upon to give appraisals of themselves, impromptu and within hours of their arrival, in front of peers they were meeting for the first time, could have affected their responses. It is accepted that the limitations of self-enhancement or under-representing of self, due to factors such as modesty, anxiety, and surprise that apply to personal statements, can affect outcomes of this paper.

With regard to the self-introductions as well, analysis of the body language of the respondents, which could have helped to enhance

interpretation of teachers' responses, was beyond the competence of this researcher. Behaviours such as shifting eye movement were noted, but not used in the determination of interpretations. However, in many cases, where students were uncomfortable, their discomfort had a tendency to be registered in their use of language and so are embedded in the transcription of the self-introductions.

Because the self-introductions were not done one-on-one with the researcher, but in open group, the tendency to echo the format of previous speakers was apparent in teachers' responses. However, the content of teachers' responses was different, given their different life histories, experiences, and the different schools in which they taught.

The researcher felt that an analysis of themes and metaphors was the best way to approach the autobiographical documents in light of the overwhelming linear and narrative responses of the teachers to the Autobiographical Assignment. Teachers' responses to the Autobiographical Assignment—the document that produced the most material, developed through commenting on the eight guiding points of the question—focused little or not at all on synthesizing experiences towards “philosophy.” There was also more focus on following the stages outlined in the question prompt than on “learning” derived from them, as the assignment sought. The deconstructive, post-structural approach was very useful in analyzing teachers' responses.

The findings of this investigation are applicable to the 16 teacher respondents, although they contain wider implications for the education system, teachers, and teacher educators of Trinidad and Tobago.

## Analysis

### **Research Question 1: What are the overriding themes and metaphors shaping the realities of teachers and students as they negotiate learning?**

#### **Autobiographical Assignment**

As outlined in the methodology, the Autobiographical Assignment will be used to answer Research Question 1. For purposes of organization, the metaphors and themes are set down following the three main influences that teachers detailed: (1) childhood influences, (2) becoming a teacher, and (3) teaching and exposure to training. Realities of both teachers and students are discussed simultaneously since the findings are interdependent. It must be emphasized that the accounts of the 16 teachers in this study are not representative of the entire secondary school sector.

#### **Themes and Metaphors Shaping Realities of Teachers and Students**

##### **(1) Childhood influences**

##### **Metaphors of control**

Teacher as beater and disciplinarian is the most pervasive image emanating from the teachers' early years. Learning is associated with fear and pressure in most of the teachers' experiences, even when they were taught by their parents. They express with wry humour how they emulated these roles in play. Some attribute their desire to be teachers to a desire to control students:

I have always wanted to be a teacher. During my early days at primary school it was my favourite pastime to 'teach' the concrete blocks of the garage walls. I often used a ruler to beat the blocks and shouted a lot to keep the 'students' in line. I was unconsciously mimicking the teachers at my school.

. . . the principal was a lady named Aunty S and I 'hated' her. She would beat us for any reason.

One teacher even wryly wished to be a teacher to take revenge on the children of the teacher who caused her so much embarrassment in primary school:

Being reprimanded by Ms. B was the ultimate embarrassment; thus my wish to one day be the instrument in reprimanding her children.

This teacher's learning from the experience is quite baldly stated:

She along with my uncle proved to be role models for me as I eventually became a 'reprimanding tool' at the \_\_\_ Secondary Comprehensive School.

The beaters of primary school are legion, but of course there are a few memories of kind teachers, whom the teachers give the impression that they try to emulate now that they have become teachers themselves. There are also other tempered childhood images of teachers in a similar vein:

I spent hours communicating with my 'students', administering punishments, teaching lessons and correcting books. At this tender age (7 or 8 years old), I expressed my desire to become a teacher to my parents. My father was horrified and attempted to dissuade me from joining this profession.

The childhood learnings carry the implication that the teacher is the ultimate controller of the student in the learning process. Normally, in secondary school teachers are not allowed to beat, and adolescents are unlikely to brook domination. Teachers with a legacy of beatings behind them have to find alternative concepts of getting children to learn. The idea of control seems to be maintained on various fronts:

Several students and teachers advised me that I should let the students know who was in charge. Thinking that this had been sufficiently accomplished by laying down the rules, what I expected and asking what they expected of me, I proceeded to help them hone their examination techniques.

It may be a challenge for some teachers, used to control frameworks, to enact autonomous methods of learning, and for some students to respond naturally to teachers who do not have the power to beat.

- **The good student as the compliant learner who works hard and passes exams**

Alongside models of the controller in the classroom, teachers portray themselves as having been good examples of discipline and self-control throughout their careers. The role-model student is the teacher herself who is portrayed as a hard-working, high achiever. This teacher usually “manage[s] to pass Common Entrance for [her] first choice; has never had any academic failures; and “was an avid reader.” Among teachers’ accounts are: “We all got our chance at a good education”; “A small library corner was created in our home.” Eight of the teachers have parents who are teachers. Even where teachers are from working-class families, they attribute their success to walking the-straight-and-narrow:

I did not rebel because my brother and sister rebelled and faced the consequences. At a young age I learnt a very important lesson, ‘Obedience is better than sacrifice.’ My siblings’ actions caused my parents to grow me up in sheltered life [sic] and as a result, many occurrences in my village were not determining factors on what kind of person or adult I became.

**How metaphors of control shape the realities of the students whom teachers teach at present**

- **The student as undisciplined**

The majority of teachers consider their students undisciplined. One disliked the school she was assigned to even before she got there. She was largely influenced by public opinion about the students’ lack of discipline:

Honestly, I was aghast when I was first told that this was the school to which they were sending me. I had been reared in the environs and was only too familiar with the school and its students . . . . Everyone I knew, including my father [a teacher himself], kept telling me to try to get out of there as quickly as possible. I was told about the low pass rate, serious reading problems, the violence, the negative environment, and the high teacher turnover.

Another compares the students he now teaches with himself, the students’ parents with his parents, his era with that of his students, and his values with theirs, all to the students’ disadvantage:

Indiscipline among students in the school was causing many to underachieve. Worse still was the fact that children with potential were not getting the support at home. . . . I have vivid memories of myself returning home after school to perform enrichment or reinforcement exercises under the supervision of my parents. 'So, who looks after these unsupervised children many of whom are from single parent homes?' I often enquired.

What comes across strongly is that many teachers at New Sector schools have a negative attitude towards teaching their students, and that many do not know what to do with children who do not have the same backgrounds as them. By and large, the mass wears the label of undisciplined. Teachers do not think themselves or the school responsible for or being able to make much of an impact on the children's indiscipline. Indiscipline is a characteristic the students arrive with. It is suggested that if the students come with discipline they are teachable. If they come without it, there is little that teachers can do for the "unfortunates":

Throughout my years as a teacher, the drive and determination to assist these unfortunate children have increased and become a core part of my being. I sincerely believe there is a crisis of Biblical proportions within our educational system . . . . My personal investigations have led me to believe that the primary school system as well as the role of proper parenting both contribute to this educational apocalypse . . . .

Most teachers suffer culture shock and need to be helped to move out of their state of paralysis, if they are to do the duty that signed themselves up for. The responses of the 16 teachers suggest that elements such as class prejudice and teacher personality factor greatly in their approach. Teachers need to reconcile the gap between their past schooling and their present duties.

## (2) **Becoming a teacher**

### **Investigating unconscious erasures about entry procedures**

One of the most noticeable features of the teachers' autobiographies is their silence about the actual process of entry into the profession itself. In spite of the fact that many teachers said they knew that they wanted to be teachers from childhood, there is no record about the application process, the interview, the preparation for their first morning; or thoughts about the seriousness of their mission. While the older teachers would have entered without protocols, those who have entered over the last ten years would have had an interview and some period of waiting before they were assigned. However, about this there is silence.

While the silence may be due to some failing in the wording of the assignment, it is more likely due to the fact that teachers did not see anything significant about the procedure or the choice they had made. The unspoken jump from university straight into the classroom suggests that not much thought went into becoming a teacher. This is an area that needs to be explored. With the expansion in education there are still many vacancies to be filled in the profession, and perhaps it is not that difficult to get employed as a teacher. It is also possible that the teachers had made up their minds so long before about being teachers, that entry was just the completion stage of their childhood fantasies.

One teacher expresses her jolt while she is on the way to her first appointment; but thoughts about likely scenarios, the places at which they would be posted, preferences in type of schools, are not areas they wrote about. Also, perhaps knowing that they could be posted anywhere in Trinidad and Tobago influenced what they wrote. However, they relate the shock that comes after they enter the classroom. The following indicate how they gloss over the intervening gap from university into the profession itself:

In October 19--, I landed a teaching job at the ---Junior Secondary School.

I began teaching just after I finished my first degree in December 19--. . . About three months afterwards, I began teaching at ---Senior

Comprehensive, eventually moving in August of 19—where I have remained.

Since the desire to teach was still there, I entered the Teaching Service, and on September \_\_, \_\_ I was assigned to my first appointment at \_\_\_ College. It was only when I was on my way to the school that I realized that I did not know how to teach! What was I to do in front of the class? How was I to impart the knowledge that I had acquired?

For most, becoming a teacher seems a place they arrived at, and though they may have moved from school to school, they just stayed.

### **Becoming a teacher as an area of anger or shame**

For two teachers, entry into the profession was a matter of anger and disappointment:

For most of my life teaching seemed nothing but a last resort. From a very young age people told me that they were sure I would be a teacher just like my dad, my aunt and my grandfather and this made me quite angry. I didn't like it because it seemed as if I was not in charge of how my life would turn out. . . . There was a time when I even hoped to be a veterinarian, but I realized because of my grades and my inability to do well in science that veterinary school would not be in my future.

For the following teacher, a similar anger rings through her disappointment at occupying a status beneath her estimation of her worth:

I knew I would never be a teacher. I remember as an undergraduate telling a fellow student who expressed an earnest desire to be a teacher, that she showed no ambition, because to say that one actively, consciously wanted to be a teacher was like wanting to grow up to be a housewife. Well, I am now a teacher and the irony of that is not lost on me.

These views by themselves do not indicate dysfunctionality—there are many people who spend their entire lives contributing above and beyond the call of duty at jobs that they never envisaged themselves in, and that they do not like. In fact, because they have had to examine their disappointments these two teachers demonstrate later on that they have developed a greater sensitivity to their students than many of those who are still in the fairy-tale stage. For this discussion, I turn to examine how

haphazard entry into the profession shapes the realities that students face.

**How themes of haphazard entry shape the realities that students face**

- **Developing caring profiles**

The two teachers above, whose accounts depict alienation and stress at entry, later show greater kindness and understanding for students than many of their colleagues. Personal changes in their private lives caused them to show students a more human face. One teacher's account suggests that there is the danger of teachers becoming patronizing and still not being effective teachers, in this move to greater acceptance of students; yet the move is a positive one because the teacher's change in attitude helps her to see her students as human beings:

I started teaching with the firm belief forged out of the fires of personal experience that children just had to learn to cope. . . . I resisted every effort of my students to know me, the person better: I was not important to their success in life, the information I had to give them was. I did become a little concerned about the rough time I had with my classes, but that was obviously because they were undisciplined. Then in 19—I had my first child and my perspective on the teaching process changed. I became softer, more patient and I did not think that anyone had noticed until a child in my form class remarked to another girl that Miss had become a nicer person since she had her baby.

Teachers need to note that students **do** recognize teachers' distancing of them and the contempt in which they are held.

- **Jumping in at the deep end**

In both old and young teachers' accounts, there are victimhood metaphors at entry into the profession, such as "thrown to the wolves," "baptism of fire," "nightmare," "sink or swim," "jumping in at the deep end." The younger New Sector teachers seem to be at the same school at which they entered the service. By contrast, the older teachers report being sent as replacement teachers from school to school with different cultures, and sometimes at very distant points from each other, before finding resting places. Teachers' autobiographies focus on the unsettling impact of their travels on them, but the neglect and instability students

would have faced as a result of their visiting stints have doubtlessly impacted negatively on many young careers.

### **(3) Teaching and exposure to training**

- **Teacher as survivor**

The teacher respondents in this study have all gone past the initiation phase of their teaching careers, and are settled at their respective schools, some as senior teachers and acting heads of departments. However, the majority of them express concern about their practices and about their effectiveness. They are not sure what it is they lack, but they seem to have bought the idea that they should have had pre-service teacher education. They do not seem to think that they themselves should have sought this training; nor do they seem to consider that the lack of such training should have deterred them from applying for teaching appointments. What they imply is that their employers should have trained them before employing them. Some rely on a mixture of teacher models from their own experience and on the syllabus:

Apart from the content aspect of my degree, I don't think any training in actual teaching was done . . . . We were given the knowledge but not taught the means by which to deliver this knowledge. I relied on past experiences with teachers (models) and what I thought appropriate based on the syllabus and textbooks recommended.

Truthfully, as head of the English Department I feel powerless. I still feel as if I began teaching last week but I am supposed to help other teachers . . . . Teacher training should be mandatory before teachers are put in front of classes and retraining should be undertaken to keep all teachers abreast of the latest tools and techniques that are available to them.

Teachers judge their effectiveness by factors such as their students' progress, by examination results, and by their effectiveness at classroom management—a term they use to describe their ability to control their students. They also evaluate themselves by their success at getting across the syllabus and the content of their subject specialization. By these yardsticks, most of them consider themselves failing.

### Contradictions about teacher training and other aporia

- **Teacher as complainer**

Autobiographies reveal many inconsistencies in teachers' accounts about their teacher education. For one, it is a myth to think that they have had no exposure to teacher education. Nine of the teachers' autobiographies reveal varying degrees of exposure: short pre-service training, on-the-job training (OJT), SEMP training, reading readiness courses, and instructional workshops at the Instructional Development Unit (IDU) of The University of the West Indies (UWI). Among these nine teachers, one has done the two- year primary school teachers' education programme. However, the impact and helpfulness of these courses vary in teachers' accounts:

I completed a six month workshop run by the Ministry of Education . . . The instructors or facilitators for the most part, though, were unprofessional. They came to the sessions unprepared; one in particular was distinctly unapproachable—he saw every question as an attack on his credibility; another told us she could not change her preferred style of presentation to accommodate anybody . . . .

I have attended four or five training programmes organized by the Ministry of Education. . . . All of these courses have enriched my understanding of the task I am employed to do, but they fall short sometimes in theory, as the practical application of some of their proposals, in my humble opinion, requires more attention and input from those in the actual practice of teaching the type of students being targeted here.

The New Sector teachers have been exposed to teacher education. However, they do not count certain types of teacher education, such as workshops or teacher education programmes conducted under the auspices of the Ministry of Education, as serious teacher education. Instead they give more weight to what they have learnt from experiences with teachers in their childhood. They blame their short-lived improvement and their continued lack of success in the classroom on factors such as the lack of follow-up and short duration of these courses. Their comments also suggest that they do not think the persons delivering the courses competent. For them, the big training is the Postgraduate Diploma in Education Programme they presently attend.

It seems that teachers need to examine themselves more from within, and also that teacher education courses need to place more emphasis on experimentation, creativity, and reflection. However, although these life skills can be taught, much depends on the teacher's own sustained effort and initiative, as well as the esteem in which teachers hold facilitators.

A resource that teachers tend to overlook is the support of their staff. Autobiographies indicate that the teachers in schools with the greatest challenges need to be exposed to ways of building confidence from this resource. Some degree of teacher collaboration is reported, but one gets the impression that it varies from school to school, and that in most cases it is absent. The following two excerpts from teachers who have teacher-parents can be compared in this regard. It may be noted that as a group, teachers whose parents are teachers do not fare any better than their colleagues. However, among the 16 autobiographies, one stands out in terms of reflective acumen and perspicacity, which suggests that in addition to school culture, personal teacher attributes play a large part in determining teachers' responsiveness to their call to duty. The two comments that reflect different attitudes and different levels of staff support from schools are juxtaposed below:

As an 'inexperienced' teacher in 1998, I made a conscious decision to be an effective teacher in the classroom, and so I closely observed the more experienced teachers in the classroom, asked many questions and adhered to suitable advice. . . . In addition at ---Secondary Comprehensive, the Language Arts Department provides a solid support structure. The Head of Department and teachers, new and old, often collaborate so that many ideas are exchanged and improvements made where necessary.

Although there is a high teacher turnover rate at \_\_\_ \_\_\_ Secondary School, there is a core group of teachers who have been there for fifteen years or more. Several of these teachers have their Diploma in Education. Are they able to cope because of the skills they have acquired or have they just settled and are comfortable where they are? I do not know.

### **How teacher as complainer and survivor shapes the realities that students face**

- **Negative labelling**

The main outcome for students from teachers' insecurities is negative labelling. Indeed, teachers express surprise when the students prove to be different from their expectations:

They were not what I had expected to meet, given the school's reputation. These were well-behaved technical classes – boys who were the expected trouble makers and under-achievers.

This teacher, who underwent short pre-service preparation and OJT training under a mentor teacher, reasons that the positive effect on her students was attributable to the fact that “teachers regularly consulted each other about the students and the majority was successful in their courses.” She goes on to say that the boys’ “families and peers supported” them, and that “though the bonding as a class took time, it was a major support system for them.”

However, with the new intake a year later, she reports, “Some of the better performers are declining and don’t seem to mind. Their helping weaker colleagues does not seem to be to their benefit academically, though they are becoming a more cohesive unit.” She closes her autobiography by saying: “Wishing to be an effective teacher, I think that at this point much needs to be re-strategized.” The backsliding into helplessness seems to be related partly to a degeneration of support, suggesting both personality issues and changed relationships between teacher and staff.

Also, although some teachers are aware of their shortcomings, they tend to place the blame for their lack of success on their students’ behaviour and lack of ability:

My students were aggressive and frustrated with my traditional teaching techniques. Regardless of my present students’ abilities, I have decided to refrain from the name calling and embarrassing them because it will lower their low self-esteem.

There is doublespeak in this teacher's remark. The teacher implies that her traditional teaching techniques are inadequate, but this point of self-criticism is couched in terms of negative appraisal of her students. First of all, they are aggressive when it seems that she thinks they have no right to be. Second, it is implied that they do not understand because they lack ability. Third, she would like to call them names and embarrass them, but they are already deemed to be suffering from low self-esteem.

Teachers distance themselves from students who are not like them and tend to perceive disruptive behaviour as an indication that the particular student does not want to learn. Learning is equated with subject knowledge. In the following remark, counselling is referred to as being of less value than subject content. Children who need counselling seem outside the pale of learning.

Unfortunately 30% of valuable teaching time was spent counselling 12% of the students who had disruptive propensities. . . . I was not alone since most concluded that each child had the ability to learn but was indeed not from our generation. They were definitely "Generation Next."

With such large-scale rejections of the students that they teach, there is a need for teachers to wrestle with self-examination on questions such as:

- (1) What is likely to become of such a sizeable population of young people who are rejected?
- (2) Is teaching/learning just luck and chance—luck if the teacher gets sent to a peaceable environment, bad luck if the teacher gets sent to face "Generation Next"?
- (3) Is it fair to exclude students who are considered not "normal" or "ready to learn"?
- (4) Can teaching ever be "effortless"?

The tendency to use clichés to blame children and their parents, using phrases such as "from single parent homes," is also common. Another common assumption is that when students do not do schoolwork they are not interested in school. There are many assumptions founded on class and cultural differences. Many of the negative assumptions require a study of the varied cultures of the children whom the teachers serve, if they are to be successful in educating them. Among the 16 teachers, only one seems to have arrived at a place where reflective practices seem to

have served her well. Teacher personality and respect for the children that they teach also seem to play an important part in the level of difficulty that teachers display. The following teacher's remarks suggest this:

The students themselves have also played the role of teacher in my life. . . . Some are 'Street Smart', others 'Book Smart.' Some are wise beyond their years . . . All in all, there is no one type of student. No student is perfect. Thus I must be flexible.

**Research Question 2: What culture permeates the teaching of Language Arts at the schools at which the teachers teach?**

**Self Introduction and Letter to Myself**

The analysis that follows examines the live 3-5 minute statements and the short Letters to Myself of the 16 teachers, seeking to bring to the fore, themes and metaphors particular to the context of their being secondary school teachers of English. The analysis also seeks to bring to light their relationships with the silent, but embedded, student-learner. Although the material collected for this section is small in comparison to the data from the Autobiographical Assignment, it maintains a similar autobiographical focus.

With regard to Language Arts teaching, three main themes emerge from teachers' statements with almost equal prominence. They are:

- (1) The delay of teachers with families in seeking professional certification due to personal and domestic reasons.
- (2) Teachers' lack of learner autonomy, and their dependency mental frameworks with regard to teacher education.
- (3) Teachers' feelings of inadequacy about language aspects of English teaching.

**The delay of teachers with families in seeking professional certification due to personal and domestic reasons**

Taking care of their own children has caused teachers to put seeking professionalism on the back burner; in some cases not only during the

formative years of their own children, but for as many as 18 to 20 years. The fact that the majority of the teachers in this study are female is perhaps the reason for the prominence of issues of a domestic nature in their responses:

- **Teacher with 18 years service:**

What has kept me back is family reasons. Now I feel that my children are a bit settled, and now is the time for me to develop professionally.

- **Teacher with 20 years service:**

I was interested in doing the Dip. Ed., but kept putting it off. My children were growing up. Last year the 3 of them took important exams, so I said this year I have to start seeing about myself and improving myself professionally, because the years are passing by and I am not getting any younger.

In their self-introductions, female teachers made spontaneous disclosures about the ages of their children. In fact, the pleasure this brought them and the entertainment it brought to their colleagues made it the major release valve at the Orientation Day self-introduction. Apart from the sense of achievement and self-worth contained in these domestic disclosures (which they used to contrast with the rigorous time they saw themselves about to endure), the residual theme was that their domestic life was more important than their professionalism. Age of teacher did not matter; but marriage seemed a factor:

I am recently married which is one of the reasons that I didn't do this before.

The domestic theme did not appear in the conversation of the two male teachers.

**Teachers' lack of learner autonomy and their dependency mental frameworks with regard to teacher education**

Most of the teachers seem to regard teacher training as a quick fix. Their statements indicate an emphasis on "strategies," which seems to have bred a culture of dependency. They judge the effectiveness of teacher education programmes by how effectively they impact on the difficulties

and inadequacies they face at present with teaching English—problems such as student motivation, classroom management, and delivery.

One of the male teachers, who has been a primary school teacher and has done the primary school two-year teacher education programme, expressed a veiled doubt about the present programme to deliver more than he had got from previous training. The other, who wrote in his autobiography that he had done “several training courses over the years,” spoke about his enrollment in the context of a recommendation made by a previous graduate about skills and strategies, and that he had come to see if that was true:

- **Male Teacher 1**

I am especially interested in seeing how this programme compares or contrasts with the Teachers’ College Diploma at Corinth. Very curious about that aspect of it. Finally, I would like to see how my literature teaching can be improved via this course and see what new and innovative strategies this course has to offer us.

- **Male Teacher 2**

One of my friends recently completed the Dip. Ed. and she said that they introduce you to a lot of strategies which help and I want to see if that is true and try them and see how successful I would be in that area.

The female teachers’ responses seem less judgmental, but they, too, see teacher education as the acquisition of skills and strategies, which they can apply to their situations:

I am hoping that this course will provide me with some strategies to remedy that [classroom management]. I have had others who have found it to be of benefit; therefore, I am here and hope to find the same thing.

Being here, doing my Dip. Ed., I am hopeful that I would be more effective and I will learn a lot of the terminologies and terms that they usually use.

### Teachers' feelings of inadequacy about language aspects of English teaching

Teachers' self-introductions reveal two issues with regard to Language Arts teaching. One is their feelings about teaching language as opposed to teaching literature. The other is about the interference of the Creole in the teaching of Standard English. As one teacher put the latter issue:

While I was marking an essay for one of my students one day, I realized these children know what they want to say, but they have a problem in saying it.

In response to the question about their strengths and weakness, six teachers say that they lack competence in the teaching of grammar and language, as compared to two who indicate their area of weakness as the teaching of literature. In their separation of the domains—a separation that has been maintained in most schools to suit examination purposes—teachers indicate that they do not approach or perceive the teaching of English in an integrated way. The following statement is typical of the six who have problems teaching language:

It has been very difficult for me both in classroom management and especially in the area of grammatical knowledge. That's my problem area. I am good in the Literature because I like a lot of dramatics and I like to make my classes fun.

Of note in this response, is that problems with classroom management seem linked to teacher inadequacy in the subject area, while fun classes without classroom management problems seem linked with teacher competence and positive teacher attitude.

An important finding is that not all of the 16 teachers have been teachers of English throughout their careers. Three have been teachers of Spanish as recently as 2-5 years previously and began teaching English without induction; one teacher began her teaching career as a teacher of mathematics and then "branched off to English Language;" one is a "qualified librarian who came across to teaching 3 years ago;" and two others also teach social studies. The assumption that teachers of English in the New Sector schools are subject specialists of either language or literature seems not a valid one. The interdisciplinary teaching and

varied backgrounds of these teachers have the potential to enrich their teaching, once they have a good enough base in the respective areas.

### **Non-pervasive but important concerns**

In only three cases did autobiographical narratives link exposure to teacher education with promotion. However, one Letter to Myself raised two areas of insecurity that had not appeared in other narratives. They are: (1) the effects of examination centeredness on the teacher's practices, and (2) the teacher's feelings of inadequacy about teaching at various levels throughout the system. The teacher expressed her insecurities in these terms:

What worked in the past is now no longer working efficiently. Are my students now being sufficiently prepared for their examinations? That is what I am. An examination teacher. Oh, I could teach the lower forms but I don't want to. Why? Am I scared? To start, the first and second forms classes [sic] are large and it is a fact that classroom management is very difficult. . . . The tuition at lower form level is very different from the "examination" level where the CXC syllabus serves as a comprehensive guide.

Another inadequacy that two teachers expressed in the Letter to Myself lies in the areas of lesson planning, making schemes of work, and making records of students' progress:

Lesson Planning has been taught on some level in the various courses I have attended, but there never seemed to be time for much depth or practice . . . . Formulation of Scheme of Work is another area of organization that I hope to get assistance with in this programme. Also there is the problem of proper documentation of student progress apart from the very general information that can be given in the Mark Book.

### **Corroborations Among the Three Autobiographical Documents—the Autobiographical Assignment, the Self-introduction, and the Letter to Myself**

Overall, the three autobiographical documents support each other, both in the profiles they present of individual teachers, and in the coherence of themes and metaphors throughout the entire data collected. The Letter to Myself indicates that generally speaking, the teachers have moved into the role of students vis-à-vis their tutors. In their new perceived roles as

students, they speak of the teacher education programme that they are about to undergo in terms of “back to school,” “taking the plunge,” “a tough nut to crack,” and “like the birth process—nine months of increased growth, with some intense labour pains.” Areas of focus include self-encouragement, uncertainty, fears about the course, fears about neglecting loved ones, reminders about personal strengths that they can capitalize on, weaknesses in themselves that they know they should avoid, and appeals to God for guidance and protection.

### **Discussion**

The foregoing analysis of the various issues that the teachers of English wrestle with indicates that autobiographical narratives can serve, not only teachers’ personal growth, but also as useful planning guides for teacher educators and educational planners. The study concludes with an examination of the implications of the growth and understandings that can accrue from the narratives of the 16 teachers.

It is true that modernization of the new education sector, especially with the recent advent of universal secondary education, is an ongoing project with varied and changing dynamics. But it is quite clear that teachers and planners are not on the same page. Constant reappraisals and remedying of positions and attitudes should be undertaken if students’ learning potential, intellectual well-being, and academic futures are not to continue to be negatively affected. Whatever the plans for the education of sectors of the population that have not traditionally been exposed to secondary schooling, Language Arts teachers, more so than the teachers of other subject disciplines, cannot escape involvement. It is therefore disturbing that so much unease attends language teachers’ view of their task, and that they feel that they can only make limited use of the workshops and teacher education programmes designed for them.

Not only have perspectives on teacher education changed, but also with the advent of universal secondary education the opportunity has arrived for teachers to earn the designation “teacher” by becoming experts at their chosen profession. It is not a good reflection on them, then, that students should have to wait for best practice until some of them resolve their own domestic and personal issues. The issue of postponing exposure to teacher education goes beyond gender; for male secondary teachers are not known to submit to teacher education with any greater alacrity than female teachers. Making teacher professionalism

compulsory and expanding the opportunities are two important requirements for the secondary education sector. These are not new suggestions. It must be obvious, though, that secondary school teachers are constrained by the teacher education opportunities available to them. For females, the rigours of an in-service programme, which calls upon them to wear the hats of mother, teacher, and student simultaneously, could be very daunting. Unlike primary school teachers, secondary school teachers have only an in-service option. It seems that after 30 years, other less stressful opportunities for acquiring basic teaching professionalism are long overdue.

As vital as exposure to teacher education is, however, a much more pressing concern is *how* teacher education is done. It is not to downplay the efforts of the programmes that the teachers of this study have done, including the one being done at the university, to point to the fact that teachers do say that they submit to teacher education without finding it useful, or of lasting benefit. However, the use of reflective tools, alongside traditional pedagogic approaches, can help both teacher and teacher educator to better understand those gaps. The subjective and self-referential nature of reflection—often considered its limitations—is where its strength lies, in the first instance, as an introspective agent of change. In many ways, the teacher educator is the greatest learner from teachers' autobiographical documents, because the overall weave of texts is studied by her alone. Therefore, as researcher and teacher educator, I share a few insights out of the experience of doing this study on a component of the course that I have been doing for years without as great attention.

Autobiographical documents are largely personal testimonies, but with teachers' permission it would be good to try to break down barriers of individuality in dealing with them. It is one thing for the individual teacher to get her feedback, but it is crucial for the teacher educator to be skilful and sensitive in dissolving the aloneness of teachers on issues that they feel are personal to them, but that the teacher educator notices is shared by the group. Teachers need to be able to share on some topics to initiate the dissolution of obsessions and paralysis that lead to the recurrent stalemate of blame. In future work with autobiographical documents, I would also pay more attention to teachers' review of documents written in the past on a more frequent basis, to have teachers reassess periodically where they have been, in the context of where they would like to be heading. Another point of learning was in the area of

the wording of rubrics and question prompts, and how this relates to the handling of self-examination and productive analysis of scenarios in self-referential documents. Good examples and explanations of procedure need to be given to ensure that teachers understand how to analyze, synthesize, and evaluate self-referential narrative instead of merely producing voluminous linear text.

With regard to Language Arts teaching, a clearly outlined programme for the teaching of English as a second language to guide teachers in Trinidad and Tobago is overdue. The 30-year-old debates about the position of Creole in the Caribbean classroom, and how to deal with varying reactions to it, have not disappeared, in spite of the founding treatises of the 1970s and of current scholarly articles and research.

In closing, two final comments are made, one with regard to teacher education and teacher educators, the other with regard to teachers. The first is that at this present juncture, in spite of cost, a dynamic should be worked out for a level of teacher education, stronger than OJT, to take place in the New Sector schools themselves. Training heads of departments whose duties span various subject areas is not enough to provide the support that teachers claim they lack. Also, teacher educators across the board need to keep in closer contact with graduates from their programmes in order to give continued support and to evaluate the effectiveness of their own methods. The second comment is that teachers need to be encouraged to take responsibility for their own professionalism, for thinking for themselves, and for being proactive in seeking the knowledge that they lack. Thus, they need to develop the learner autonomy (Carter, 2002) expected of professionals, who are experimental, action research oriented, reflective, and geared toward continuous self-improvement.

### References

- Carter, B. (2002). Helping learners come of age: Learner autonomy in a Caribbean context. *Hong Kong Journal of Applied Linguistics*, 7(2), 20-38.
- Convery, A. (1999). Listening to teachers' stories: Are we sitting too comfortably? [Electronic version]. *International Journal of Qualitative Studies in Education*, 12(2), 131-147.
- Johnson, G. C. (2002). Taking up a post-personal position in reflective practice: One teacher's accounts. *Reflective Practice*, 3(1), 21-38.

- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago, IL: Univ. of Chicago Press.
- Lochan, S. (2000). Annex 1 - Secondary Education Modernization Programme (SEMP), Trinidad and Tobago. In *Education and work: Case studies of Trinidad and Tobago* (ILO Caribbean Studies and Working Papers; no. 5). Retrieved May 4, 2005 from [http://www.ilo.org/public/English/region/ampro/portofspain/infosources/wp5/wp5\\_annex.pdf](http://www.ilo.org/public/English/region/ampro/portofspain/infosources/wp5/wp5_annex.pdf) on May 4, 2005.
- Tann, S. (1993). Eliciting student teachers' personal theories. In J. Calderhead & P. Gates (Eds.), *Conceptualizing reflection in teacher development* (pp. 53-69). London: Falmer Press.
- The University of the West Indies. School of Education. (2004). Autobiographical Assignment. In *Diploma in Education handbook* (pp. 13-16). St. Augustine, Trinidad: Author.

## Appendix A

### Guidelines for Three Autobiographical Assignments Used in this Case Study

#### A. Autobiographical Assignment

Explore to what extent your philosophy of teaching has been influenced by your own learning experiences. Bear in mind:

1. Your childhood learning experiences at home
2. The influence of your learning experiences at school both primary and secondary
3. Other formal experiences as an adult
4. Training in your subject area at university
5. The influence of teacher training (if any)
6. Your own teaching experiences to the present
7. Discussions with other teachers, professional development programmes and meetings of subject associations
8. Literature on teaching in general and the teaching of your subject area in particular.

Examine particular ideas, experiences, or practices that have influenced you, identifying sources. Consider changes in your philosophy of teaching over time. What do you consider to be dominant influences on your theory?

Source: *Diploma in Education Handbook 2004/2005*, School of Education, The University of the West Indies, St. Augustine, Trinidad and Tobago, p. 16.

#### B. "Letter to Myself" (about your expectations for the programme)

Source: *Diploma in Education Handbook 2004/2005*, School of Education, The University of the West Indies, St. Augustine, Trinidad and Tobago, p. 13.

### **C. Self-Introduction**

Introduce yourself.

1. Name, School etc.
2. Why you applied to do the Postgraduate Diploma in Education Programme.
3. Your strongest area of English teaching; your weakest.
4. How you expect the Postgraduate Diploma in Education to impact on your teaching, classroom strategies, and subject knowledge.

Video-taped Orientation Day oral assignment of English Curriculum teacher educator.



### Notes on Contributors

**Launcelot I. Brown** is a Lecturer at the School of Education, Duquesne University, Pittsburgh, USA. His current research investigates the role of school leadership and other organizational and wider systemic factors that impact the effectiveness level of the school. The ultimate aim of the research is to develop models of school leadership relevant to the Caribbean context. Related to his interest in school effectiveness are issues of gender differentials in academic performance and the various factors that maintain the differential in student achievement.

**Susan Herbert** is a Lecturer in Science Education at the School of Education, UWI, St. Augustine. She taught chemistry and general science at the secondary level for 15 years. She was awarded the Ph.D. in Science Education in June 2003.

**Cynthia James** is a Lecturer in Education (English Curriculum) at the School of Education, UWI, St. Augustine, who has also lectured in the Department of Liberal Arts, UWI, St. Augustine. Dr. James is a graduate of Howard University, Washington, D.C., and taught for many years in the public school system in Trinidad.

**Anne Osborne** is a Lecturer and Co-ordinator of music programmes at the Centre for Creative and Festival Arts, UWI, St. Augustine. She has taught at both secondary and tertiary institutions, served on the committee that developed the CXC music syllabus, and was the subject's first chief examiner. In promoting the study of the steelpan, she has implemented graded examinations in solo steelpan performance; established pan in UWI's certificate and bachelors Musical Arts programmes, and serves as adjudicator at World Steelband Music Festivals.

**Joycelyn Rampersad** is a Lecturer in Science Education, and Health and Family Life Education (HFLE) at the School of Education, UWI, St. Augustine. She has over 35 years of experience in education, and was a classroom teacher and administrator at the secondary level before joining the School of Education. Her research interests are reflective practice, science teaching, and HFLE. She is currently pursuing a Ph.D. in Education, looking specifically at policy and practice in HFLE in selected countries in the Caribbean.



# SALE OF PUBLICATIONS

## OCCASIONAL PAPERS

Author	Title	Price \$TT
Peter Kutnick	Insights into the structure and personnel of primary schools: A demographic and biographic study of a representative sample of primary schools in Trinidad and Tobago.	10.00
Peter Kutnick	A survey of primary school teachers' understanding and implementation of moral education in Trinidad and Tobago.	10.00
Betty Ann Rohlehr	Cognitive style, graphicacy skills of CXC geography students	15.00
Maria Byron & V. Mohan Ram	Some teachers' perceptions of teaching and learning mathematics at the primary level in Trinidad and Tobago.	15.00
Glenda Prime	Broad categorizing and achievement in Biology.	15.00
Marie-Louise Brown	Annotated Bibliography of Teacher Research in Reading in Trinidad and Tobago 1982-1991	10.00

## OTHER PUBLICATIONS

Caribbean Curriculum	Vol. 1, No. 1, 1985	5.00	
	Vol. 2, No. 1, 1987	5.00	
	Vol. 3, No. 1, 1993	10.00	
	Vol. 3, No. 2, 1993	10.00	
	Vol. 4, No. 1, 1994	15.00	
	Vol. 5, No. 1, 1995	15.00	
	Vol. 5, No. 2, 1995	15.00	
	Vol. 6, No. 1, 1996	15.00	
	Vol. 6, No. 2, 1996	15.00	
	Vol. 7, No. 1, 1999	15.00	
	Vol. 7, No. 2, 2000	15.00	
Kelvin Jarvis & Sonia Manjoo	Vol. 8, 2001	20.00	
	Vol. 9, 2002	20.00	
	Vol. 10, 2003	20.00	
	Vol. 11, 2004	20.00	
	A bibliography of staff publications 1965-1985. Faculty of Education Library, 1986, 48 pp.	15.00	
	E.P. Brandon & P.N. Nissen (Comps.)	Proceedings of the 1990 Cross-Campus Conference on Education, 3-6 April, 1990. Kingston, Jamaica. Jamaica: Faculty of Education, 1991, 312 pp.	55.00

Bernard Heydorn, Kerl Crichlow, & Andrew Ballantyne	A study of reading education in the primary schools of Trinidad and Tobago.	10.00
Olabisi Kuboni (Ed.)	Literacy in the Modern World: Proceedings of the Symposium.	20.00
Social Studies Education	"New Dimensions in Social Studies". Vol. 26, 1994. ( <i>Back issues available at reduced rates</i> ).	10.00
Lynda Quamina-Aiyejina	Undergraduate Research on Education at the University of the West Indies. St. Augustine. Caribbean Studies 1965-1994. CERIS Biographical Series No. 1.	10.00
Lynda Quamina-Aiyejina	Guide to published statistical data on education in the English-speaking Caribbean. 213 p.	20.00
Margaret Cain, Anna-May Edwards- Henry, & Joycelyn Rampersad	A Portfolio Training Manual: Using the Portfolio as a Model for Training	30.00

## INSTRUCTIONS FOR ORDERING

Orders by post should be accompanied by cheque or money order made payable to **"Publications, School of Education."** Send orders to: *Librarian, School of Education, The University of the West Indies, St. Augustine, Republic of Trinidad & Tobago, West Indies.* FAX: (868) 662-6615 Email: [jfullerton-rawlins@she.uwi.tt](mailto:jfullerton-rawlins@she.uwi.tt).

Cash purchases can be made from the *School of Education Library.*

ORDER FORM		
Enclosed is my cheque or money order for:		
Title ordered:	.....	
	..	
	.....	
	..	
	.....	
	..	
No. of copies:	.....	
Total sum enclosed \$	.....	
Name:	.....	
Address:	.....	
	.	
	.....	
	..	
	.....	
	..	
	.....	
	..	
E-mail:	Tel:	Fax:
.....	.....	.....





### Information for Contributors

- (1) Manuscripts for publication that have not been published elsewhere and all correspondence regarding articles should be submitted to *The Librarian/Documentalist, School of Education, The University of the West Indies, St. Augustine, Trinidad, West Indies.*

Articles from all relevant subject areas will be considered by the editorial committee and priority will be given to those that, in addition to showing acceptable scholarship, fulfil one or more of the following criteria:

- (a) describe or evaluate experiments in curriculum intervention that have relevance for Caribbean school system;
  - (b) discuss theoretical matters that can favourably affect thought on education in the Caribbean;
  - (c) promote continuous curriculum renewal in the Caribbean region.
- (2) Manuscripts should be typed double-spaced (including quotations, footnotes, and references) on standard quarto paper (8 1/2" x 11"), with ample margins. The author's name and affiliation should appear on a separate cover page, and only on this page, to insure anonymity in the reviewing process. Include, also on separate pages, an abstract of 100-200 words, and a short biographical profile of the author (and all co-authors, if any). The APA Style Manual (5<sup>th</sup> edition) should be followed.
  - (3) The list of references should be arranged alphabetically by authors' last names, and placed at the end of the manuscript. Reference citations are not to be used as footnotes.
  - (4) Endnotes for the purpose of clarifying the text are permitted and should be denoted by superscript numbers in the text. The numbered endnotes should be typed double-spaced and placed before the list of references.

Tables and figures should be numbered, captioned, and inserted at appropriate points in the text.

- (5) Kindly send three copies of each manuscript for editorial review, excluding originals. All manuscripts will be refereed.
- (6) Manuscripts that do not conform to all the above specifications will be returned immediately to the author for conformity.
- (7) Authors will receive five (5) copies of their articles without charge.