Part 1

Primary Education

Are Culture-Fair Tests Really Fair to Jamaican Students?

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Standardized intelligence tests have been severely criticized for their biases against minority students (Cucarro 1996; Midgette 1995; Woolfolk 1998). It is also argued that intelligence testing is not fair to individuals living outside the culture for which a particular intelligence test has been normed (cf., Callahan and McIntyre 1994). People from different nations, as well as those from subcultures within a country, place unique values on such factors as verbal fluency, speed in solving problems, or the ability to be precise even at the expense of being quick, that can influence scores from many intelligence tests.

To answer some of the criticisms levelled against standardized IQ tests, culture-fair tests have been designed to assess mental abilities of people living outside the culture for which most intelligence tests have been designed (cf., Davis-Eels Test of General Intelligence on Problem Solving; Culture Fair Intelligence Test; Cognitive Abilities Test; Columbia Mental Maturity Scales). Culture-fair tests are supposed to limit cultural biases by reducing the need for verbal ability and emphasizing pictorial, spatial, or figural content. The major premise of such tests is that when items reflecting different cultural expectations such as speed of responding and language abilities are eliminated, the content will measure experiential knowledge that is similar across cultures.

The problem for persons living in Jamaica, or indeed, many developing countries, is to find a standardized intelligence test that reduces the influence of cultural bias but still gives a comprehensive assessment of

mental ability. The results of such a test could aid in the assessment of a child's potential for learning, or at the very least, point out the discrepancy between present achievement and potential so that assessors would be able to place the child in the environment most suitable to his/her learning needs.

The present research was designed to determine whether a specific culture-fair test, the Columbia Mental Maturity Scales (CMMS), could be used to partially assess the learning potential of Jamaican schoolchildren. Based on the definition of a culture-fair test, it was hypothesized that differences among scores on such a test should indicate differences in cognitive functioning only and not differences between such independent variables as socioeconomic status (SES), gender, or years of schooling.

Research from the United States (cf., Figueroa and Garcia 1994) shows that IQ scores of some students from low-SES families actually decrease over time. Other studies show that children from low-SES families can increase IQ scores when they are placed in an enriched environment (Currie and Thomas 1995). Hence, a second aim of this research was to determine whether mental ability scores obtained by students differed according to years of schooling. Thus, the research took the form of a cross-sectional study investigating mental ability scores obtained from the CMMS from children in grades 1 and 4 and attending government and private schools.

Intelligence Testing

It has been well documented that many diverse factors can affect IQ scores. For example, in the majority of standardized IQ tests (such as the Stanford-Binet Scales, the Woodcock-Johnson Psycho-Educational Battery, and the verbal subtests of the WISC-III) test items may be administered to students who don't fully understand the language of the test or of the tester. Palmer et al. (1989) argue that children who are not proficient in the English language may receive artificially low IQ scores. In Jamaica, when students are given these standardized IQ tests, they are expected to respond to questions asked in standard English. The majority of these students, however, hear and use the Jamaican Creole extensively and have not been widely exposed to Standard English.

Factors associated with poverty may lead to falsely low IQ scores (cf., the Milwaukee Project, Garber and Herber 1977). Students from low-SES families experience different life experiences from the standardized norm — even though the norming samples of the major standardized IQ scales have been revised over the years to include representatives from minority and low-income groups. Although there is a paucity of research investigating how children from low-SES families live in Jamaica, researchers in the United States have pointed out that overcrowded living conditions, community violence, and the rapid growth of illicit drug dealing are all factors that inhibit learning and hence depress IQ scores. Or, as Figueroa (1994) states, "Many of our nation's diverse children and their families face challenges that are incomprehensible to our mainstream society" (p. 15).

It has also been well documented that other byproducts of poverty (e.g., malnutrition, inadequate health care, family disorganization) are strongly related to school failure (Kozol 1991; Reed and Sautter 1990). In the Milwaukee Project, it was reported that conditions associated with poverty can actually lower the intelligence of students (Garber 1984). Research has also found relationships between poverty and poor school performance: more children from low-SES families achieve lower test results and drop out of school earlier than children from higher SES (cf., Coleman 1988; White 1982).

In addition, it has been found that some teachers of low-SES children have negative attitudes and do not try to teach to students' potential (Good 1993). Woolfolk (1998) states, "Because low-SES students may…speak ungrammatically, or be less familiar with books and school activities, teachers may assume that these students are not bright" (p. 168). In the United States, for example, in spite of calls for nondiscriminatory testing, Maker (1995) reports that minority children are identified more often as slow learners than as gifted. In spite of the criticisms, however, standardized intelligence tests continue to be used for special educational placement of U.S. students.

Intelligence Testing in Jamaica

In developing countries in the English-speaking Caribbean, a major problem occurs when children are being assessed for appropriate placement

for special education services. Without valid criteria, it becomes difficult to determine potential learning abilities or the discrepancy between learning potential and intellectual ability of the majority of students referred to agencies for assessment. It is interesting to note that this problem is not novel to developing countries only. In the United States, it has been well documented that students from minority groups are the ones who are usually "underidentified, misidentified and underrepresented" in the field of special education (Callahan and McIntyre 1994, 87). In other words, children from low-SES families in most countries are more likely to be identified as "slow learners" and not considered eligible for special education programmes.

In Jamaica, current assessments include the Weschler Intelligence Scales for Children-III, the Woodcock-Johnson Psycho-Educational Battery-Revised, the Wide Range Achievement Test-Revised, the Peabody Individual Achievement Test-Revised, and the Stanford-Binet Intelligence Scale: Fourth Edition. The problems in assessing children for academic placement are compounded, as only one test, the Weschler Intelligence Scale for Children-Revised, has been standardized for use in Jamaica. None of the other intelligence tests used in Jamaica has been standardized using Caribbean students with a representative norming sample. This probably holds true for most other Caribbean countries. In addition, some of those trained abroad to conduct intelligence tests use computer printouts based on foreign standards for their reports to parents and teachers.

Another major obstacle to a valid assessment of children living in developing nations is that traditional intelligence tests are expensive to administer, both in time and money. For example, a typical intelligence test, such as the Weschler Intelligence Scales for Children-III, can take up to or over three hours to administer and score. Furthermore, intelligence tests must be administered and subsequently interpreted by qualified and highly trained personnel. In Jamaica, these are few in number and cannot find the time necessary for valid assessment for all those in need. Thus, the problem for persons living in Jamaica, or indeed, any developing country, is to find a valid and reliable test of cognitive abilities that reduces the influence of verbal abilities and cultural biases, one that is not

too expensive to administer, and that can be scored and interpreted by persons possessing minimal qualifications.

The interest in examining intelligence test scores on culture-fair tests stemmed from observations made while I was administrator of the Jamaica Association for Children with Learning Disabilities (JACLD). When the association was started, resources were limited, and it was important to try to decide who could be best helped at the centre—whether a child was a slow or gifted learner or had not been adequately taught in early grades. Tests were needed to determine whether a child did have some form of learning problem and could benefit from the remedial training offered at JACLD.

Many different types of standardized intelligence tests were used to determine a child's learning potential but regardless of the test used, scores appeared to be related to socioeconomic status (SES) of the child's family: children from low-SES families scored consistently lower on the tests than their counterparts from middle- and high-SES families. Consequently, standardized test scores were discarded. We had to rely on examinations of clusters of individual scores within the subtests of standardized tests, academic portfolios, and teacher assessments when determining admittance to the special education units at the JACLD. At that time, we did not have the resources to analyse intelligence test scores according to socioeconomic strata, and this information must be considered anecdotal.

Similar discrepancies in mental ability scores between children from high- and low-SES families were found in research investigating learned helplessness behaviours in 192 Jamaican children attending government and private schools (Matalon 1991). Results showed that children from government schools scored significantly lower on the Columbia Mental Maturity Scale than did their peers attending private schools. In a more recent study, Malcolm (1997) found that the majority of scores on standardized intelligence tests given to over 500 low-SES children living in rural areas of Jamaica were skewed to the low end of the normal curve. These low scores indicated that the majority of the children tested could be classified as mentally retarded even though they appeared to be functioning normally in an academic setting. In addition, when Malcolm tested 160 students (also from low-SES families), using the Columbia

Mental Maturity Scale-Revised, she found that although scores appeared to be more evenly distributed than scores from the other standardized tests, they were still low, indicating below-normal levels of intellectual functioning.

The Columbia Mental Maturity Scales

To try to end the improper academic placement of children, nontraditional approaches to the assessment of intelligence, that is, culture-fair or culture-free tests and tests for minority students (cf., System of Multicultural Pluralistic Assessment; the Kauffman Assessment Battery for Children; the Learning Potential Assessment Device) have been developed by several psychologists. Culture-fair tests, by definition, are those which "fairly measure the intelligence of persons having different languages and cultures, or influenced by very different social status and education" (Cattell 1963, 5). This definition infers that when presented with a culture-fair test, groups from one culture as well as groups from subcultures within a given culture, should score as well as groups from another culture.

The Columbia Mental Maturity Scale (CMMS) is a test specifically designed for children who do not read well or do not have highly developed verbal skills (Burgemeister, Blum, and Lorge 1972). Consequently, little or no verbal ability is required from the children during the test—children only have to understand what is required of them and then point to the one drawing that is different or does not belong with the others. The CMMS consists of a total of 92 pictorial and figural classification items and measures a child's general reasoning ability based on visual-perception and discrimination (Burgemeister, Blum, and Lorge 1972; Salvia and Ysseldyke 1978). Each card is presented, one at a time, and the test is completed when the child has made five consecutive mistakes.

The scale is divided into eight overlapping levels, and the child's chronological age determines the starting level. Thus, a child is usually given between 51 and 65 items. The CMMS takes about 15 to 20 minutes to administer. Raw scores from the CMMS are converted to mental ages with the age deviation score being a standard of 100 ± 16. The procedure and wording used by the researchers are detailed in the CMMS manual, and the directions allow the examiners ample leeway to ensure that each student has understood what was expected of him or her. According to

the authors, "Stringent controls were used to ensure proportionate quota samples in terms of parental occupation, race, geographic and metropolitan-nonmetropolitan residence" (p. 9).

The age deviation scores from the CMMS give an estimate of the general reasoning ability of children aged from 3 years 6 months to 9 years 11 months. According to Burgemeister, Blum, and Lorge (1972), these reasoning abilities are considered "important for success in school, where the ability to discern relationships among various types of symbols is emphasized" (p. 8).

Although several other culture-fair tests could have been used in this research, the Columbia Mental Maturity Scale (CMMS) was chosen for the following reasons: (1) it has been described as being "less culturally loaded than some other intelligence tests" (Sattler 1982, 253); (2) it does not require specific qualifications for administration, and perhaps most important, (3) it was specifically designed for children "coming from homes where language skills are not stressed" (Burgemeister, Blum, and Lorge 1972, 7). This seemed to apply specifically to the majority of children from low-SES families who tend to be more familiar with the local Creole than Standard English (cf., Gerstan, Brenngilman, and Jimenez 1994).

Method

Subjects

The subjects were 800 grades 1 and 4 Jamaican-born students attending private and government schools in a large urban area in Jamaica, West Indies. The ages for students in grade 1 ranged from 5 years 9 months to 7 years 2 months; those in grade 4 ranged from 8 years 10 months to 9 years 11 months. The racial composition of the children reflected the population of Jamaica, that is, black, brown, and mulatto (see Miller 1973, 412–14). All foreign-born students, as noted in school records, were excluded from this study.

Students in each class were ranked by their respective teachers in the highest third, middle third, or lowest third of academic achievement. The initial pool consisted of 834 children attending private schools and 1,067 children attending government schools who had been ranked in either the upper third or lower third of teacher ratings. From this total, 400 children

from each school type were randomly selected. The final sample consisted of 400 high- and low-achieving boys and 400 high- and low-achieving girls from grades 1 and 4 from each school type.

Research Assistants

The five research assistants used in this study were Jamaican born, trained teachers who were accustomed to working with Jamaican children. All could speak Standard English as well as speak and understand Jamaican Creole. The assistants were instructed in the standardized procedures and wording detailed in the CMMS manual but were allowed to use any of a variety of phrases in either Standard English or Jamaican Creole to explain to an individual child exactly what was expected during the testing situation according to the *CMMS: Guide for Administering and Interpreting* (Burgemeister, Blum, and Lorge 1972).

Design

The design was a $2 \times 2 \times 2$ factorial. The independent variables were grade (grades 1 and 4), school type (private and government), and gender (boys and girls).

Procedure

Permission was obtained from the principals of the schools involved. Parents or primary caregivers and teachers were informed about the research, and written consent for their child to take part in the study was obtained. Parents/guardians were then asked to fill in a brief questionnaire. For the purpose of this research, the major use of the questionnaire was to determine the occupation of the primary caregiver of the subjects in order to determine correlations between SES and school type.

Columbia Mental Maturity Scale

About four to six weeks after the parent/guardian questionnaires had been collected and coded, the CMMS was administered to each student by one of the five research assistants. The assistant collected each child from his or her classroom and walked with him or her to an isolated area provided by the school. On the way to the testing area, the researchers were instructed to talk to the child in order to gain the child's confidence and allay any possible nervousness. Following administration of the CMMS,

each child was praised for hard work and cooperativeness and walked back to his/her classroom.

Results

Parent Questionnaire

In order to determine correlations between school type and socioeconomic status (SES), all parents/guardians were asked to reply to a short questionnaire to determine the occupation of the primary caregiver. A coding scheme (Macionis 1993; Miller 1973) was used to categorize the different occupations according to SES. Parental occupations and type of school were highly correlated ($r = .967$, $p < .0001$); children from the low-SES families attended government schools, and children from middle- and high-SES families attended private schools. As prior research in Jamaica has demonstrated that occupation is highly correlated with SES (Miller 1971), results can be reported with confidence in terms of SES as well as school type.

Columbia Mental Maturity Scale

CMMS scores yield a measure of general reasoning abilities, with higher scores reflecting higher ability than low scores. Age deviation scores were computed using raw scores obtained from the CMMS according to the CMMS manual and reflects the extent to which a child deviates from the "average performance of children his chronological age tested in the national standardization program" (Burgemeister, Blum, and Lorge 1972, 17).

Correlational analysis showed that age deviation scores from the CMMS are highly correlated with type of school ($r = .59$, $p < .0001$), and moderately with achievement ranking ($r = .32$, $p < .02$). In both school types, children rated by their teachers as high achievers obtained higher scores ($\overline{x} = 107.97$, SD = 1.73, $n = 400$) than children rated as low achievers ($\overline{x} = 97.26$, SD = 1.49, $n = 400$) ($t < .0001$).

Results of an analysis of variance (ANOVA) using age deviation scores from the CMMS as the dependent variable, and grade level, school type, and sex of students as the independent variables yielded some interesting results. As shown in table 1, there were no significant differences between

average scores of boys and girls (F = 1.95, p = .21), or between students in grades 1 or 4 (F = 1.58, p = .17). It appears that school type alone is the major factor in determining differences in scores (F = 116.23, p = .0001). Comparisons of the CMMS age deviation scores showed that children attending private schools scored significantly higher ($\bar{x}$ = 112.25, SD = 13.83) than children attending government schools ($\bar{x}$ = 93.22, SD = 11.35) (p = .0001).

Table 1
CMMS Mean Scores and Standard Deviations (SD), by School, Gender, and Grade

Factor/Level	Mean Score	SD
Schools		
Private	112.25	13.83
Government	93.22	11.35
CMMS Scores × Gender		
Males	101.56	16.14
Females	103.89	15.46
CMMS Scores × Grades		
Grade 1	101.34	14.47
Grade 4	103.96	17.07

Note: n = 400 p = .001)

To determine whether the CMMS mean scores differed between grades 1 and 4 in private or government schools, the scores were analysed according to grades within schools. As can be seen in table 2, scores did not change significantly between students attending grades 1 and 4 in government schools (grade 1 $\bar{x}$ = 92.31, grade 4 $\bar{x}$ = 94.13, F = 1.14, p = .63). The scores, however, improved marginally in private schools, with grade 4 students scoring somewhat higher than their grade 1 peers (grade 1 $\bar{x}$ = 110.71, grade 4 $\bar{x}$ = 114.88, F = 1.96, p = .03).

Discussion

The main result of this study—that children from middle- and high-SES families score higher than children from low-SES families on a test of

Table 2
Mean Scores and Standard Deviations (SD) from the CMMS, by Grade Level and School Type

School Type/Grade Level	Mean Score	SD	F	*p*
Private				
Grade 1	110.71	12.05	1.96	.03
Grade 4	114.88	9.64		
Government				
Grade 1	92.31	11.29	1.14	.63
Grade 4	94.13	12.09		

n = 200

mental abilities—is not surprising. It was surprising, however, to discover the significantly large differences between age deviation scores on a culture-fair test given to students attending government schools (low SES) and private schools (higher SES). Although the average scores for students attending government schools were not as low as those reported by Malcolm (1997), results of the present study demonstrate that using scores from a culture-fair test to determine mental ability would be as biased against children from low-SES families as scores obtained from standardized IQ tests.

It was also distressing to note that for all students from low-SES families, age deviation scores yielding an estimate of general reasoning ability did not even marginally increase between students in grades 1 and 4, as they did for students attending private schools. While it was hoped that scores from children attending government schools would increase with exposure to different experiences, including that of test taking, it was found that they did not.

The title of this study asked the question: Are culture-fair tests really fair to Jamaican students? Based on the results of a specific culture-fair test, the Columbia Mental Maturity Scales, the answer has to be No! The No answer, however, must be made with reservations—it appears to be unfair only to the many students from low-SES families! Using a culture-fair test to assess mental abilities obviously does not provide adequate assistance to psychologist-educators in determining differences in ability

and potential for special education placement of children from low-SES families.

How then to interpret the results? First, it must be remembered that tests of mental abilities, culture-fair or not, measure intelligence based on the learning experiences of the individual. Research has also demonstrated that intelligence test scores are related to learning in school and predict academic achievement with some degree of accuracy (Sprinthall, Sprinthall, and Oja 1998). Thus, the results of this research have serious ramifications for (1) how students are identified for special education services and (2) for the public school system in general.

Special Education Placement

If test results from a culture-fair test were being used for placement purposes, then the higher scores obtained by children attending private schools would make them more eligible for specific educational services such as classes for the gifted or learning-disabled than their peers attending government schools. In the same vein, with the lower scores obtained by children in government schools, more of these children would be considered eligible for classes for the mentally retarded than their counterparts attending private schools. This finding is in keeping with current research in the United States showing that children from minority groups are less likely to be classified as gifted or learning-disabled than their more affluent peers (cf., Kozol 1991; Midgette 1995; Reed and Sauter 1990) as well as research recently conducted in Jamaica by Malcolm (1997).

Using scores from standardized intelligence tests, even those deemed culture-fair, to decide academic placement raises two questions: Are the results valid enough to make decisions regarding the future of Jamaican schoolchildren taking the test? If the results are not valid, what other criteria could be used? The dilemma then is how to validly assess students in Jamaica to determine whether they require special educational services and to determine what type of services they require.

One method could be to maintain a double set of standards. Would it be reasonable, however, to expect high scores from children from middle- and high-SES families and low scores from children from low-SES families? This method should be completely unacceptable as it would only perpetuate elitism and lead to negative attitudes about students who

do not come from families of middle- high or high SES (cf., Reed and Sautter 1990, K2).

Within the United States, alternative assessment procedures have been suggested for minority groups. Among the more researched methods are the assessment of learning potential, real-life or authentic assessment, and portfolio assessment. In the assessment of learning potential, the tester presents the student with a learning situation, gives the student prompts, and then observes how the student benefits from the instruction. In this situation, the tester is observing the *process* of learning rather than its product (cf., Fuerstein 1979; Kozulin and Falik 1995). Real-life or authentic assessment studies the student's performance on real-life tasks and not on some hypothetical problems that the student may never have encountered (Hambleton 1996). Portfolio assessment consists of a collection of the student's work throughout the school year, and many researchers feel that this should be used along with intelligence test results as it might present a more accurate picture of what a student is capable of doing in an academic setting (cf., Gomez, Graue, and Bloch 1991; Lamme and Hysmith 1991).

With a new course on identifying exceptional students in the classroom being introduced into teachers colleges in Jamaica , there is bound to be a growing awareness of the need for appropriate educational assessment. Perhaps it is time to reconsider and rethink how the majority of Jamaican students are assessed for the purpose of special educational placement.

The Government School System

Burgemeister, Blum, and Lorge (1972), in their introduction to the CMMS, state that it is assumed that "all children have had substantially equal opportunity to learn about the types of things included in the test" (p. 7). It could be argued that a vast majority of children from very-low-SES families who are entering school in grade 1 have not been exposed to a wide number of "things", such as television, educational games, books, nursery rhymes, counting rhymes and stories, that might have led to somewhat higher scores. Obviously, children from low-SES families are entering government schools at a disadvantage when compared with their

peers from higher-SES families, whose parents can afford to provide them with an enriched environment early in life.

Once in the school system, however, it appears that they are still not being equipped with an enriched curriculum or given the type of teaching necessary to enable them to compete with their more affluent peers. After three years of schooling, children attending government schools did not show any discernible increase in mental ability scores when compared with children attending private schools. As many of these students progress through school, many simply drop out of school or leave school semi-literate. For example, the current report from the Ministry of Education shows that the grade 6 results obtained from the GSAT were "dismally low, especially in the primary schools" (Low-score GSAT, *The Gleaner*, September 1999).

Therefore, a second question must be asked: What are we doing to our children in government schools? One of the results of this study appears to demonstrate that many children from low-SES families are not being provided with the necessary, enriched pedagogic environment to enable them to "catch up" with their more affluent peers. It can be taken for granted that most private preparatory schools have more equipment and educational materials and smaller class size than government schools. It has been reported, for example, that some government schools have 50 or more children in one classroom, and this large class size alone makes it impossible for a teacher to do little more than try to keep order. Class size alone, however, should not account for the discrepancy of age deviation scores between school types as found in this study.

It is time to take a serious look at the curricula in the primary schools and in the teachers colleges to determine exactly which skills are lacking—for both students and their teachers. For example, for students entering grade 1, extra attention will have to be paid to ensure that they possess the basic readiness skills, and many will have to be taught *to learn how to learn* (Bos and Vaughn 1994). Going through the grades, these students will have to be taught more than just the basic skills required to pass from one grade into another—they will have to be taught how to interpret and apply what they are learning to real-life situations.

Teachers entering government schools will have to be given extra courses on how to work with low-SES students, how to motivate these

students, how to influence their students' attitudes and values about education, and how to balance the curriculum that must be taught with all the basic skills that the students do not yet know. In addition, although there has been little research investigating teachers' attitudes toward students in government schools in Jamaica, Banks (1994) found that in the United States, many teachers in schools for students from low-SES families tended "to teach down resulting in a negative attitude and low expectations" (p. 29). As one result of this study revealed that age deviation scores and academic ability (as rated by teachers) were moderately related, is it possible that in some public schools, teachers are encouraged to concentrate on the "brighter students" and leave the less scholarly ones to their own devices?

Results of this research have raised more questions than have been answered. They point to the need for many different types of research, the results of which could help young students attending government primary schools. First, there appears to be a pressing need for research investigating *how* students are assessed for special education services. For example, what specific standardized IQ tests are used? Are they reliable and valid within the Jamaican educational system? Is the student's ability assessed on one IQ test only or are several other diagnostic and formative tests given? What are the qualifications of the testers? Are foreign-based computer printouts being used to interpret and report results?

There is also a paucity of research into the types of services that children who are assessed are referred to. Are the majority of children attending government schools categorized as slow learners or mentally retarded? Or are an equal number referred to special classes for the gifted and talented? What types of services are being offered in the new resource rooms being opened in many primary schools?

Secondly, there are limited studies investigating the assessment of mental abilities of students attending government schools. Longitudinal studies should be conducted to discover whether the mental abilities of children attending government schools are remaining stagnant, as shown here, or decreasing as in the findings of the Milwaukee study (Garber and Herber 1977).

It is hoped that extensive and useful research will emerge from the new standardized testing across grades that is being established to take

the place of the Common Entrance Examination. I have great expectations that when the National Assessment Programme is fully implemented in all government schools, future research will not show such vast differences in age deviation scores between school types as were found in this study.

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The Integrated Curriculum in the Lower Primary School in Jamaica

Theory versus Practice

Rose Davies

Introduction

This paper identifies and addresses potential conflicts in Jamaican lower primary school curriculum practices arising from a curriculum reform initiative of the Ministry of Education. This initiative involves revising the grades 1–3 primary curriculum from a subject-based to an integrated model in the second phase of a Primary Education Improvement Project (PEIP II), partially funded by the Inter-American Development Bank (IDB). The genesis of the potential conflicts lies in the contradictions that will inevitably surface when the new integrated curriculum model is introduced into classroom settings that are not structured or ready to support its implementation. Indeed, such conflicts are already emerging.

Two approaches, the subject-based and the integrated, internationally have dominated school curriculum practices. The subject-based curriculum is rooted in traditional behaviourist theories of philosophers such as John Locke, who thought children came into the world as a blank slate, "tabula rasa", and B. F. Skinner, who regarded the act of learning as a conditioned response to external stimuli (Seefeldt and Barbour 1986). In this type of curriculum approach, children in the classroom situation are regarded as passive-reactive recipients of knowledge, which is partitioned into discrete subject disciplines. The teacher is the principal actor who determines what, how, and when children learn.

The integrated curriculum derives from contemporary knowledge of how children develop and learn. This model recognizes children's natural tendency to view the world holistically. Hence, its primary aim is to establish linkages between different subject disciplines in a manner that makes learning more meaningful and relevant. Integrated curriculum practice reflects a Piagetian constructivist-interactionist view of learning. From this theoretical perspective, children are active constructors of knowledge. They explore, investigate, manipulate, experiment, draw conclusions, and construct their own conceptual understandings about the world. Teachers facilitate children's involvement and interaction with their environment and help them make the connections between the different knowledge areas. Within this construct, teachers are guided in their decision making by the children's needs, interests, and individual pace of development.

Each of these two approaches carries its own assumptions and expectations about how classrooms are organized and how information is transmitted during the learning process. The inherent differences in the two approaches have clear implications for the training of teachers, the design and planning of the learning environment, and the formulation and implementation of educational policy. The paradigmatic differences in the two curriculum models will almost inevitably result in controversies and conflicts that could negatively impact on the implementation of change, unless specific steps are taken to address them. In this paper I will

1. Describe more fully the underlying philosophies and practices of the subject-based and integrated curriculum approaches.
2. Outline the PEIP II rationale and support for curriculum change.
3. Examine present teacher training practices in Jamaica which have contributed to the contradictions in the lower primary curriculum approaches.
4. Highlight, through the experiences of teachers in the field and other available research, the realities of existing primary school classrooms that hinder the practice of curriculum integration.
5. Discuss the implications of these research findings for the PEIP II curriculum reform objectives.

6. Recommend necessary actions for supporting effective classroom practice of the integrated curriculum model in the primary school setting.

The paper draws on data from recent research studies, including a qualitative work in progress involving four first-year primary grade 1 teachers in two preservice training programmes. The experiences of the two early-childhood-trained teachers attempting curriculum integration within typical subject-based learning environments are instructive and provide an insight into the conflicts that could impact negatively on the PEIP II curriculum reform process.

Subject-Based Curriculum

The subject-based curriculum has been up to now a strong feature of primary education in Jamaica. This model, deriving from behaviourist theory, is teacher-centred. The teacher is the active force in the classroom, deciding on learning goals, objectives, and activities for the children. The curriculum is narrowly focused on the acquisition of discrete skills and is more concerned with product than process. Barriers are maintained between the subject disciplines, each being taught within its own fixed time slot. There is no structured recognition of connections between the different subject disciplines. Strong emphasis is placed on building numeracy and literacy skills through the teaching of mathematics and language arts, often at the expense of other key areas such as social studies, science, and aesthetics, including art, music, drama, and physical education.

In subject-based curriculum practice, teachers favour whole-group rather than small-group instruction as well as a lecture-type delivery mode generally associated with note-taking and rote learning of facts. In the typical setting of the Jamaican primary school classroom, wooden desks and benches are attached units able to seat two or three children. They are cumbersome, inflexible, and arranged in rows facing the teacher. Children sit beside each other rather than in circular social group formation. Usually space is not allocated for setting up interactive thematic learning centres, as this is not a feature of the subject-based curriculum model.

Teaching/learning materials are mostly limited to textbooks, workbooks, pencils, crayons, chalkboard, chalk, and paper.

Integrated Curriculum

The integrated curriculum is a philosophy in practice of how children acquire knowledge, skills, and attitudes in meaningful and appropriate ways. Recent brain development research establishes a strong relationship between the development or "wiring" of the brain and the quality of the environment in which a young child is nurtured. Activities that help children to make meaningful connections between discrete knowledge areas intensify the growth rate of the brain's neural pathways. The more meaningful the stimulation the brain receives, the more complex and powerful the system of neural pathways becomes and the greater the capacity of the brain to deal with complex mental operations (Shore 1997). The practice of curriculum integration increases children's ability to see the relationships and connections between different areas of knowledge, thus optimizing the developmental potential of the brain. The integrated curriculum also recognizes the interrelatedness of the physical, social, emotional, and intellectual domains of development.

According to Roberts and Kellough (1996), the integrated curriculum seeks to "emphasize the process of learning as whole and connected rather than a series of specific subjects and disparate skills"(p. 3). The curriculum is flexible and designed to meet the needs of children with a wide range of abilities and intelligencies—from the developmentally challenged to the most gifted. Children learn through interactive, inquiry-based experiences, most often in small cooperative groups.

The most widely used strategy for integrating curriculum is the theme-based approach. Berry and Mindes (1993), explain that this involves selecting a theme which is grounded in the immediate interests and concerns of the children and their community. The theme is subdivided into topics, that is, goals, learning objectives, teaching/learning strategies, and skill development targets, which in their development, are used to organize and integrate all elements of the curriculum into a meaningful experience for the child. Coordinated planning ensures that each activity, "is not an isolated experience but is part of an integrated sequence of the-

matically based activities that reinforce new concepts within and across domains" (Berry and Mindes 1993, 6).

The learning environment that supports an integrated curriculum is planned and physically organized to facilitate child-centred learning. Furniture, room arrangement, and programme scheduling are adaptable to children's constantly changing interests. Learning centres are established in different areas of the classroom to provide children with opportunities for play, social interaction, and concrete, hands-on learning experiences. Children engage in both self-initiated and teacher-directed learning. Adult-child ratio allows the teacher to give a reasonable amount of individual attention to each child. Space is adequate to facilitate free movement of teacher and children about the classroom. A strong feature of this type of learning environment is the high level of interaction between teacher and children, and children and their peers. The teacher must at all times ensure that the environment is appropriately challenging, with a wide range of stimulating materials to enhance learning.

Educating for the Future

In assessing the value of the two curriculum approaches in today's context, a critical criterion would be which one will better prepare students for life in the 21st century. Beryl Levinger (1996) points to the rapidly changing global environment and the impact of technological innovations on the workplace. Workers of the future will have to be multiskilled and socially adaptable within the work environment. She notes that "in addition to the ability to make greater use of information technologies, members of the next generation's labor force will also have to show greater dexterity in the management of complexity" (p. 11). The emphasis for the worker of the future will not be on employment but rather on employability, hence education must aim to prepare citizens, both children and adults, to become higher-order thinkers and to develop the social skills necessary to work collaboratively with others.

Levinger suggests that socio-constructivist theories that advocate social, collaborative, interactive learning should guide educational practices for children and adults alike. She cites two studies of the impact of this approach to education on the development of social and participative behaviours in children. In Guatemala, children were exposed to a con-

structivist curriculum emphasizing active learning, peer teaching, collaborative knowledge creation, the use of self-instructional guides, and collaborative student government. The researchers noted significantly more turn-taking and democratic, collaborative behaviours from the children in the constructivist setting than from their matched control group in the traditional school setting (Chesterfield 1994, cited in Levinger 1996, 62). Levinger also cites Reimer's (1993) study of the Colombian New School programme which is based on participatory, discovery-based learning. This programme was shown to foster confidence in children and help them learn democratic forms of organization and participation.

PEIP II Curriculum Initiative

In committing to the PEIP II curriculum reform, the Ministry of Education has seemingly adopted Levinger's perspective that future workers' capacities must be developed through reorientation of educational practices in schools. This is evident in the stated objectives for revising the grades 1–3 primary curriculum to reflect more of the characteristics of the integrated, constructivist model. In the introductory statement to the new draft curriculum document, the Minister of Education, Senator Burchell Whiteman, endorses "the proposed integrated approach to learning, as our students must see the relevance of what they learn and the relationship between different subject matter". He further encourages teachers to "use this curriculum creatively to generate excitement in the learning process" (Ministry of Education 1998).

Other statements in the introduction to the document support the new curriculum approach:

> The integrated curriculum is designed to foster the development of desirable attitudes and values through strategies such as cooperative learning: opportunities for acquiring problem solving research/inquiry skills and the sharing of ideas and experiences.
>
> The approach to integration is thematic, designed around interrelated and interacting learnings that are relevant to real life situations.
>
> Methodologies are interactive, engaging the child in a variety of hands-on experiences that foster, not just the seeking of answers, but more so, the identifying and posing of problems and the search for solutions.

> Teachers are reminded of the crucial importance of the learning environment itself. It should be one that is not only physically pleasant, but one that also builds a "culture of success".
>
> The curriculum is flexible enough to allow the teacher to accommodate children of varying abilities and learning styles.

All these statements are consistent with the integrated curriculum approach described. However, this model requires a high level of commitment to the task of providing and maintaining the appropriate environmental conditions for successful implementation, and this clearly implies an increased workload for teachers. It also requires that teachers have a thorough knowledge and understanding of the approach through training and practice. In the Jamaican situation, some teachers at the lower primary level are trained in the integrated curriculum approach, but most are trained in the subject-based methodology because of the different orientations of the current college preservice training programmes.

The Infrastructure

Teacher Training

In the Jamaican education system, early childhood is defined as the period from birth through 8 years, while primary education includes the age range 6 through 12 years. The age definitions overlap for primary grades 1 and 2, which correspond with the educational levels of 6- to 8-year-olds. Teachers for grades 1 and 2 primary are trained in two different diploma programmes, certified by the Joint Board of Teacher Education, University of the West Indies. Since its inception, the primary education diploma programme has trained teachers in the methodology and practice of subject-based curriculum.

On the other hand, the early childhood diploma programme, which commenced in 1991, emphasizes the integrated curriculum approach. This dual training path has resulted in the current situation where teachers trained in the two curriculum orientations frequently work in adjoining classrooms, particularly at the grade 1 level. The early-childhood-trained teachers in the field have been greatly challenged in their efforts to practise curriculum integration, given the kinds of classroom environments

in which they work—as the two teachers' stories cited amply illustrate. Relevant findings from other research studies are also included.

Classroom Learning Environments

Public primary schools in Jamaica are very similarly structured and organized. A high proportion of classrooms today still match the description offered by James (1977) over 20 years ago in the only known Jamaican study of the relationship of physical facilities to instructional strategies. That study found that 95 percent of primary classrooms used a row-seating arrangement and that this pattern of classroom organization supported the recitation, lecture-type technique, which is of limited relevance where an activity-based curriculum is being taught.

The findings from a more recent Jamaican study, by Bailey and Brown (1998), paint a similar picture of lower primary classrooms today. The transition study aimed to identify critical issues and problems of Jamaican students' transition from preschool to grade 1 primary. One aspect of the study compared the environments of exit classes of preschool institutions and grade 1 entry classes of primary schools and noted the following salient points:

1. Free activity, circle time, and play were evident in a sizeable number of preschool classrooms, but were almost nonexistent at grade 1 level.
2. In the primary classrooms there was extensive use of the chalkboard, almost to the exclusion of concrete objects, and children were expected to copy from the board.
3. In approximately one-third of the grade 1 classrooms, indoor space was not very adequate and did not allow for flexible organization of the furniture.
4. Data from the grade 1 classrooms gave little evidence of a child-centred environment.

The evidence is clear from these studies that in their present state, the majority of grade 1 classrooms provide inadequate supports for an integrated, activity-based curriculum. The picture worsens at the higher grade levels. The experiences of the two teachers recounted below provide real examples of the contradictions inherent in trying to implement an inte-

grated curriculum in classroom and school settings not structured or prepared for this approach.

The Experiences of Two Teachers

These two teachers, Joyce and Nancy (both names are pseudonyms), graduated from the early childhood diploma college programme and started teaching grade 1 primary classes in September 1998. Both expected to be able to implement the integrated curriculum strategies they had been taught in college. However, when interviewed six months later, in March 1999, they revealed that they had found very little support for practising integration as they understood it. Space, large class sizes, high noise levels, inadequate physical facilities, inappropriate furniture and equipment were all obstacles to designing the kind of learning environment that was complementary to integrated curriculum practice. When asked to describe her feelings about her initial classroom encounter as a grade 1 primary teacher, Joyce said in an interview March 1999:

> I thought it would be a challenge. For one, the physical environment was not appropriate. The benches were very inflexible for arranging children in small groups.…The other major problem I encountered was that in the school curriculum each subject had a different theme so it was difficult to plan using a single theme. That is one thing that I still have not been able to do—use the thematic approach.…I have also tried to move the furniture around to make different small groups but not very successfully.

This teacher without assistance had 40 children, 23 of them very active boys. She was concerned about the lack of basic literacy skills among the children, the boys in particular. She tried organizing them into reading ability groups but had difficulty giving adequate time to each group because of the large class size. She explained:

> There are three different reading groups with children at different levels. With so many children, I am still unable to reach the slower children as much as I would like to because the other groups tend to interrupt me. Whenever work is set they will still keep coming and asking questions and I find this disruptive.

Nancy, who held strong views on the importance of learning centres in integrated curriculum practice, in an interview in March 1999 said she found it difficult to establish them in her own classroom:

> I found that I had to look at the classroom and the setting. Some classrooms are only divided by movable partitions and so you have to think about the noise level. I couldn't put a corner, say the block corner, where the partition is because it would disturb the adjoining class. You just have to give and take. Some corners I cannot set up at all because of the environment, not being in a single room by myself and having 44 students in a small space.

Nancy also spoke about the curriculum currently used by the school and the difficulty of organizing for small-group work:

> This curriculum is very difficult to work with because it has time barriers. In the integrated approach we do not work with such time barriers. We have a block of time within which we combine a number of subjects. In this school curriculum whenever you finish the timed subject period you just move on to another subject and sometimes the children are rushed.
>
> The benches are rigid and inflexible. You cannot arrange them in different ways.…To get three children sitting on a bench they have to sit straight beside each other. They are not even facing each other. It is a more powerful influence when the children are able to face each other and communicate better without leaning over each other. The benches are a constraint. The space too because when I have story time or circle time, I want to change the setting and make them relax but they are confined to the bench. There is not enough space to provide them with single cushions because these would have to be placed all over the room and that would be hard to monitor.

Both Nancy and Joyce shared opinions on aspects of present classrooms that needed to be changed to support integrated curriculum practice. Both spoke about the inappropriate classroom furniture, the large number of children, the high noise levels, the inadequate space. Joyce's view was that:

> We need smaller class size of no more than 20 children. If we have big classes we need teacher assistants. Besides these classrooms were not built to accommodate so many children comfortably. They can hardly move around properly and the cramped space makes them agitated and restless.

Nancy and Joyce hinted at inter-staff difficulties with other grade 1 teachers arising out of their different orientations to curriculum practice. Nancy, in spite of the classroom constraints, has tried to hold on to some aspects of the integrated curriculum approach in her teaching. Although space is limited she has made great efforts to provide children with con-

crete, interactive materials, which she herself makes. She has also tried to establish at least one learning centre in her classroom, alternating among the different types to ensure the children get exposed to each one, for example, block corner one week, nature corner another week, and so on. The other, primary-trained grade 1 teachers have not been very encouraging because "they think it is a lot of work to set up corners as they have to be maintained". Joyce, who is the only early-childhood-trained teacher at grade 1 in her school, also reported areas of disagreement with the other teachers:

> Well I am the only grade 1 early-childhood teacher trained in the integrated curriculum approach so sometimes there are differences of opinion, for example, about methods of teaching….I was taught in college that we should not give children instructions for everything. We should allow them to use their creative talents also. For example when my children are learning words for the first time, I ensure that they know the words, then when I write up the words I ask them to draw the appropriate picture. That will tell me whether they know the word or not. What I notice the other teachers do is give them both the words and the pictures together. That is no challenge. I also allow them to create their own sentences instead of just giving them sentence strips. Things like that I disagree with the other teachers about.

These teachers expressed the feeling of isolation from the other grade-level teachers when they tried to do things differently in their classrooms based on their training in the integrated curriculum approach. Their strategies were usually explained away in terms of their early-childhood training and the flexibility to do "anything". The other teachers indicated that such strategies would never work for them in their classrooms.

Nancy and Joyce, in earlier interviews, in September 1998, also told of opposition from parents who were unable to understand the rationale for a teaching approach that was different from what they had experienced as children. Joyce recounted an incident with one father when she was collecting funds to improve the classroom and make it into a more stimulating learning environment. This father refused to contribute as he could not see the need for it. Furthermore he could not understand why he was being asked to assist as that was the government's concern. Similarly, Nancy told of an encounter with a father who told her direct that he did not want to come to the classroom to see his child playing with any blocks. He wanted her to be engaged in "real learning" to read and write

and do sums. Nancy had to persuade him to engage in a hands-on activity with blocks to show him how much his child could learn just by interacting with the blocks.

Implications of Controversy for PEIP II Initiative

Incidents such as those the two teachers told are to be anticipated in the curriculum transformation process. Real controversies will arise among teachers, parents, and the wider community because of differing views. The bottom line will be how the different constituents view the curriculum change as directly impacting on their lives or their children's lives. One important finding of the transition study was that parents and teachers shared common expectations for children entering grade 1 primary school. However, both parents and teachers (the latter to a slightly lesser extent) were primarily interested in the cognitive outcomes for children, suggesting as Bailey and Brown (1998) pointed out, that "the over-riding concern and perception is that students need to be prepared for the more formal academic approach at the primary level" (p. 77).

In the Jamaican school setting the emphasis on the cognitive educational outcomes of schooling is strongly linked to systems of learning that are very subject based and skill focused. While some parents and teachers might concede to less formal approaches in preschool, by the time children enter primary school they are expected to get on with the serious business of learning, which equates to becoming competent in the three Rs. There is not much tolerance for curriculum approaches in which the teaching-learning relationship is indirect rather than direct, for instance, the play way. Even at the preschool level, play is still not regarded as a valid learning strategy by parents and some teachers.

The differing views and opinions about curriculum practices and the teaching-learning process which exist among teachers, parents, and the wider community give rise to questions with implications for the implementation of the PEIP II curriculum initiative.

1. To what extent will teachers who have limited understanding and conviction of the real benefits of the integrated approach devote the time and creative energy necessary to ensure that the new curriculum in practice remains true to the precepts of its philosophical base?

2. To what extent will teachers who are steeped in the subject-based tradition respond positively to short-term training activities aimed at preparing them to use the integrated curriculum approach?
3. How will teachers individually respond to a curriculum model which demands more planning time and preparation of materials than the one to which they have been accustomed?
4. To what extent will present classroom learning environments support or frustrate curriculum integration?
5. To what extent will parents understand and support the new curriculum approach?
6. How will the Ministry of Education address the obvious cost implications of transforming not only the curriculum but also learning environments to support it?

As the PEIP II project prepares for the imminent launch of the new curriculum in primary schools across the island, these questions must be given serious consideration because of their likely impact on effective implementation. Successful curriculum change is more likely if the rationale, goals, and strategies are clearly understood by all concerned and supported by the necessary human, material, and environmental resources. Expectations for effective curriculum change within school environments that are not structured, organized, or equipped to support such a process are unrealistic.

Recommendations

It is anticipated that the revised grades 1–3 primary curriculum will be introduced into schools by the 1999–2000 school year. However, the implementation process will need to be supported in various ways. Four important areas should be addressed:

- Teacher training
- Classroom physical environments
- Teaching/learning support materials, and
- Parent/community education and support

Recommendation for Teacher Training

Kraft (1994), in commenting on the process of curriculum reform, stated, "curricular reforms often arrive at teacher training colleges long after they have been introduced in schools. This asynchronism perpetuates old behaviours long after the change process has begun" (cited in Levinger 1996, 73).

- The teachers college primary education curriculum should be revised immediately to ensure that student teachers receive the appropriate training in the methodology of the integrated curriculum. The revision process should aim for better articulation with the early childhood college curriculum, which emphasizes the integrated curriculum approach. Simultaneously, ongoing inservice training should be planned and implemented for teachers already working in the school system. This approach would help reduce underlying tensions and gradually bring about greater convergence in curriculum practices.

Recommendations for Classroom Physical Environments

- The physical infrastructure of lower primary classrooms must be upgraded to reflect the more child-centred learning environment which is a key factor in implementation of an integrated curriculum. They must be re-equipped with furniture that allows for flexible classroom arrangement and small-group formations. Furniture to establish and equip essential learning centres should also be provided.
- Fixed partitions or walls should be installed in all classrooms which are divided from each other by small movable partitions only. This will reduce noise levels between classes as well as allow the teacher private space to arrange the classroom appropriately.
- The Ministry of Education should set targets for gradually reducing class sizes in primary schools. Classes of more than 40 children have been shown by a persuasive body of research to have a negative effect on the quality of learning in schools.

Recommendation for Teaching/Learning Support Materials

- The Ministry of Education should provide the necessary materials to help teachers implement the new curriculum effectively. Classrooms

should be adequately supplied with basic interactive learning materials, which can be supplemented by other, teacher-made materials.

Recommendation for Parent/Community Education and Support

- A special parent-education thrust should aim to educate parents about the new curriculum and enlist their support for implementing it.

Conclusion

While the Ministry of Education must be commended for its commitment to curriculum reform in preparing for a new age and work culture, adequate supports are necessary to ensure achievement of its reform objectives. The Ministry of Education, the schools, the parents, and the wider community must form a working partnership to support the new curriculum. The Ministry of Education must make the necessary policy and budgetary adjustments to provide a solid launching pad for the new curriculum. Schools and teachers must respond to the challenge to reform the teaching/learning process. Greater demands will be placed on teachers' time and resources if classrooms are to become the dynamic, constructivist learning environments associated with integrated curriculum practice. Without such support and commitment the gap between theory and practice in the Jamaican lower primary school curriculum will remain, and the well-known adage, the more things change the more they remain the same, will once again be rendered true.

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Integrating Technology Education
The Primary School Curriculum

Halden A. Morris

Introduction

The call to integrate or incorporate technology education into the curriculum of primary schools in the Caribbean has continued over the past few years. Recently, the frequency of this call has been increasing as the influence and scope of the information and technology era unfold. Many Caribbean governments have recognized the importance of incorporating this aspect of education into the schools' curriculum and are constantly calling on educators and curriculum developers in the region to ensure that the schools' curricula are adjusted to reflect this important educational mandate.

As humans continue to develop new and improved technologies, the need to introduce these concepts, methods, and procedures into the classroom becomes increasingly important and critical. In many instances, changing how information and ideas are communicated as well as how industrial practices are undertaken will have significant impact on the curriculum. Daily activities of most people in the Caribbean now include some level of interaction with modern technology. People are now forced to accept sophisticated technological devices as common elements for daily use.

Caribbean leaders' preoccupation with the concept of technology—the impact of modern technology, technology transfer, and the effect of technology on Caribbean life in the present and in the future,

and the possible response of Caribbean people to this phenomenon—became more intense over the last decade. This preoccupation with things technological grew when rapid new developments in technology began to propel humanity very quickly into the Information Age.

Technology Education Defined

For this investigation, technology education is defined as an organized programme which is taught in schools to study how people alter their environment by making changes in the forms of materials, and the societal benefits and problems which result from human use of technology.

Why Technology Education?

Integrating technology education into the region's school curricula has been given high priority because the innovation will provide the important foundation on which to build and sustain our future technological development. A properly integrated curriculum can complement and enhance the Caribbean Community Regional Strategy for Education, which includes Technical and Vocational Education and Training (TVET) as well as the region's other technical, vocational, and training initiatives. This study was proposed to fill the need for a regional study to inform the development and implementation of a technology education programme.

According to the Hon. Keith Mitchell, prime minister of Grenada, it is evident that science and technology pervades all sectors—industry, agriculture, health, transportation, education, informatics, even entertainment. As a consequence there is clearly a need both at the regional and local levels to pay serious attention to the application of science and technology at all levels given the scarce resource base of the Caribbean. He suggested that clear policy directions are needed to guide the preparation of plans. Based on these policies, appropriate resources are to be identified for the implementation level and for monitoring/evaluation to ensure that the plans are effectively carried out and the results of directed resource and development reach the marketplace.

Pretezer (1997), Stables (1997), Farley (1999), and Morris (1998), among others, have stressed the importance of technology education in nation building. They argue that technology education promotes the capability of people to be engaged, influential, thinking beings. Pretezer

(1997) suggested that technology education would be incomplete without the study of "technological integrity", which he defined as a way of developing values and ethics which complement the study of skills.

Developed countries such as the United States have recognized the importance of technology education at all levels. Latham (1999) has suggested that teachers and policymakers use computers as a key to educational reform. He quoted Feistritzer (1996), who claimed that in a national survey, 96 percent of the teachers favoured using technology and computers to improve the United States educational system. President Clinton has aggressively sought to expand the use of computers in the classroom, calling for modern equipment in all classrooms and relevant training and support for teachers (Coley, Cradler, and Engel 1997).

Technology-Literate Student Profile

The need to integrate technology education into the primary schools' curriculum cannot be overemphasized. However, this integration must lead to specific outcomes, which must be measured against an acceptable profile for technology-literate students at that level. According to Thomas and Knezek (1999), the National Educational Technology Standards (NETS), which establishes standards for technology education in the United States, attempted to reach consensus on the role of technology in schools. NETS outlined the profile for technology-literate students at the primary level, grades 3–5 (p. 84) as shown in table 1.

The Study

This study sought to investigate the following:

1. What are Caribbean educators' philosophies/views about the integration of technology education into the curriculum of primary schools in the region?
2. What objectives should technology education seek to meet in Caribbean primary schools' curriculum?
3. What competencies should a technology education curriculum seek to develop in Caribbean primary school students?
4. How should technology education be introduced into primary schools in the Caribbean?

Table 1
Technology-Literate Student Profile, Grades 3–5

1. Use keyboard and other input and output devices (including adaptive devices) efficiently and effectively.
2. Discuss common uses of technology in daily life and advantages and disadvantages those uses provide.
3. Discuss responsible uses of technology and information and describe personal consequences of inappropriate use.
4. Use tools and peripherals to support personal productivity, to remediate skill deficits, and to facilitate learning throughout the curriculum.
5. Use technology tools (multimedia authoring, presentation, Web tools, digital cameras, scanners) for individual and collaborative writing, communication, and publishing activities to create knowledge products for audiences inside and outside the classroom.
6. Use telecommunications to access remote information, to communicate with others, and to pursue personal interests.
7. Use telecommunications and online resources (e-mail, online discussions, Web environments) to participate in collaborative problem-solving activities.
8. Use technology resources (calculators, probes, videos, educational software) for problem-solving self-directed learning, and extended learning activities.
9. Determine when technology is useful and select the appropriate tools and technology resources to address tasks and problems.
10. Evaluate the accuracy, relevance, appropriateness, comprehensiveness, and bias of electronic information sources.

The study also sought to determine educators' views about the extent to which teachers are prepared to deliver technology education at the primary level in Caribbean countries. Most important, information from this study will inform member countries of the Caribbean region about the urgency of introducing technology education at the primary level in Caribbean schools.

Context and Limitations

Data were collected from persons in 8 of 13 Caribbean Community (CARICOM) countries; consequently, generalizations cannot be made about all of the Caribbean. Different numbers of persons were interviewed in each country. In many instances, persons with similar job positions were

not available for an interview in the various countries. In some countries, too few persons were included in the survey, of whom many claimed to have little or no knowledge about technology education.

At the time of the interviews, several educators were involved in other activities such as Education Week in Barbados and a government workers strike in Suriname. Consequently, some key persons were unavailable for interviews.

Responses to interview questions may not necessarily reflect a country's position but rather those of the individuals interviewed, since the countries visited had not established an official position on technology education at the primary level.

Methodology

This consisted of gathering data/information from respondents using an interview schedule that was designed primarily for Ministry of Education personnel and educators. To validate the instrument, it was administered to several educators who made suggestions for minor adjustments.

The study was then carried out in eight Caribbean Community (CARICOM) countries: The Bahamas, Barbados, Belize, Guyana, Jamaica, St. Lucia, Suriname, and Trinidad and Tobago. A total of 200 respondents were interviewed in the CARICOM countries, including permanent secretaries, education officers, primary and secondary school administrators, teacher trainers, and special educators.

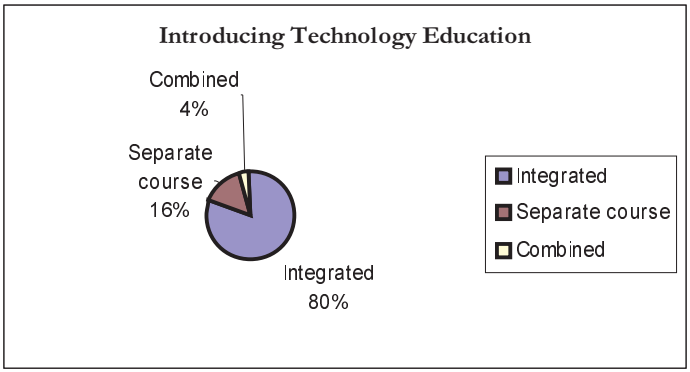
Prior to each interview, the researchers defined technology and explained the concept of technology education, since many interviewees claimed ignorance. Information from each interviewee was tabulated on a separate interview sheet. When only one person was interviewed, the interviewer tabulated the information on the instrument; when several persons were interviewed, they were asked to enter the information on the instrument themselves.

Results and Analysis

Frequency counts of responses and percentages were used in analysing the data collected. One hundred percent of the persons interviewed thought it was important and necessary for technology education to be introduced into the curriculum at the primary level. As shown in figure 1,

80 percent of the respondents indicated that this type of education should be integrated into the existing curriculum. Sixteen percent indicated that a course that focused on technology should be offered, whereas the remaining 4 percent indicated that an integrated curriculum along with a technology course would be appropriate for primary students.

Figure 1



Respondents agreed that considerations such as the philosophy, meaningful aims and objectives, and a properly formulated plan for efficient delivery of this type of education were critical ingredients for success.

Philosophy of Technology Education

All respondents indicated that technology education was relevant at the primary level and that a clearly articulated philosophy was important and necessary for this education to be successfully implemented in the primary school curriculum. All contributed toward the formulation of such a philosophy.

Below are several broad philosophical perspectives of technology education that emerged from this investigation. Though overlapping, these perspectives represent the views of respondents from the various territories investigated. They will serve to inform the overall philosophy of technology education at the primary level for the Caribbean region.

1. Technology education at the primary level (as at all levels) should enable students to use available resources efficiently and effectively. Such education should make students aware of their environment

and appreciate technology's uses in everyday life. It should provide the basis for equipping individuals with the knowledge, competencies, skills, values, and attitudes required to meet the needs of industry, business, and government in order for the region to compete in the world economy and to cope effectively with an emerging technological society.

2. Technology education at the primary level should provide opportunities for all students to apply principles and concepts learned in the various sciences to improve the quality of life in the region in general. Exposure to this education should arouse awareness of the impact of scientific principles as experienced on a day-to-day basis. It should promote appreciation of current technology and develop the skills necessary for utilizing these technologies. This should enable students to practise innovation, creativity, and problem solving. It should encompass investigative and explorative experiences leading to familiarity with various forms of technology.
3. Technology education at the primary level should be viewed as an important aspect of education that encompasses creativity and resourcefulness, and should be driven by zeal and enthusiasm. This area of education should be broad based and should be recognized as one of the basic areas of general education. Students should appreciate and understand how concepts are developed scientifically and become important tools/instruments to be used in everyday life for the development of the society. This education should aim at developing confidence in using and generating technological ideas and preparing young people to adapt and innovate in the process of improving the quality of life in the region.
4. Technology education in primary schools should be envisioned as the physical and intellectual preparation of the youth to use and manage technology effectively as a tool for meeting the challenges of this technological era. As the information age continues to make significant impact on our lives, technology should be viewed as a tool for assisting individuals in understanding and learning to live in harmony with their environment. This education should also provide the skills and knowledge required to prepare persons to function effectively

> within a changing global environment. Although technology should be understood within a cultural context where traditional values and skills can be used to master one's environment, this type of education should prepare the child to cope with the changes in technology in homes, business places, and in public and private sectors. This education should be organized to provide meaningful preparation for individuals to live and work in any part of the world.

Each of the foregoing philosophical statements, though overlapping, represents the collective views of persons across the Caribbean Region. The aims and objectives of a technology education programme for the region would reflect these statements.

Aims/Objectives for Technology Education in the Primary Curriculum

Technology education is by no means a new phenomenon. Technology and the study of technology have been with us for centuries, but their impact on the public was not as profound as they are today. The objectives of this type of education must, therefore, address the requirements for everyday interaction with technology and technological devices. Educators and employers of the Caribbean named several objectives for technology education that suggest that the need for this type of education is extremely urgent.

Respondents from all countries expressed the view that the technology education curriculum should focus not only on knowledge and skills development but also on attitudes. The aims/objectives for each category are listed in tables 2, 3, and 4. It is recommended that the aims/objectives outlined for the primary level should be met before the region embarks on aims/objectives for higher levels of education.

Respondents were asked to list the aims/objectives that they would include in a technology education programme for their primary schools. An analysis of their responses suggested three major areas of focus, namely knowledge, skills, and attitudes. Table 5 shows the number of interviewees who focused in the areas identified for the primary curriculum.

Figure 2 shows the views of the 200 respondents, focusing on knowledge, skills, and attitudes. The pie chart reveals that 51 persons emphasized skills development, 46 persons emphasized knowledge, and

Table 2
Aims/Objectives for Knowledge Development

- To enable students to become literate in the area of technology.
- To develop understanding of the use of technology in everyday life.
- To develop awareness and understanding of the various forms of modern technology used in society.
- To identify, observe, and appreciate various forms of technology.
- To become familiar with basic technical terms.
- To sensitize students to the level of efficiency which can result from the use of appropriate technology.
- To provide students with the knowledge and skills to enable them to better understand the technological world around them.
- To prepare students for more extensive studies in the various subjects at the secondary level.

Table 3
Aims/Objectives for Skills Development

- To creatively use technology to design useful gadgets.
- To creatively use technology to produce useful gadgets and items.
- To develop exploratory and research skills.
- To provide opportunities for innovation, creativity, and problem solving.
- To develop awareness of the uses of the various forms of modern technology in society
- To provide opportunities for young children to learn basic technical skills.

Table 4
Aims/Objectives for Attitude Development

- To develop positive attitudes in students and teachers toward technology education.
- To establish values and develop attitudes associated with the efficient use of technology.
- To make children aware of the possibilities which exist for using technology for their growth and development.
- To provide a basis for motivating students to learn.
- To encourage teamwork among students.

Table 5

Aims/Objectives for Technology Education:
Interviewees' Emphases

Country	Knowledge	Skills	Attitudes	KSA	Totals
Bahamas	12	14	3	19	48
Barbados	1	2	0	7	10
Belize	6	5	3	4	18
Guyana	4	4	2	6	16
Jamaica	3	5	2	10	20
St. Lucia	11	10	5	19	45
Suriname	5	6	2	12	25
Trinidad & Tobago	4	5	3	6	18
Totals	46	51	20	83	200

20 persons considered attitude a major area of focus. The remaining 83 persons emphasized all three areas. Figure 3 shows the focus of each country's respondents.

Integrating Technology Education

To integrate technology education into the curriculum is a complex process, because of the diversity of technology education. Many educators believe that technology education comprises only computers and information technology, so efforts must be made to ensure that this narrow focus is not promoted as technology education. Morris and Hamil (CARICOM 1998) suggested that technology influences all aspects of education, and educators should ensure that the recipient of the education is not shortchanged in any way.

Educators in the Caribbean region suggested that the procedure outlined in table 6 be considered for a successful integration of technology education into the primary schools' curriculum.

Integrating technology education into the primary curriculum will ensure that the next generation will be comfortable with technology. This exposure will encourage and facilitate effective and efficient use of technology in general.

Figure 2

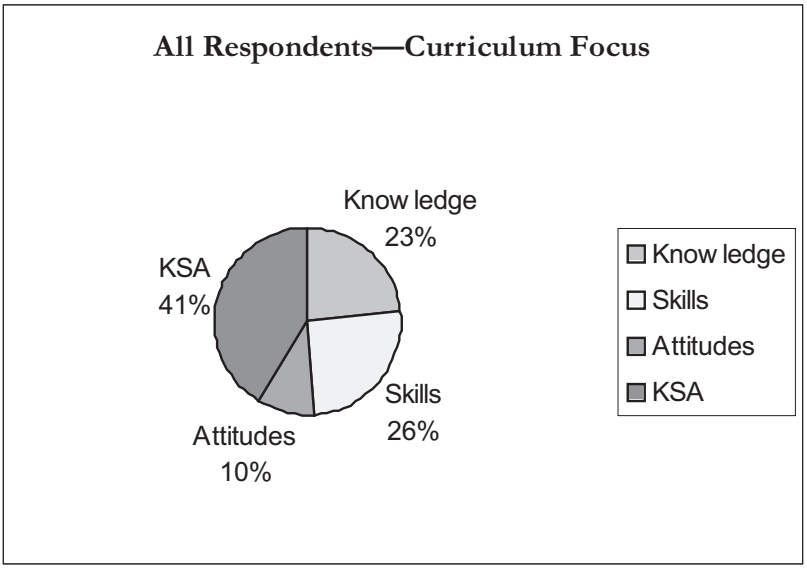
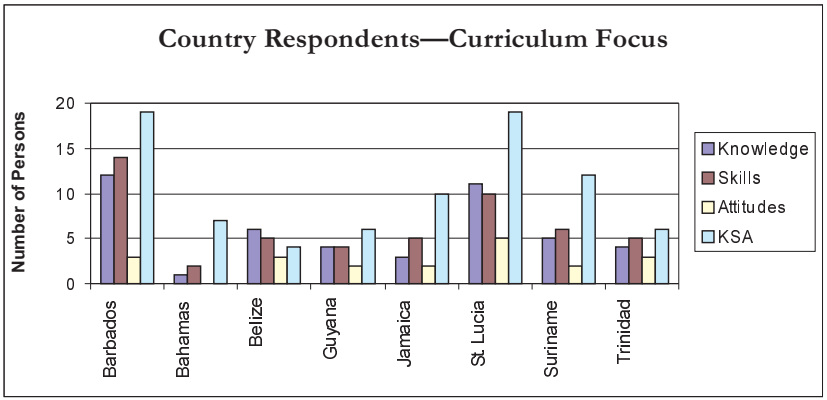


Figure 3



Delivering Technology Education

As soon as the procedure for delivering this curriculum is determined, the training of teachers must be addressed. A curriculum for training in-service teachers as well as preservice teachers must be developed, and a

Table 6
Procedure for Successful Integration of Technology Education

- Employ curriculum developers who are knowledgeable about technology to upgrade the curriculum.
- Train curriculum developers selected to ensure that their work will be consistent with the expectations of the region.
- Use subject specialists in the curriculum adjustment process to ensure that subject-related technology is not ignored.
- Incorporate as many primary school teachers as possible since they are conversant with the primary school classroom.
- Evaluate the existing primary school curriculum to identify outdated and redundant materials and duplication.
- Describe clearly the expectations of the teacher, perhaps using a teacher's guide to ensure consistency across the region.
- Incorporate related technology in every area of the curriculum.
- Start now with student teachers. Expose them to a structured integrated curriculum.

significant number of teachers trained to deliver technology education at the primary level. Seventy-five percent of the persons interviewed suggested that pilot groups of teachers should be selected and trained before embarking on such a programme. Others suggested that inservice teachers be trained through a series of seminars, while preservice teachers embark on a new curriculum.

The next pilot phase involves the students. Several primary schools in Caribbean countries should be selected to pilot this curriculum before it is introduced in all the schools. Pilot schools should be equipped with facilities to support the curriculum, and the teachers trained through a series of seminars.

Interviewees suggested a procedure for delivering technology education at the primary level that includes a high level of integration in the existing curriculum. Many educators suggested that laboratories/workshops should be provided in schools to facilitate practical, hands-on exercises. Technological facilities should be properly managed and easily accessible. Computer hardware and software that help students develop

certain technological aptitude and skills should be incorporated into the development.

More than 80 percent of the respondents suggested computer literacy as a primary ingredient in the new approach. Thirty percent suggested that aspects of technology education should be included in examinations that qualify primary students to enter secondary schools. This would ensure that students and teachers do not overlook technology education. A problem-solving approach was suggested by several education officers. They claimed that students should develop skills in solving problems using technology. Teachers should use creative means such as a thematic approach in their delivery. The input of personnel from industries was emphasized as important. It was suggested that visits should be organized for students to industries, or personnel from industries should be invited to give talks and/or show correct procedures for certain operations.

Some persons suggested that integrating technology education into the primary curriculum would require more time to complete the requirements of the original curriculum and the new one. Most persons interviewed suggested that the methods used in the delivery process should include various forms, such as demonstrations, field trips, guest lectures, and multimedia usage. Some suggested that technology education should be made interesting, and should emphasize self-paced, independent learning.

Recommendations for Curriculum Developers

To ensure a successful technology education programme, CARICOM educators made recommendations for curriculum developers, outlined in table 7.

Implementation of Technology Education

It will be challenging to implement technology education in the primary curriculum in Caribbean Community countries. Many educators and administrators are just beginning to understand what technology education is about, others have not even thought about it yet. To implement this type of education, one must first launch some form of education programme to sensitize key persons in the system.

Table 7
Recommendations for Curriculum Developers

- Develop curriculum for primary teachers which include clusters of courses such as communications technology, computer technology, agricultural technology, electrical technology, and other technology-related subjects offered in the school system.
- Train teachers, administrators, and support staff at all levels in the education system so that they gain a better understanding of technology education and its objectives.
- Familiarize parents and other interested persons with programmes offered through the media and other public education programmes.
- Develop technology education curricula that include information on career opportunities for primary-level students.
- Creatively infuse aspects of technology in all subject areas.
- Investigate school-based resources and infrastructure and evaluate their appropriateness.
- Make inventory of resources in the field and establish a mechanism for accessing them.
- Recommend several instructional approaches to capture students' interest at all levels.
- Incorporate fun and enthusiasm, problem solving, experimentation, projects, and laboratory exercises.
- Provide a long-term plan for the development of technology education for the primary level in the region.

Respondents were asked to indicate how they felt technology education should be implemented in the primary schools. Their implementation strategies/recommendations are listed in table 8.

Modern technology is not cheap. Ministries of education in the various countries must be prepared to allocate adequate funds to facilitate proper implementation of this educational programme. Human and other resources must be carefully selected and deployed to ensure acceptable outcomes.

Conclusion

The relevance of technology education at the primary level cannot be overemphasized. Many argue that technology education should be intro-

Table 8
Implementation Strategies/Recommendations

- Allocate adequate time for planning and implementing.
- Launch public education programme about technology education.
- Develop and implement pilot inservice teacher training programme immediately.
- Develop and implement preservice teacher training programme.
- Allocate/provide adequate funding for programme development and implementation, staff, facilities, and resources.
- Make maximum use of indigenous and other available resources.
- Select and train pilot groups of teachers and students before embarking on full implementation.
- Implement technology education at the primary level before addressing it at the secondary levels.
- Integrate technology education into existing primary curricula as topics in each subject area.
- Include computer literacy as a primary component in curricula.
- Provide a mechanism for evaluating the technology education programme at intervals and upon completion of the delivery.
- Establish technology education centres to cater to clusters of schools.

duced at more advanced levels. However, the benefits derived from this technology are highly dependent upon the context in which it is used. Technology has the potential to decrease opportunity gaps by granting students from different backgrounds equal access to the wealth of information available.

Formulation of a sound philosophy was viewed by all interviewees as extremely important in developing not only this but all educational programmes. The level of consistency revealed for formulating such a philosophy to include technology education in the primary curriculum would be far reaching.

The aims and objectives identified by the interviewees were consistent with the expectations of the National Educational Technology Standards (NETS), which focused on knowledge, skills, and attitudes. Over 40 percent of the interviewees indicated that these three areas should be equally considered in the curriculum.

The inclusion of technology education in the curriculum will require teachers to impart more practical "hands-on" skills. An integrated curriculum will require the teacher to be directly responsible for developing skills in students. Teachers would therefore have to upgrade their own skills in many practical aspects because of the nature of the primary curriculum and methods of its delivery. Further, teachers undergoing training would require special methodologies to cope in this situation. Several researchers support the view that extensive teacher training is crucial. Rosen and Weil (1995) believe that many teachers do not take full advantage of the technology available to them for instruction because they do not feel confident of their own abilities to use them.

However, it is evident that technology education at the primary level cannot consist of only hands-on skills in practical areas. In the same way, the days of a general education which embraces skills development in reading, writing, and calculating are numbered. A broad-based education that encompasses skills in both practical and general areas is absolutely necessary.

NOTE

This paper is based on investigations carried out by Halden Morris and Sybil Hamil on behalf of the Caribbean Community (CARICOM) secretariat in 1998.

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Part 2

Teacher Education and Development

Teacher Development in the 1990s

Errol Miller

This paper reviews the teacher development programmes and projects implemented in the Caribbean in the 1990s in light of the challenges faced by the countries of the region to reform their education systems. Particular attention is paid to innovations in teacher education and training, continuing professional development of teachers, teacher supervision, and teacher evaluation.

Almost all countries in the Caribbean concluded that despite the gains made in education between 1950 and the end of the 1980s, major reforms in education were needed in the 1990s for two reasons. First, while the region had made great strides enrolling children in school at both the primary and secondary levels, the quality of the education being offered was of growing concern. Second, if countries were to respond constructively and positively to the fundamental global changes in politics, economics, and technology over the last decade, then fundamental and far-reaching changes were needed in the education system.

Several countries established task forces, working groups, project teams, or other such entities that engaged in widespread consultation with the various stakeholders and actors in the education sector. Almost all strategic plans emerging from these exercises identified teachers as critical to the reform of the education sector. Teacher development therefore has become a priority throughout the region in the 1990s.

A Sociohistorical Sketch

New policies, projects, and programmes on teacher development in the 1990s represent renewed interest and emphasis on an old subject. Not only is teaching an old profession, but mass schooling in the Caribbean has a history that parallels that of the developed world. Given the close relationship that exists between schooling, teachers, and the structure of society, we must first take note of a few salient social features of schooling and teaching as they have evolved in Caribbean society.

Teachers and the Social Structure

From a sociological perspective, teaching is not, and never has been, a single occupation. Sociologically, teachers in the Caribbean are not a unitary category. Using the social criteria of ethnicity, gender, social class, and occupational prestige, it is possible to identify at least five teaching occupations within the region. Roughly, these five teaching occupations in order of rank are:

1. University teaching, comprising predominantly males of the middle and upper classes, among whom the minority ethnic groups are overrepresented. University teaching enjoys the highest prestige among the teaching occupations.
2. High school and college teaching, comprising mainly females with a significant minority of middle-class males, including recent recruits from the lower strata through educational achievement.
3. Private preparatory and kindergarten school teaching, predominantly comprising females of the same ethnic and social background as the clientele that patronize their schools.
4. Public primary school teaching, comprising predominantly females of the lower social strata, of the same ethnic groups as the mass of the student population served by the schools in which they teach.
5. Community-based preschool teaching, comprising almost totally poorly qualified females of the lower social strata.

The current composition of the different teaching occupations, in social terms, must not be regarded as either a static representation of history or a terminus in the social evolution of Caribbean society or of the

teaching occupations. Rather, the social composition of the teaching occupations reflects both historical patterns and transformation in Caribbean social structure.

The scope of this paper does not allow for in-depth treatment of the social history and implications of changes in the social composition of the different teaching occupations. However, to illustrate some of the changes, a few important social shifts in high school and college teaching and the public primary school teaching occupations are described.

Up to the middle of this century, high school and college teachers were mainly males, with the majority qualified European expatriates. A substantial minority were unqualified nationals, mostly recent school leavers, while a few were qualified nationals who had been educated abroad, mainly in Europe. In the evolution of high school and college teaching over the last 50 years, five substantial changes have taken place. These are:

- A massive expansion of the high school and college teaching occupation consequent upon the vastly expanded system of secondary schooling and tertiary education. Where before no more than 10 percent of those 12–17 years old received secondary education, nearly half of the countries of the region now provide universal secondary education, while all the others, except one, provide mass secondary education.
- Caribbean nationals have replaced European expatriates as the mainstay of the occupation.
- The region has developed its indigenous capacity to train secondary school and college teachers, with the vast majority of secondary school teachers educated and trained in national and regional universities and colleges.
- To meet the demand for high school and college teachers from the local population, a significant number of teachers are recent recruits to the middle classes from the lower social strata through educational achievement.
- An increasing number of high school and college teachers are female. In many countries the majority of secondary school teachers are females.

While all of these developments may be viewed as positive accomplishments, they are not without negative social connotations. These carry implications for the perception of the secondary school teaching occupation and the relationships between teachers, teachers and parents, and students and teachers. For example, many parents, past students, and persons holding important policy and policy advisory positions in Caribbean society are nostalgic about their secondary school teachers, that is, the older male European teachers, who were graduates of prestigious international universities. Young, female Caribbean nationals educated in local and regional institutions are compared unfavourably with those past icons.

The strong perception is that current secondary school teachers are inferior to those who taught them. However, viewed on a macro basis, secondary school teachers are better educated and trained than at any other time in the history of Caribbean schooling. It is clear that the social context of the teaching occupation cannot be overlooked or ignored in any objective assessments of teacher development.

Developments within the public primary school teaching occupation are somewhat different. Major developments over the second half of this century are as follows:

- Significantly increased numbers of public primary school teachers once primary schooling was expanded with the provision of universal primary education by almost all countries of the region.
- The pupil-teacher system of recruiting primary teachers direct from the ranks of the most able primary school students has been phased out. However, a significant number of the older primary school teachers were recruited through this system of apprenticeship.
- Primary school teachers are currently recruited from among students who have completed high schooling.
- The majority of current primary school teachers have been college trained consequent on the expansion of the indigenous capacity to train teachers at this level.
- Primary school teachers have become overwhelmingly female. In several countries within the region, the majority of primary school principals are females.

Notwithstanding these developments, however, some social aspects of the primary school teaching occupation have not changed during the 20th century. While the educational route to the occupation has changed, the ethnic and social class backgrounds of the teachers have not. The most able and ambitious children of the Black and Indian populations of modest means in rural areas are still the vast majority of public primary school teachers. All the issues of access and equality of opportunity for poor underprivileged rural populations and women also have a bearing on public primary school teachers.

It is not surprising therefore that the public primary school teaching occupation still suffers from the mantle of inferiority placed firmly on it by racism and racial discrimination in the 19th century. Much of this continues in the form of class prejudice and institutional discrimination. Hence, in several countries within the region, public primary school teachers still practise their profession without the benefit of basic amenities, and the majority of primary school principals manage their schools without the benefit of any clerical or administrative support staff.

The differences in the social composition of the different teaching occupations have implications not only for public perception and relationships among the stakeholders, but even for how teachers organize to represent themselves. For example, in some countries primary and secondary teachers have formed different unions and associations to represent them. Even where primary and secondary teachers have united to form a single union or association, strains and tensions exist between the teachers from different social segments. While these do not paralyse teachers, they are important in developing strategies for consensus and united actions.

Often in teacher development in the Caribbean, issues of incentives and obstacles imposed by the Caribbean social structure are not far below the surface. Consequently, teacher development should not be discussed and interpreted in historical and socially neutral categories. The transformation of the teacher in the Caribbean is intimately linked to the transformation of Caribbean society.

Teachers and Governance of the Education Systems

Teacher development in the Caribbean has taken place within the dynamics of different forms of governance in the school systems. However, it is possible to classify the governance arrangements into three groups. Aruba, Belize, the Netherlands Antilles, and St. Lucia, continue to employ the denominational system of school governance that arose in the 19th century. Schools are owned and operated by various religious denominations, which have established boards that run the schools. While the Ministry of Education provides the finances for operating the schools, the denominational boards hire and fire teachers, discipline students, and oversee the day-to-day management of the schools.

In Jamaica, and in Barbados at the secondary level, individual school boards hire and fire the teachers, discipline students, conduct their own financial affairs, and manage the day-to-day operations. In these two countries there is a substantial degree of school-based management.

In Antigua and Barbuda, The Bahamas, Guyana, St. Kitts-Nevis, St. Vincent and the Grenadines, Trinidad and Tobago, and the Turks and Caicos Islands, the Ministry of Education runs the schools. The government employs the teachers and the ministry can therefore transfer them from one school to another.

These different forms of governance result in different terms and conditions of service for teachers, largely because of the different legal frameworks that apply. In the denominational and school-based systems of management, teachers are public servants, while in the centralized system teachers are civil servants. In Aruba and the Netherlands Antilles, for comparable qualifications and experience, teachers are better paid than civil servants. In Jamaica the reverse is true: teachers are paid less than civil servants. In St. Lucia up to 1992 teachers were paid less than civil servants, but since 1992 they have been paid on par with civil servants with comparable qualifications and experience. While teachers as public servants can participate actively and openly in the political life of the country, including representative politics, teachers as civil servants are precluded from such involvement.

Teachers as civil servants, however, are usually most of the officials in the electoral process in their country. Where teachers are public servants, some may be electoral officials while others may be candidates or cam-

paign managers in the electoral process. It is not unusual for ministers of education to have to deal with some teachers who actively campaigned against them and others who campaigned actively for them in the constituencies that they represent. While it is not possible to predict forms of governance during the course of teacher development, in the Caribbean it is unwise to adopt a one-size-fits-all approach to teacher development.

International and Regional Trends

There is growing international consensus that good teachers are key to the delivery of high-quality education and to the reform of education for meeting the new demands of society. The National Commission on Teaching and America's Future put forward a three-pronged argument on teachers' central role in good education.

- What teachers know and can do is one of the most important influences on what students learn.
- Recruiting, preparing, and retaining good teachers is the central strategy for improving schools.
- School reform cannot succeed unless it focuses on creating the conditions in which teachers can teach and teach well.

Also, a growing body of research results appears to suggest that teachers' abilities, teachers' knowledge of subject matter and teaching methods and teaching experience, along with small class sizes and the positive influences of small schools, are critical elements in successful student learning (Ferguson 1991; Ferguson and Ladd 1996; and Greenwald, Hedges and Laine 1996). This research confirms the common sense that teachers of high ability, with some teaching experience, who are thoroughly versed in their subject matter, master their teaching methods, and know their students well, should be the most successful in promoting student learning. At the same time, this body of research challenges the long-standing myths that anybody can teach and that teachers are born and not made (Darling-Hammond 1998).

Aligned with the emerging consensus and growing body of empirical evidence that good teachers are critical to student learning have been movements to reform schools and school systems to promote student

learning. Indeed, educational reform has been a dominant trend in the 1980s and 1990s. Invariably, reform movements have focused on the issues of governance of school systems and schools, supervision of teachers, and accountability, which usually encompasses teacher evaluation. In addition, several reform movements have tackled the issue of teacher compensation and conditions of service.

Models of School Organization

Kelley (1997) developed a useful organizational framework which connected reforms in the model of school organization with the goals of schooling, the requirements for teacher education and the role of teachers, and compensation packages in the United States. Kelley's approach is adopted here as useful in conceptualizing international trends in the reform of schooling and the resulting changes as they affect the preparation and roles of teachers.

Scientific Management Model

Kelley noted that beginning early in this century and continuing up to the 1960s, school organization followed the scientific management model, which could be characterized as rational, mechanistic, bureaucratic, and hierarchical. Teachers were expected to implement an essentially teacher-proof curriculum as determined in textbooks and later curriculum guides, and to follow rules formulated by the education authority. The scientific management model of school organization valued authority and individualism. Teaching was a lifelong career and teaching credentials were needed to place scientifically trained teachers in schools. Colleges and universities were the main sources of these scientifically trained teachers.

Effective School Model

In the 1970s, the effective school model emerged as a new paradigm of school organization. The effective school model focused on equity as it was implemented in schools serving low-income and depressed urban populations. It represented a shift toward the development of results-oriented goals in schooling, particularly the mastery of basic skills in reading and mathematics for employment. The effective school model also emphasized human growth needs and viewed the school in terms of

communities. The teacher's role in effective schools was to provide services, teach basic skills, develop a set of generic teaching skills, and become involved in school improvement planning. While colleges and universities remained the main sources preparing teachers, school districts, and local authorities were becoming important in staff development, training teachers in effective teaching skills.

Content-Driven Model

During the 1980s the content-driven model of school organization emerged. This model shifted the emphasis away from at-risk populations and basic skills toward a rich curriculum for all students. The hallmark of this model was curriculum content standards that provided the framework for teaching high levels of subject matter competency and problem-solving skills to all students. The content-driven model was premised on the notion of preparing students for multiple careers and lifelong learning in a highly competitive and rapidly changing global economy. In this model, teacher training needs shifted from general pedagogical skills to in-depth knowledge of specialized content. The teacher's role was expanded to include active involvement in curriculum development and participation in school management. The principal became the prime mover in school management supported by inputs from teachers.

High Standards/High Involvement Model

In the 1990s, the high standards/high involvement model of school organization has made its debut. It builds on the content-driven model, with its intense demands for professional expertise, but shifts the emphasis from providing rich curricula for all students to high outcomes for all students. In this model, school leadership is the responsibility of teams of teachers and not administrators as in the other models. Further, teachers take responsibility for curriculum development, professional development, counselling, and budget preparation. Accordingly, teachers share in the decision-making in curriculum, instruction, management, and budgeting. The teacher's role is the most complex in this model. Previously, teachers eventually moved out of teaching into administration. In the high standards/high involvement model, teaching is a career-long commitment.

"Master teachers" take on additional responsibilities but remain connected to the classroom throughout their careers.

Along with leadership responsibility, staff development becomes a school site responsibility. Teachers develop knowledge and skills through ongoing formal and nonformal education, action research, and participation in professional activities and professional associations. Teacher training expands to include not only subject content and teaching methods but school management and decision making.

Eclectic Approach Emerging in the Caribbean

Kelley's typology of models of school organization and their consequential definition of the roles of teachers, and her sequence of the emergence of these models provide a useful conceptual framework for discussing both international and Caribbean trends in teacher development. Kelley's typology of models of school organization in the United States can be roughly applied in the Caribbean, but with variations in the time boundaries she suggests.

For example, it is possible to identify elements of all four models of school organization and their consequential definitions of the roles and responsibilities of teachers operating simultaneously in Jamaican schools in the 1990s. Large numbers of schools continue to operate along the lines of scientific management: teacher-centred classrooms, hierarchical structures, bureaucratic arrangements, and autocratic decision making prevail. At the same time, these projects are all premised on the effective school model: the New Horizon Project currently being implemented in 72 primary schools by USAID, the Competency Shelter Project being implemented by the Ministry of Education and Culture with assistance from UNICEF, and the Jamaica 2000 Project being implemented by the Jamaica Computer Society Education Foundation. Dominant emphases in the schools participating in these projects are advancing equity by targeting schools serving disadvantaged populations, improving basic skills, enhancing school-community relations, promoting human growth, and developing more effective teaching skills.

At the same time the Ministry of Education and Culture is implementing the content-driven model in two major projects. First, the Reform of Secondary Education (ROSE) Project being implemented with World

Bank assistance seeks to implement a common curriculum in grades 7 to 9 in all types of secondary schools, and later to extend this approach to the upper grades. Second, the Primary Education Improvement Project being implemented with assistance from the Inter-American Development Bank (IDB) has substantially altered the primary school curriculum. The aim of both projects is to provide a rich curriculum for all students and to prepare students for a rapidly changing world. The concept of the teacher promoted by these projects is that of a "guide by the side" and not "the sage on the stage", that characterizes the teacher in the scientific management model. Deliberate efforts are therefore being made in these projects to train teachers to employ team planning, cooperative learning strategies, multilevel teaching, child centred methods, and collaborative approaches.

Further, in responding to strong representation from the Jamaica Teachers Association, the Ministry of Education in 1995 undertook a major reclassification of the teaching service, which was done by Price-Waterhouse. One highlight of the reclassified teaching service is the establishment of posts of master teachers in primary and secondary schools. This innovation is mainly to provide teachers with an alternative career path that will keep them connected with the classroom instead of moving into administration as a means of advancement. Over 400 teachers are now being considered for appointment as master teachers, with the first appointments made in January 1999. In this regard, an element of the high standards/high involvement model is being implemented in the Jamaican schools.

Caribbean Education: Salient Features

The Jamaican example highlights several salient features of Caribbean education, including teacher development. These are as follows:

- Caribbean education has been part of Western education for over 350 years and readily adapts major developments in leading Western school systems to its own needs. Throughout its history, it is usual for some schools within regions to adapt major Western educational developments within a decade of their emergence.

- An eclectic education reform process exists within the Caribbean. Both within and between countries, a wide array of educational reforms are being implemented simultaneously. Further, because most reforms are adopted from the West, there is not a strong indigenous capacity to initiate original approaches derived from first principles applied to Caribbean imperatives.
- Most major reforms are associated with external funding from multilateral and bilateral donor agencies. While the standard claim is that these agencies are only assisting the governments and countries to implement their own formulations, the strong association of educational reform with external financing and the policy orientation, if not direction, of the various agencies cannot be ignored.

Caribbean educational reform and developments can be generally located and associated with contemporary Western educational developments. However, the economic resource base of the Western countries is substantially different, as are the political, social, and cultural imperatives. These differences usually mark the points of departure in education developments. Thus, while teacher development in the Caribbean addressed the issues of increasing teachers' access to knowledge of both content and methodology and transforming the teacher's role in the learning process, improving compensation, and exploring new forms of supervision and evaluation, these took place within the framework of Caribbean realities. Against this background the rest of the paper outlines regional developments and innovations in preservice teacher education, inservice teacher training, continuing professional development, teacher supervision, and teacher evaluation.

Teacher Education and Training

The history of teacher education in the Caribbean parallels that of the industrialized world. The first teachers colleges in the Caribbean were established in the 1820s, about the same time that similar institutions were being established in England. While the history and organization are very similar, there are several differences in practice. One that has relatively unimportant differences in practice, but could be the source of

much confusion, is the use of the terms preservice and inservice teacher training.

In the industrialized countries the term preservice training generally means formal training before teachers enter the profession, while inservice training generally refers to nonformal training on the job. Caribbean practice undermines these neat distinctions. Many persons are employed as teachers before they are formally trained as teachers. The term initial professional training more accurately describes the Caribbean situation. Likewise, inservice training is one modality through which initial teacher training is delivered. In the Caribbean, inservice training therefore could refer to both initial and nonformal on-the-job training. The terms preservice and inservice are used here with their Caribbean meaning.

Preservice Teacher Education and Colleges Training Teachers

Beginning in the mid-1950s, the provision for the preservice training of teachers has improved vastly. The most significant advances are as follows

1. Substantial expansion in enrolment of colleges training primary school teachers resulted in the vast majority of primary school teachers in the region being college trained. Indeed, all primary school teachers in Aruba, the Netherlands Antilles, the Bahamas, and Barbados are trained through preservice programmes.
2. The academic level of the programmes for primary teachers has been raised substantially, as the preservice programmes require successful completion of secondary education as their starting point.
3. An indigenous capacity to train secondary school teachers has been established, with the result that the vast majority of secondary teachers are professionally trained.
4. A wide variety of models of delivery of preservice education have been created. These include the two-year intramural plus one-year internship model that was developed in the Western Commonwealth Caribbean; the three-year intramural plus one-year internship model employed in Aruba; the two- and three-year intramural models common in the Commonwealth Caribbean; and the school experience

model now being used in Belize. In the school experience model,students do one calendar year full time in the college, followed by one semester of teaching practice. They then teach for at least one year in the school system, following this with a one-year full-time course in the college, which completes their training. In addition, several countries throughout the Commonwealth Caribbean have used inservice programmes to deliver formal teacher training to both primary and secondary school teachers.

Despite the impressive advances in teacher preparation in the Caribbean since the 1950s, by the latter part of the 1980s it was clear that new imperatives had overtaken preservice teacher education. Indeed, these new imperatives meant a shift from celebration to dissatisfaction and demands for further change.

- While teacher education had advanced over the period, teacher status had declined. One reason for this decline was the advance in the general level of education of the population. Teachers who once had commanded respect because of their superior education, when compared with the vast majority of parents and the general community no longer had this overwhelming advantage. While the content of the teacher credential had improved, teachers were still being certified through certificates and diplomas, whereas persons with degrees were becoming more numerous.
- The rapid rise of the global economy combined with the spread of democratic process throughout the society demanded workers who could be self-directed and citizens who participated in the apparatus of the states and the enterprises within civil society. These imperatives dictated changes in teachers' roles and relationships among themselves and with students and parents. Traditional authoritarian, teacher-centred sage-on-the-stage teaching methodologies, which gave priority to teaching, had to give way to teamwork and collaboration, greater networking with communities and parents, student-centred approaches, and guide-by-the-side teaching strategies which gave pride of place to learning.

- Shrinking resources demanded that new modalities of delivery of training had to be employed in addition to conventional full-time face-to-face instruction.
- Advances in information technology that had transformed factory and home production, entertainment, transportation, and communication, had made many approaches and processes used in colleges and schools obsolete. College and school processes had to be reengineered to incorporate information technology.
- Concerns about the quality of education focused attention on shortcomings in teacher preparation and teacher performance. Teacher upgrading was deemed critical to any effort to improve quality in education.
- Increasingly greater economic and cultural linkages between Caribbean countries and across language groups have stimulated greater demand for foreign language acquisition.

Innovations in the 1990s

The innovations and developments in preservice teacher training in the 1990s, some of which started in the latter part of the 1980s, have to be seen and interpreted as responses to these imperatives. These are as follows:

1. Upgrading the academic and professional standing of the preservice programmes. Several governments have decided to move to a fully trained graduate teaching force by 2010. Associated with this policy decision is upgrading colleges training teachers to offer preservice training through degree programmes, as the Bahamas has done. Several colleges in the region have begun to offer degree programmes in teacher education, including the College of the Bahamas, the University College of Belize, Mico and Shortwood Colleges in Jamaica, and the Sir Arthur Lewis Community College in St. Lucia. These degree programmes are invariably follow-on programmes from certificate and diploma training previously received. However, the transition to the degree programme as the standard for initial preservice teacher training began in the College of the Bahamas since 1995.

2. Changing pedagogical practices in the training of teachers. If teachers are to use less didactic approaches in the schools, their training in colleges must be conducted using student-centred pedagogic practices. Components addressing this objective include the Department for International Development (DFID) project in the training of primary school teachers in colleges in the Eastern Caribbean, the ROSE project in Jamaica, and the reforms planned in Aruba and the Netherlands Antilles.
3. Expanding the modalities for delivery of teacher training to include distance education and school-based approaches. For example, in 1994, Belize Teachers College introduced its distance-teaching route for prospective teachers from rural areas. This modality included four elements: self-study using distance teaching materials developed by the college and school-based group interaction, monthly supervisory visits of the trainers by college tutors, monthly workshops at regional resource centres, and annual summer workshops at the college (Thompson 1999). Another successful example is the use of the distance-teaching mode to upgrade teachers from a certificate to a diploma level in Jamaica. The Jamaican application used much the same elements as Belize except for the monthly visits to the schools. A less successful but equally important innovation was the school-based approach to training secondary school teachers in Grenada through the LOME III Project in Tertiary Education for the member countries of the Organisation of Eastern Caribbean States (OECS). While the project did produce graduates, it was severely hampered by the limited number of master teachers available, and the multiple involvement of the few that were available, to guide the trainees in the schools. Another OECS initiative is the Secondary Teachers' Training Programme mounted by the OECS Tertiary Education Project. The project trains secondary school teachers on the job, combining face-to-face instruction in summer and vacation classes, distance teaching modules during school time, and clinical supervision of teaching in the classroom. The trainees are teachers in secondary schools in the OECS who hold degrees, associate degrees, or their equivalent, or have passed two GCE Advanced-Level subjects.

Information Technology

Another major 1990s initiative was using information technology to modernize instruction and management in colleges training teachers. There has been a heated debate concerning feasibility and appropriateness of introducing information technology in school systems in the region, especially where basic provisions are lacking or inadequate. Most governments did not make its introduction a priority, but their adoption of policies that invited communities and the private sector to become partners in the delivery of education opened the way to introduce information technology in schools. The position generally taken by communities and the private sector is that the Caribbean will not be competitive if future school leavers cannot competently use information technology. By the end of the decade many governments were not only formulating information technology policies for schools and colleges but also supporting projects to implement these policies.

At first computer labs were donated to colleges by various interest groups and foundations and also through grants from ministries of education, such as those from the Ashcroft Foundation to the Belize Teachers College, IBM Bahamas to the College of the Bahamas, the Jamaica Computer Society Education Foundation (JCSEF) to several teachers colleges in Jamaica, and government assistance to Erdiston College in Barbados. The most comprehensive and spectacular initiative, however, is the Barbados Government's EDUTECH 2000 policy initiative, which proposes to spend US$175 million to modernize all schools and colleges in information technology over ten years. Training teachers and education officers to use information technology in education is one of the four main areas of focus of this programme, launched in 1998.

An interesting innovation is linking teachers colleges with a cluster of primary and secondary schools as is being done with Bethlehem and Mico Colleges in Jamaica. The colleges provide leadership, technical support, and training to teachers and members of the school communities in the cluster, and in return gain access to the schools for the teaching practicum and action research by staff and students. Another aspect is upgrading teacher trainers in the use of educational technology in their teaching in the colleges as the JCSEF/Multicare Foundation project in Jamaica is doing.

Throughout the 1990s almost all colleges have acquired computer labs through donations. They have trained students and staff in computer literacy, particularly in productivity applications and the Internet, especially e-mail. One college, Bethlehem in Jamaica, requires all entering teacher trainees to be computer literate. Those who are not are required to take a pre-college course organized by the college. The Multicare Project plans to provide all colleges training teachers in Jamaica with computer labs for their staffs to be trained in information technology and to allow them access to the Internet.

More recently, several colleges have established websites detailing their programmes and activities. However, over the last three years attempts have been made to use information technology in the core business of teacher training and the operations of the colleges. Probably the most systematic approach has been that of the Joint Board of Teacher Education (JBTE) of the University of the West Indies in conjunction with the 14 colleges training teachers in the Western Caribbean. The JBTE has been using information technology in the operations of its secretariat since 1982. However, the 1990s have brought the following new challenges:

- The demand to modernize instruction to bring schools and colleges in line with the technology now common in homes, offices, factories, commerce, and entertainment. It is imperative that teachers learn through these new technologies.
- The need to improve the quality of teacher education in light of the higher education standards required by the information age.
- The need to provide continuing inservice professional development to teachers. The rapidity and profound nature of current changes dictate career-long professional development by teachers to keep abreast.
- Shrinking resources as structural adjustments and the financial woes of the country continue to threaten, and actually impede, the flow of resources to the education sector.
- Globalization, especially with the rapid growth of the Internet.
- The necessity to become not only a consumer but a producer of knowledge.

To meet these educational objectives as well as find solutions to these very real problems as they affect teacher education, the Joint Board has embarked upon the following initiatives:

1. Developed a management information system, College Manager, to allow colleges to manage their operations more effectively. The range of operations stretch from student admission, registration, examinations, financial management, and plant management, to all staff personnel matters. College Manager also allows colleges to carry out online transactions with JBTE and the Ministry of Education. College Manager and School Manager (for primary and secondary schools), were first developed in Windows 95, but with the use of tools and technology that became available in late 1997, they have been upgraded to a web page and browser version.
2. Established a wide area network (WAN) linking the administrative local area networks (LANs) in the colleges in Jamaica and Belize. The infrastructure also allows ministries of education to be linked into the WAN and to do online transactions with the JBTE and the colleges.
3. Connected the LANs in both the Institute of Education and the Joint Board Secretariat, thereby facilitating research, as the colleges' databases are available to researchers in the Institute at their desks.
4. Established a website that will be at the hub of many of the JBTE operations in the future to
    - Provide information about the JBTE programmes, courses, regulations, personnel, publications, curriculum, examinations, and events.
    - Provide training and technical support for School Manager and College Manager.
    - Host the JBTE online conference capability.
    - Host the JBTE distance teaching operations.
    - Host the planned tutorial system to assist students.
5. Introduced online asynchronous web conferencing among the staffs of colleges in the 24 subject disciplines that are comprised in the teacher-training curriculum. Using Virtual U, developed by Simon

Fraser University, the intention is to give Boards of Studies additional means to collaborate, build knowledge, share best practices, share Internet and other resources, and conduct routine Boards of Studies business online.

6. Plans to deliver distance teaching online. Over the next year the JBTE plans to put the distance teaching modules developed through the ROSE and other projects online and to upgrade them to include multimedia.
7. Pilot testing is now being done on delivering some UWI Master's in Education courses online, starting with courses in teacher education.
8. Plans to develop an online tutorial system designed to support the full- and part-time instructional programmes in colleges training teachers by facilitating collaboration among students across the colleges.

Inservice Teacher Training Initiatives

Several inservice teacher-training initiatives in the Caribbean in the 1990s have been directed at changing the teacher's role in the teaching/learning process. These include the Government of Guyana/World Bank Secondary School Reform Project, the CIDA In-Service Teacher Training Project in Guyana, the Government of Jamaica/World Bank Reform of Secondary Education (ROSE) Project, and the Netherlands Antilles Reform of Basic Secondary Education. The Government of Jamaica/World Bank ROSE Project was the earliest. The first phase of the reform was implemented in 1993 and completed in 1998.

This project was one of two that received the World Bank's Quality Award from among its projects worldwide. The defining features of the ROSE curriculum and teacher training aspects of the reform are as follows:

- A common curriculum in grades 7 to 9 in all types of secondary schools and all students.
- Mixed ability grouping and multilevel teaching among these groups.
- Students taking responsibility for their own learning.
- Cooperative learning among students.

- The teacher as a facilitator and guide in promoting student learning.
- Team planning and collaboration among teachers.
- Integration across subject areas.
- The infusion of career guidance in all subjects in the curriculum.

The Joint Board of Teacher Education implemented the In-Service Teacher Training Component of the ROSE Project, adopting the philosophy of continuing professional development rather than teacher supervision. The latter implies universal compliance of all teaching in meeting minimum standards in Ministry of Education regulations or guidelines. The essence of the former is voluntary commitment to strive to realize the ideals prescribed by the ethics of the teaching profession and to achieve the goals set for quality education. The basic elements of the inservice teaching training strategy were as follows:

1. The employment of 25 subject specialists, in both content and methodology, whose sole full-time responsibility was the inservice training of teachers to support the implementation of the ROSE Reform in their schools. These subject specialists were deployed in five regional teams located in five strategically located teachers colleges across the country.
2. The development and delivery of 45-hour methodology courses taught over 10 days by the subject specialists in the summers during the five years of the project. These methodology courses were designed to orient and prepare teachers to implement the defining features of the ROSE Reform in each of the five subject areas included in the project—language arts, mathematics, science, social studies, and resource and technology.
3. Regular school visits over the course of each school year by the subject specialists to support the teachers in the implementation of the methodology courses in their classes.
4. The mounting of one- and two-day workshops among clusters of schools as dictated by the subject specialists' observations and teachers' requests resulting from the school visits.

5. The development and use of self-study distance-teaching modules for teachers in both content and methodology as prescribed by the ROSE curriculum in grades 7 to 9 in the various subject areas.
6. Continuing professional development for the subject specialists through regular workshops and other collaborative exercises.

Some of the lessons learned from the implementation of the In-Service Teacher Training Component of the ROSE Project were as follows:

- Teachers and students alike overwhelmingly support the pedagogical shifts prescribed by the ROSE reform (Brown 1998).
- While teacher and student behaviour do undergo some change in the directions intended by the reform, the extent of the change is much more modest than the level of expressed acceptance and support.
- The changes required in teacher and student behaviour are by no means cosmetic. The fundamental nature of the shifts demand concerted, coordinated, and sustained effort for the vast majority of teachers.
- The desired changes in teaching and learning strategies are most evident where supporting elements of the reform have been implemented. Hence the prescribed shifts are more evident where curriculum materials, including teaching materials and the prescribed textbooks, have been supplied and used, and buildings have been refurbished.
- Teachers tend to revert to the traditional teacher-centred approaches where the inservice teacher training was the only element of the reform that was implemented in the school and where that support was scaled down or withdrawn.
- Support for the reform from principals and heads of departments in large schools and their instructional leadership within the school is critical.
- Success in effecting the shift in the teachers' roles and relationships as prescribed by the Reform not only varies considerably between schools but also within schools.

- The development of quality self-instructional distance teaching materials is a slow process.

Integration of Preservice and Inservice Training

An important feature of the ROSE Project was the links established in preservice and inservice training. One link was that the methods courses developed and delivered in the inservice training summer workshops became the prescribed methods courses for teaching grades 7 to 9 in the five subjects in the preservice programme. Hence, all graduates from the preservice training programme since 1995 have been trained in the teaching of the five subjects in grades 7 to 9 using the strategies that defined the ROSE reform. Another link was that the project's subject specialists were employed to, and operated from, five teachers colleges strategically located across the country. During the course of the project, these regional teams were de facto inservice departments of the colleges.

An understanding between the Ministry of Education and Culture and the Joint Board of Teacher Education was that should this model of integrating preservice and inservice training prove successful, then steps would be taken to institutionalize the links. The Ministry of Education and Culture was sufficiently satisfied with its achievements to establish inservice departments in the five colleges and to retain the teams of specialists in permanent posts. In this new arrangement these colleges will work in close collaboration with the regional office of the ministry in their area to continue to carry out inservice training in support of the reform. Further, colleges will organize to rotate tutors between teaching the preservice programmes in colleges and inservice training in schools. Such rotation, it is envisaged, should strengthen the preservice training of teachers through the closer links with schools.

Belize is another example of the integration of preservice and inservice training through colleges training teachers and collaboration with the Ministry of Education. In the World Bank and DFID project, the inservice training of teachers to support the reforms in primary education was carried out by the Belize Teachers College, which established regional centres across the country (Thompson 1999). College tutors responsible for delivery of the preservice programme were critical to delivery of the

inservice training in the reform of the National Curriculum. Likewise, supervisors employed in the regions to deliver inservice training undertook some of the supervision of student-teachers, normally done by the college staff.

The essential elements of the approach to integrating preservice and inservice training in both Belize and Jamaica were follows:

- The synchronization of the reform of the National Curriculum being delivered in the school system with consequential reform of the curriculum in the preservice teacher training programmes.
- Organizing the teacher-training curriculum in the various subjects in units and writing distance-teaching modules that correspond to the curriculum units.
- Using the distance teaching modules to deliver systematic and sequential instruction to teachers who are being formally trained inservice.
- Using the distance teaching modules on a cafeteria basis to deliver inservice training in support of the reform process.
- The use of regional teams to provide school-based assistance in implementing the new teaching strategies.
- Close collaboration between the territorial education officers of the Ministry of Education and the colleges.

The anticipated outcomes of this integration of preservice and inservice teacher training are as follows:

- The teacher preparation programmes of colleges will keep abreast of educational reforms in the school system, so teachers trained by them will be ready to meet the new challenges in schools.
- Colleges will become intimately involved in the continuing professional development of teachers. Preservice teacher training will therefore not be conceived of as a one-shot event but rather as the commencement of lifelong continuing professional development.
- College tutors' involvement in continuing professional development of teachers in schools will enrich preservice training by keeping the tutors abreast of current realities in the school system.

Upgrading the Teacher Trainers

In addressing teacher development, especially in educational reform, new initiatives, and use of information technology in teaching, one concern that always surfaces is the upgrading of teacher trainers. This is largely because the majority of teachers in the Caribbean are trained in colleges and not in the universities. Upgrading teacher trainers has become a central concern in light of the policy decision of several governments to upgrade colleges training teachers to offer bachelor's degrees.

The traditional route for such upgrading was scholarships, bursaries, and fellowships to overseas universities. Over the last 30 years, Caribbean universities have begun to address the need through higher degree programmes, especially at the master's level.

An interesting 1990s innovation is the JBTE/University of Alberta/CIDA Project for the staff of colleges training teachers in the Western Caribbean. The elements of this project were as follows:

- University of the West Indies (UWI) Master's in Education courses taught by University of Alberta staff during the summer. By taking these summer courses, college staff enrolled in the UWI Master's in Education programme could accelerate completion of the programme.
- Twelve scholarships to the University of Alberta to pursue higher degree courses.
- Several bursaries to undertake one-semester programmes at the University of Alberta.

Over the five years of the project, over 250 staff members (about half) from the 14 colleges and Ministries of Education in the Bahamas, Belize, and Jamaica, participated in the courses either for credit or on a noncredit basis. While not originally included in the project, six tutors went on to enrol in the doctoral programme at the University of Alberta. By 1998, when the Project ended, one had already graduated and the rest were in the final stages of completing their dissertations. The JBTE/University of Alberta/CIDA Project provides a model that is both feasible and applicable for staff development within and outside of teacher education.

Teacher Evaluation

While teacher accountability and evaluation in the Caribbean have been much discussed, not much has been introduced which departs from the traditional patterns of ad hoc assessments by education officers and project assessment teams. A probable explanation is that external examinations are significant in most education systems in the region. Schools are indeed rated by parents and the general public on their students' performance in these examinations.

Some countries, however, have implemented teacher evaluation programmes, including The Bahamas, Grenada, Jamaica, and St. Lucia, but the rationales employed are different. Like all civil servants since the 1960s, teachers within the Bahamas have their performance assessed annually though the Annual Confidential Report (ACR). The ACR has three sections. The teacher fills in Part I, which is mainly biographical information. Part II requires the assessment of the teacher by the principal on a range of personality traits and pedagogic skills. Part III requires the signature of the Director of Education where adverse report is made against the teacher and the recommendation is to defer or withhold increments for the year under review. The teacher is shown the ACR only where a report is adverse. Annual evaluation of teachers in the Bahamas through the ACR affects salaries, in particular annual increments. Increments deferred in one year may be redeemed in subsequent years where performance returns to acceptable standards.

In 1995 Grenada introduced public-sector-wide performance appraisal, which included the teaching service, with the appraisal linked to both pay and employment. Those appraised are graded into four categories: those in the top two categories qualify for increments; for teachers, those in the bottom two categories do not receive increments. Teachers graded in the bottom two categories over three consecutive years are in danger of having their employment terminated.

The appraisal instrument is used by a supervisor to assess those under his or her supervision. Principals assess the teachers in their school, and education officers assess the principals. At the commencement of the programme, both principals and education officers were given orientation and training in the appraisal process. The appraisal instrument was

common to the entire public service, but in 1999 the instrument was revised, and a form was developed specifically for the education sector.

Principals assess each teacher individually and have personal discussions with each teacher. The appraisal forms are then sent to the Ministry of Education, which sends the names of the teachers graded in the top two categories to the Department of Personnel Management Services. The department then ensures that these teachers receive the annual increment.

In 1994 the Professional Development Unit (PDU) of the Ministry of Education, Jamaica, introduced its School Based Principal and Teacher Appraisal programme. The primary purpose of the appraisal was teacher development.

1. The PDU selects between 120 and 150 schools for teacher appraisal in a school year.
2. The principal and a senior staff member of each school are given orientation and training through one-day workshops in the appraisal process and the use of the appraisal instrument. They receive manuals at the workshops.
3. The principal and senior staff member return to the school and provide relay training to the staff of the school, using the Appraisal Process Manual and the appraisal instruments.
4. Teams of at least three teachers are formed to carry out the appraisal of the teachers. In the case of the principal, in some schools, the chairman or a member of the school board is included as a team member.
5. Team members independently conduct their appraisal over a three-month period by using records, interviews, and observations.
6. At the end of the three-month period, the team members meet, and through collaboration and consensus, agree on a summary document of the strengths and weaknesses of the teachers and principal appraised.
7. The Summary Document is then given to the teacher or principal appraised. A meeting at which the appraisal is discussed then follows. The principal or teacher appraised is requested to sign the summary

document, acknowledging that they have seen it and that it has been discussed with them.

8. The principal or teacher appraised is then asked to develop an action plan with at least three objectives, addressing either the correction of weaknesses or further enhancing strengths, or a combination of both.
9. A copy of the summary document and the action plan becomes part of the school's record. Another copy is sent to the PDU.
10. After analysing the summary documents and action plans of each school, the PDU may decide to organize school-based or cluster-based workshops to address common weaknesses.
11. The PDU does not share the information it receives with any other section of the Ministry of Education. However, it uses the information in making recommendations for awards of scholarships and bursaries to principals and teachers by the Ministry.

Initially, teachers and some principals were very suspicious that the appraisal would be used for other than professional development reasons. The PDU, therefore, had to undertake a public relations programme. Based on the experience in using the instruments for teachers and principals, both were revised in 1998.

The Ministry of Education conducts the separate but related School Incentive Programme. While this programme is not specifically related to teacher development, the involvement of communities and teachers in school-related activities and operations gives it an indirect connection to teacher development. Started in the early 1990s, the original objectives of the programme were to promote innovative projects in the delivery of the curriculum, promote attendance, enhance student achievement, and foster the care of school buildings and equipment.

The programme is organized on a regional basis and is owned by the communities and schools in the region. The schools compete with each other in practices that promote achievement of the objectives. Regions establish evaluation teams made up largely of community members, principals and teachers from other regions, and education officers. These evaluation teams visit schools, examine records, inspect buildings, and observe school and classroom practices.

Schools display the outcomes of projects to deliver the curriculum in regional exhibitions. For example, displays may be of projects to improve the teaching of reading, or a social study project on the history of some building in the community, or science projects by students. Plaques, books, equipment, or materials are awarded to schools for excellence in achieving the programme's objectives. The communities provide the awards using funds that they raise. The Ministry of Education usually provides funds to underwrite some of the expenses of the award ceremonies, which are usually public occasions attracting both attention and support.

In St. Lucia teachers are assessed annually by Education Officers. The evaluation is directed toward professional development. The appraisal instrument has nine items that are given different weights and is scored out of 100:

Punctuality and Regularity	10
Planning and Preparation	16
Knowledge of Subject Matter	15
Teaching Methods and Strategies	10
Testing and Evaluation Strategies	10
Classroom Management	15
Interpersonal Relations	8
Professional Development	8
Professionalism	8
Total	100

A rating between 80 and 100 is regarded as excellent. Ratings under 50 are unacceptable. Ratings between 50 and 79 require teachers to be subject to remedial assistance from principals and education officers.

Teacher Supervision

For more than a century, teacher supervision in the Caribbean was done through an inspectorate of the Department of Education. Between 1950 and 1970, in most countries, school inspectors became education officers as ministries of education were established across the region. In the schools, head-teachers were transformed into principals. Teacher

supervision became the responsibility of principals within the schools and the territorial education officers within the area in which the school was located. There have been few changes in school and teacher supervision in the 1990s. Probably the changes of greatest note have been in the Bahamas.

Unlike most countries, which phased out school inspectors between 1950 and 1970, the Bahamas expanded school inspection into the Supervisory Services Division in September 1975. The division's mandate was to inspect schools annually to enhance school effectiveness and advance teachers' professional development. The division was staffed with an assistant director of education and 10 school inspectors. Each inspector was assigned several schools, which were routinely inspected annually. Reports of the annual inspections were made to the director of education, identifying strengths and weakness observed but not naming teachers. Where weaknesses were observed in subject areas, these were referred to education officers specializing in the subject.

The Supervisory Services Division was phased out in 1995. Over the period, several fault lines had emerged, including:

- Disputes between inspectors and education officers on the demarcation of roles and responsibilities.
- Controversies between inspectors and principals, especially where principals' adverse reports on teachers had been contradicted by inspectors.
- Resentment felt by teachers at being observed annually by inspectors.
- Problems of accountability when schools were not performing well.

Since 1995, the Ministry of Education has introduced a new system of accountability which dispenses with school inspection, but relies on schools assessing themselves using targets they set within the framework of overall goals set for the school system by the Ministry of Education. Allied to this new system is the grouping of schools into districts under superintendents who have overall responsibility for their district. The elements of this new system of accountability are as follows:

1. The Ministry of Education sets targets for the school system in seven areas over a five-year period.

2. Each school develops goals and objectives annually based on the ministry's overall targets and within the imperatives of the communities the school serves. These reports are submitted to the superintendent who amalgamates them for the district.
3. Annual reports are submitted by the principals of schools in each district to the superintendent, who assesses performance in relation to that year's goals and objectives. The superintendent amalgamates these reports and submits an annual report for the district to the director of education.
4. The Annual Confidential Report is being modified to include goals and objectives set by each teacher annually, based on the goals and objectives of the school.

The interesting aspect of the transformation of school supervision in the Bahamas is the move away from external evaluation of teachers to one in which schools and teachers become more self-directed within the general framework of government policy and targets. This approach allows for greater sense of ownership and involvement for principals and schools as well as greater responsiveness of schools to the communities they serve.

Concluding Discussion

It is clear that different aspects of teacher development in the Caribbean have been brought to the fore in the 1990s. Innovations have been concentrated in preservice and inservice training and teacher evaluation. Not much has happened in teacher supervision. At the same time, innovations have been neither universal nor evenly distributed across the region. Further, given the recency of many of the innovations, there has been little time to assess their effectiveness, impact, or long-term sustainability. The areas of teacher development most widely addressed are:

- Upgrading the academic and professional knowledge of teachers. This has implications for improving the status of teachers and the teaching profession in the society.
- Shifting the roles and relationships guiding the delivery of instruction and the interaction between students and teachers consistent with the

imperatives of a rapidly globalizing economic environment has meant emphases on student-centred approaches; more self-directed students; teachers becoming facilitators, guides, and mentors; cooperative learning; integration across subject areas; the team approach to teaching; and multilevel instruction within mixed ability groups. This fundamental shift in pedagogic practices which places priority on critical thinking, problem solving, and learning how to learn, is taking place both in the ways teacher trainees are being taught and in how they are being taught to teach.

- Expanding the modes of delivery of teacher education to include both part-time and distance teaching modalities. Many countries in the region are experimenting with and implementing additional modes of delivering teacher training in addition to the conventional, full-time, face-to-face modality. With the advent of the Internet and the spread of local and wide area networks in the education sector, online delivery of teacher training is becoming yet another modality.
- Increasing use of information technology beyond computer literacy and the use of productivity tools. The pressures of shrinking resources and the demand for higher standards of achievement have converged with the increasing sophistication of computers combined with their lower cost to spur the application of information technology to the management of colleges and the delivery of instruction.
- Integrating preservice and inservice training as a first step in configuring the infrastructure of career-long and continuous teacher development. The teacher training infrastructure, which essentially offered initial teacher training as one-shot preparation for all of the teacher's career, is starting to give way. While the patterns of implementation vary across the region, the direction can be seen clearly in several countries.

These are positive signs, and there can be no question that many of the goals set by policies, programmes, and projects in teacher development in the 1990s are both idealistic and ambitious. However, there are early warning signals that the time, effort, and integrated approaches required to bring about these ambitious and fundamental shifts have been grossly underestimated. Lessons learned thus far seem to indicate that short-term

measures are unlikely to bring about the desired and intended shifts in pedagogy, even where teachers enthusiastically accept the direction and goals of the reform. It is no simple matter for teacher trainees and teachers inservice to reverse the ways they have been taught, or have been teaching, all of their lives. Further, approaches that only concentrate on teacher behaviour but ignore the environment and conditions in which teachers teach are unlikely to have long-lasting effects. Medium-term to long-term efforts that are part of comprehensive school reform appear more likely to achieve the desired and intended changes.

Probably the most glaring deficit in the arena of recent reforms in Caribbean schooling, and consequently teacher development, is the absence of measures to support Caribbean integration. There has been much discussion of the need for greater economic, social, and cultural integration and exchange in the region, especially for the different language and cultural groupings within the region. At the same time, it is not possible to identify any concrete initiatives in education and schooling that have been planned and implemented with Caribbean integration as its goal.

This deficit seems to underscore the fact that national necessities, international imperatives, and external funding have driven recent reforms within Caribbean education and schooling. In the process, regional imperatives have not been specifically addressed. It is doubtful that the barriers that have hindered Caribbean integration will be removed by default. The promotion of Caribbean markets, interregional trade, and political action as a regional bloc in the global political arena are unlikely to be achieved without mobilizing Caribbean people through education. Caribbean teachers must be crucial to such mobilization. No innovations within Caribbean teacher development in the 1990s specifically and constructively engage this goal.

On the positive side is the fact that over the last 50 years the region has greatly increased its resources to initiate and sustain teacher development. All countries within the region, except for Anguilla, Bonaire, and Montserrat, have established institutions to train teachers at the preschool and primary school levels. The larger countries have developed indigenous capacity to train secondary school and special education teachers. In this regard, the Caribbean is far more self-sufficient in its

capacity to prepare teachers for schools within the region than was the case at mid-century.

In the Commonwealth Caribbean, governments and the University of the West Indies have an agreement whereby national teacher training institutions are linked with the regional university, thus forming collaborative networks in teacher education and teacher development. This is accomplished through the UWI's Institute of Education of the Mona Campus (with a staff of 18 academics), working through the Joint Board of Teacher Education, and the School of Education of the Cave Hill Campus (with a staff of 10 academics), working through the Eastern Caribbean Standing Conference. Both of these mechanisms have contributed positively to many of the achievements in teacher education and teacher development over the last 35 years.

One of the lessons learned over the second half of the 20th century is that national resources are insufficient to sustain the level of development required in education, including teacher development. Regional pooling and cooperation are critical to producing the quality teacher education that Caribbean parents and students demand. Notwithstanding the positive contributions that national and regional institutions have made in teacher education and teacher development over the last 50 years, the imperatives of the dawning century and millennium demand new responses and fresh approaches. The value of the partnerships created by the University of the West Indies with national institutions and governments is their facilitating and enhancing of the dialogue and collaboration needed to determine the new initiatives and the fresh approaches required of the future.

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Review of the University's Role in Teacher Training, 1952–95

Earle H. Newton

Introduction

The University of the West Indies (UWI) was established 1948 as the University College of the West Indies (UCWI) to serve the then British colonies of Antigua and Barbuda, the Bahamas, Barbados, British Guyana (now Guyana), British Honduras (now Belize), the British Virgin Islands, Cayman Islands, Dominica, Grenada, Jamaica, Montserrat, St. Kitts-Nevis-Anguilla, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago. The UCWI, located at Mona, Jamaica, began under a Royal Charter granted on January 9, 1949, under the tutelage of the University of London, and its degrees were external degrees of that university. Other campuses were later established, first at St. Augustine, Trinidad, in 1962, and then at Cave Hill, Barbados, in 1963. In 1962 the UCWI was granted its own charter, becoming the full-fledged University of the West Indies (UWI).

In 1963 Guyana withdrew from the UWI arrangement and set up its own university, the University of Guyana (UG). All the other governments continue to participate in and support the UWI, and the university has a centre and a resident representative in each non-campus territory it serves. There is also at least one distance education studio—the UWI Distance Teaching Enterprise (UWIDITE), a satellite link—in each country. The UWI, like cricket, transcends national boundaries and is a

unifying force. However, also like cricket, it can arouse strong national emotions that can threaten its own safety.

This examination of the university's role in teacher education and training in the Caribbean region must therefore take account of and be seen against this historical context. The paper begins with a brief overview of education in the region and then provides a historical development of teacher training in the UCWI-UWI setting. A survey of the university's role in teacher education and training is discussed, with UWI's and UG's positions kept separate so that the role of each university as seen by a sample of its significant and immediate social partners can be better understood. The paper concludes with an examination of the current education scene in the region, which it uses in conjunction with the survey to point the way forward for UWI and UG as they seek to fulfil their role in teacher training and education.

Brief General Overview of Caribbean Education

The educational systems in the English-speaking Caribbean had their origins in the British colonial period. These systems today therefore have several common features and share several problems and challenges. Basically colonial education's main purpose was the transfer of Western culture and values and the training of a docile workforce through the development and maintenance of a psychology of dependence. Education therefore has tended to be selective and elitist and academically oriented. It subordinated indigenous values and customs to those of the colonial powers. Though there have been changes and attempts at reform in individual countries it would be true to say that systems across the region are but improved versions of the original system.

The years between the end of the Second World War and the later 1970s were tremendous growth years for Caribbean education. As the countries of the region prepared themselves for internal self-government and eventual independence they paid more attention to the development of education, and implemented several changes and improvements. There was a massive increase in early childhood education. The age of entry into formal education was 5 years in many places, and early childhood education programmes for children 3–5 years old were established

across the region. Miller (1992) observes that by the late 1960s, more than half the children of school age were enrolled in some learning institution in nearly all the Caribbean countries. Current enrolment levels are about 75 to 80 percent.

The primary school grew out of the all-age elementary school and aims at providing universal education. Efforts were made to reform the curriculum to focus on local and regional content, using local and regional materials. Secondary education was expanded to the masses, with some countries providing universal or near-universal access. In most places, however, a selection process for the most prestigious schools still remains in effect. Tertiary-level institutions, community colleges, teacher training colleges, nursery schools, and so on, were established or expanded, and university education became a feature of the Caribbean education scene, with the establishment of the University College of the West Indies and the University of Guyana. With all this expansion in education came increased opportunities for teacher training and education.

These developments created high levels of educational opportunities. As opportunities for study at the secondary and tertiary levels expanded, primary education was no longer seen as terminal but rather as preparation for continuing education. Alas, all this was to be aborted as the governments of the region went into deep recession in the 1980s. Miller (1992, 28) writes:

> The 1980s brought a halt to the transformation, expansion, and qualitative improvements in education in the Caribbean, as regional economies slid into deep recession. The period of sustained economic growth ended, replaced by a period of economic reversal, the end of which is not yet in sight. Devaluation, austerity, the debt crisis, reduced government spending, the elimination of redundancy, and IMF [International Monetary Fund] conditionality are now standard and even daily expressions in the press, broadcast media, and private conversations.

Today, then, many problems confront the educational systems of the region, not all brought on by structural adjustment or the IMF, but only the most persistent and significant problems will be mentioned. Caribbean education systems have been built on and are permeated with the concept of competition; they contain no discernible Caribbean-oriented philosophical undergirding and they seem to have lost a sense of moral

and aesthetic direction. The systems have retained their strong academic orientation, even though attempts have been made to expand and improve technical/vocational education. The tendency is for this to be tacked onto, rather than integrated into the system and given an appropriate status. Because the systems have remained, in the main, selective and elitist, there is a strong examination orientation in the schools, and this has led to both the neglect of those students who are apparently less endowed and those areas of the curriculum which are deemed to have no examination value. This in no small way contributes to the problem of poor student performance at both primary and secondary levels, which is of major concern to educators and government officials alike. According to *Time For Action* (1993), data suggest that large numbers of students graduate from primary schools across the region without the numerical or cognitive skills (one might also add the literacy skills), to secure a job in the modern sector of the economy. Data also show that of the already diminished numbers of any year cohort that enter for the examinations of the Caribbean Examinations Council, only 2 to 5 per 100 are likely to secure four or more passes. There are endless complaints about the inappropriateness of the curricula and teaching methodologies in the schools, particularly the secondary school, but little has been changed. At the more obvious level, there are concerns over the critical shortage of trained teachers, the shortage and inappropriateness of textbooks and other instructional materials, the poor physical state of school buildings, overcrowding in the classrooms, the absence of facilities and equipment, and overcentralization of management and decision making.

Clearly these generalized problems apply in different measures to different countries. It is also evident that many of today's problems were yesterday's in that they coexisted with the expansion and transformation period, while yet other problems are inherent in the systems themselves. McComie (n.d.) was right when be observed that

> The tragedy of the approach to educational development has been the assumption that an increase in the number of schools, pupils, teachers and years of schooling would ensure development.

It might very well be that by concentrating on education as a commodity with a market value, the expansion period missed the opportunity "to

define a loftier concept of [Caribbean] Man's purpose in society" (McComie, n.d.) to guide the direction of the reform and expansion.

Historical Context of Teacher Training

Teacher training in the English-speaking West Indies has a relatively long history, considering the region's background in slavery in which education was interdicted for the masses. Miller (1993, 14) points out that "the training of primary school teachers began in the Commonwealth Caribbean in 1830 and was institutionalized by 1850". Initially individual colleges offered their own credentials, but by the 1870s, governments became concerned over quality in primary education and sought greater involvement. Headed by the Chief Inspector, Education Departments in the individual territories determined the colleges' syllabuses and examinations well into the 20th century.

The 1950s were a watershed period for teacher training in the region. As the colonies were granted greater power and control over their destinies, several created ministries to replace the then departments of education, and those with training colleges established mechanisms for setting and maintaining standards in the professional education and training of teachers and in their certification. In 1957 the first Regional Conference on Teacher Training was staged in Trinidad. This conference provided the first opportunity for the people directly concerned to examine the issues and problems of teacher training in the West Indies. There were then 13 colleges located in six territories. Islands without a college would send a few teachers for training each year to a territory with a college. Walters (1965) observed that in 1957 only about 22 percent of all the teachers in the British West Indies were trained. She continued: "The remaining 78 percent were untrained, consisting of pupil teachers, student teachers and assistant teachers who had passed their local certificate examinations while they were teaching" (p. 14). More opportunities for teacher training were urgently needed (table 1).

The conference prepared a list of recommendations for the improvement of teacher training, covering virtually all aspects. It was agreed that the governments of the region should be urged to adopt the policy that all children should be taught by fully qualified and trained teachers. There was positive response by several governments in the ensuing years. Train-

Table 1
Proportion of Trained Primary School Teachers in Some West Indian Territories in 1957

Country	Teachers Trained (%)
Antigua	40
Barbados	25
Dominica	9
Grenada	8
Guyana	17
Jamaica	44
Montserrat	21
St. Kitts/Nevis/Anguilla	120
St. Lucia	6
St. Vincent	6
Trinidad & Tobago	45

Source: Miller (1993).

ing opportunities were increased by expanding existing colleges, building new ones, or establishing temporary emergency colleges. In some territories the training programmes were reduced from two years to one year to allow a quicker throughput. Many territories raised the entry-level standard to require secondary education. The revision and updating of courses and syllabuses, better training facilities and equipment, the recruitment and training of college tutors through professional courses in the Department of Education of the UCWI or English Institutes of Education were all aimed at improving the quality of training provided.

UWI and Teacher Training

Training for secondary teachers was not considered a priority and was not provided for until 1952, when the Department of Education, UCWI at Mona, Jamaica, was established. This department offered a one-year full-time programme for university graduates, leading to the Diploma in Education.

In 1955, the head of the Department of Education, conscious of the importance of and the need for an umbrella body to give direction and guidance to teacher training in the region, set up a Centre for the Study of

Education. This centre was to promote the training of teachers across the region, develop teachers colleges, and undertake research in education, the better to influence policy in education generally and teacher training in particular. During the nine years it existed, the centre contributed significantly to the development of teacher education in the region. Perhaps among its most significant achievements was the establishment of Boards of Teacher Training, at the request of individual ministries of education to advise on and oversee teacher training in their respective territories. The ministries of education delegated to these boards the authority to approve syllabuses and examinations and award certificates in teacher training. Almost invariably, staff of the UWI were invited to chair these boards.

Several factors came together, perhaps fortuitously, to lead to the creation of a more official and substantial single body to ensure quality in teacher education and training in the region. First, it was being recognized that good, quality training could better be assured if the entire process was monitored on an ongoing basis, and if research and development activities were linked with the monitoring mechanisms. Second, the lessons learned from the experiences of the boards led to the realization that the local resources necessary for the effective and efficient execution of the relevant tasks would be too burdensome for individual territories. There was also the expectation that regional cooperation would lead to the development of regional standards. And finally, the University itself realized that the organization of the Department of Education and its creation, the Centre for Study in Education, were impeding the proper functioning of both units. It was therefore felt that separate units would be the best way forward.

Thus in 1961, after much discussion and negotiation between UCWI and the governments of the Caribbean territories contributing to it, it was agreed that the ministries of education would hand over to the university their functions and authority in setting syllabuses, conducting examinations, and awarding certificates in teacher education. The governments would also provide the university with the resources to carry out the quality control and research and development activities necessary to strengthen and further develop teacher education in the region.

The University would execute its new mandate by establishing an Institute of Education. The Institute came into being in 1963, and created through University Ordinances its own Board of Teacher Training and Advisory Council. The Institute was independent of the Department of Education and was separately funded by the contributing territories. It was staffed by professional educators holding university appointments. They were responsible for all the technical and professional tasks of the quality control, validation, research, and development work of the board. Essentially, the Institute Board of Teacher Training would execute the statutory functions of approving syllabuses, conducting examinations, and awarding credentials (Miller 1993, 15).

The Institute Board of Teacher Training was composed of the college principals; representatives of the Faculty of Education, teaching staff of the colleges, ministries of education, teachers' unions or professional associations; the chair was always the dean of the Faculty of Education or the dean's nominee (the de facto chair has always been the head of the Institute of Education or a staff member of the Institute). It is clear from the board's composition that it allowed a good cross-sectional view of educational issues affecting teacher training. The board, based at the Mona Campus, UWI, basically covered the Bahamas, Belize, and Jamaica.

In 1964, within a year of the establishment of the Institute, at the Second Regional Conference on Teacher Training held at the St. Augustine Campus of UWI, its first director, Dr. Hugh Springer, spoke of the Institute and its projected role in improving the quality of teacher training in these terms:

> This Institute is not only a department in the University…it has a special character of being also an association in which the University, the Governments, the Training Colleges and the teaching profession come together to pool resources and help one another to achieve the highest professional standards in the educational service we give in our several communities. (University of the West Indies 1965, 11)

Dr. Springer then observed that the Institute, being free of the administrative preoccupations of the ministries and the exhausting cares of the schoolroom on the one hand, and being placed in the University with access to knowledge and standards on the other hand, was better able to concentrate on professional quality and ways of achieving it, and to act as

a catalyst in the educational processes of the region. Clearly, great expectations were held for the Institute of Education from the outset. Its mandate was broad, and important, with serious implications for the future of teacher training specifically and education generally in the region. The Institute and its successor bodies have attempted to fulfil these expectations in constantly changing circumstances.

Except for Guyana and Trinidad and Tobago, all the participating governments implemented the agreement fully. Indeed Guyana had withdrawn from the UWI arrangements and had set up its own university by the time the Institute had become operational. Trinidad and Tobago retained its Board of Teacher Training within the Ministry of Education. A representative of the Institute of Education was invited to join the board, and the Institute was given the responsibility for assessing teaching practice in the training colleges' final examinations. The Institute also became responsible for the research and development functions to support teacher training in the territory. The branch of the Institute at the Mona Campus served the Western Caribbean countries, Jamaica, Belize, and the Bahamas. The Institute at the Cave Hill Campus, Barbados, served Barbados and the Eastern Caribbean.

The change from Ministry Boards to the Institute raised some difficulties for some colleges where many teachers could not satisfy the entry requirements or students in the college were unable to attain the required standard in some subjects. Rather than lowering its standards, the Institute insisted that it would certify only those candidates who met its standards on both counts. Such students would receive certificates signed by the Institute, the College, and the Ministry of Education. Such certificates are commonly referred to as University-endorsed certificates. The other candidates could be awarded a certificate from the Ministry of Education and college concerned. Such certificates would not have general recognition, nor would they be acceptable for matriculation purposes by the University as would the endorsed certificate. This interim arrangement was terminated in the Western Caribbean by 1970, because it was felt that it created different classes of teachers and compromised the arrangements between the governments and the Institute for teacher certification. Though by no means widespread or frequent today, the practice still holds in some Eastern Caribbean Colleges.

As Miller (1993) points out, the patterns of teacher education which emerged in the mid-1960s still exist today. Such modest changes as have occurred have been occasioned mainly by experiments within the University to reorganize its responsibilities in education. For example, in 1972 the Faculty of Education, which comprised the Department of Education, the Institute of Education, and the Extra-Mural Department, lost the Extra-Mural Department and was reconstituted as a School of Education. The Department of Education became the Teaching Section. The resources of the Institute were used to form two sections: a Research Section and a Teacher Education Section. At both Cave Hill and St. Augustine, where up to this time only the Institute existed, it was renamed the Research and Development Section.

Following these changes, the University Statutes were changed to discontinue the Institute Board of Teacher Training. The Statutes then allowed for the establishment of Joint Boards of Teacher Education. Since the Institute Board had operated from the Mona Campus in the Western Caribbean, it was relatively easy to create the Joint Board simply by converting the one into the other. However, at Cave Hill it would have been necessary to create such a board from scratch. Despite the constant urgings of the University at Cave Hill to do so, no board has ever been established. Some governments have been unwilling or unable to meet the costs involved. An informal arrangement that brings together a cross-section of educators to review the activities in teacher training in the Eastern Caribbean and chart the path ahead is the Eastern Caribbean Standing Conference (ECSC). This conference, organized from the Cave Hill Campus biannually, has no legal status within the statutes and ordinances of the University, nor does it fulfil all the functions and duties required of the Joint Boards.

The School of Education, after 12 years, became a Faculty of Education again, in 1984. The only changes were those of nomenclature. At Mona, the Teaching Section became the Department of Educational Studies (DES) and the Teacher Education Section became the Teacher Education Development Department (TEDD). The Research section was abolished and its resources redeployed by the two remaining departments. At Cave Hill and St. Augustine, the sections responsible for teaching were called In-Service Sections, reflecting the model of training used.

Neither the Joint Board of Teacher Education at Mona nor the Eastern Caribbean Standing Conference at Cave Hill was affected by these changes.

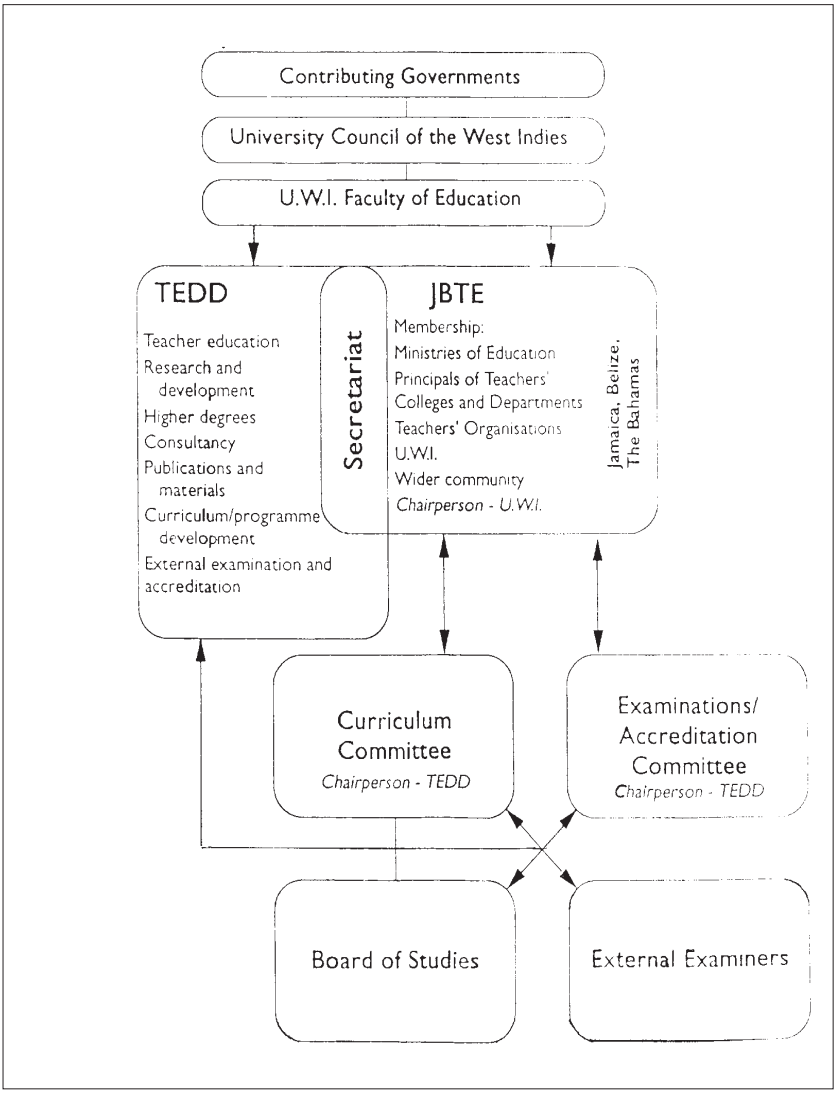
The Teacher Education Development Department and the Joint Board of Teacher Education (JTBE) at the Mona Campus continued the work of the former Institute and its Board of Teacher Training in the Western Caribbean countries of Jamaica, the Bahamas, and Belize (see figure 1). In the Eastern Caribbean, the Department of Education, Research and Development at the Cave Hill Campus and the Eastern Caribbean Standing Conference have that responsibility. A more detailed look at these entities and how they function will provide some insights into the importance and seriousness which the University attaches to teacher education and development.

The JBTE was responsible for accrediting and certifying non-graduate teacher training, while TEDD performed the tasks and activities that facilitated the realization of these functions. TEDD's (1988) list of its ten functions, in abbreviated form, were:

1. To provide leadership in the design, development, implementation, and review of teacher education curricula and programmes.
2. To guarantee standards by administering the evaluation and certification of teacher education students.
3. To accredit teacher education programmes and/or college lectures by establishing and applying criteria and standards for the institutions, the programmes, and the lectures.
4. To promote the development of academic staff in the teacher education institutions by various means including Higher Degree programmes.
5. To conduct relevant research and development in teacher education and disseminate the results as appropriate.
6. To plan, coordinate, and direct projects and programmes for the development and expansion of early childhood education in the region.
7. To present relevant post-graduate courses in the Faculty's Higher Degrees programmes.

Figure 1

Teacher Education Development Department (TEDD) and the Joint Board of Teacher Education (JBTE)— Structural and Functional Relationships



Source: Teacher Education Development Department (1988)

8. To promote the professional development of classroom teachers, supervisors, and school administrators in primary and secondary schools.
9. To produce and promote prototype print and non-print materials for the purpose of supporting the curricula at different levels of the educational system.
10. To provide advice and consultative services to Ministries of Education, Colleges, etc., on matters related to teaching and teacher education and educational policy and practice.

TEDD (1988) pointed out that the department had traditionally focused on numbers 1, 2, 4, and 10. It observed that by becoming heavily involved in the examination process, the department had underplayed its research and development role. This evaluation also applied to the department at Cave Hill. These departments therefore needed to find ways to rationalize the examination system without sacrificing or compromising their responsibility for quality control.

The handbook *Teacher Certification Regulations* (Joint Board of Teacher Education 1993) describes the JBTE as a "partnership in teacher education" (p. 2), and gives the major partners as ministries of education, teacher education institutions, the Faculty of Education, teachers' organizations, and independent members from the communities it serves. This best reflects JBTE's official composition as described in the university ordinance. JBTE's official functions, also set out in the same ordinance, are as follows:

(i) to consider and recommend or approve the syllabuses of Teachers Colleges;

(ii) to examine and assess the work of students in training;

(iii) to make recommendations on teacher training and allied matters to the appropriate authorities.

JBTE operates through two standing committees, the Examinations and Accreditation Committee and the Curriculum Committee. The Examinations and Accreditation Committee is responsible for all matters concerning the administration of examinations and the arrangement and organization of accreditation exercises, and must make recommendations on policy, procedures, and regulations to JBTE. The Curriculum Com-

mittee coordinates the work of the Boards of Studies, ensures "that the syllabus and curricula in the various subject areas are integrated and well articulated in each programme area", and makes recommendations to JBTE on staff development programmes for the colleges.

Boards of Studies exist for each subject offered under JBTE's aegis. They are the mechanism for bringing together college tutors, external examiners, and accreditation panelists in each subject. They are responsible for developing and recommending new syllabuses or amendments to syllabuses, criteria governing entry requirements for various courses, criteria for determining the academic qualifications required for staff who will teach the subject in different programmes, and criteria for determining minimum physical provisions which must obtain in the teaching of the subject in the different programmes. These boards must also identify relevant areas for research in their subject areas and determine the content of the course that will form part of the examination process in any single year.

These represent part of the elaborate arrangements UWI made to fulfil its mandate from the contributing governments, which have handed over the responsibility for teacher education and certification to it. Constraints of time and human and financial resources have influenced the extent to which IOE (formerly TEDD) and JBTE have been able to carry out these functions. Yet their achievements in teacher training, both qualitatively and quantitatively, have been remarkable. As TEDD (1988) noted: "The work of the JBTE has expanded significantly over the past 10 years; for example the number of courses has increased seven-fold and the number of papers assessed has increased six-fold" (p. 7). With no Joint Board for Teacher Education in the Eastern Caribbean, a heavy responsibility falls directly on the small staff of the Department of Educational Research and Development (now the sole department in the School of Education at Cave Hill). This department must see that all the functions described for IOE and JBTE at the Mona Campus are carried out. To assist it in those functions and to ensure a relationship with the professional education bodies in the region the Eastern Caribbean Standing Conference (ECSC) has been established. ECSC is convened biannually, unlike the JBTE which meets quarterly (October, January, April, and July). ECSC has no standing committees to ensure that the important

business of teacher training and education which must be dealt with on an ongoing basis is done. Its membership, however, comes quite close to that of the JBTE, consisting of chief education officers, principals of training colleges or tertiary institutions where teacher training is part of the programmes of such institutions, and the academic staff of the School of Education. Observers from those funding agencies that work collaboratively with the School of Education in the development and/or delivery of programmes or courses or in research are invited to attend. Traditionally both the School of Education and the ministries of education in the subregion have used the conference as a forum to discuss any matters pertinent to teacher education and training and to arrive at mutually agreeable frameworks for possible action to guide the School in decision making.

The above arrangement notwithstanding, the absence of proper mechanism robs the department of that interchange of intellectual ideas and debate that help to inform and refine educational processes and action. Perhaps more significantly, it puts the staff in the invidious situation of being accuser, policeman, prosecutor, judge, and executioner in matters of curriculum, and examination and in other areas as well. For the examination, for example, the colleges are invited to submit possible questions, but the department staff member makes the final determination. The individual colleges mark their scripts, which are then sent to the department for moderation. The university staff member who functions as an external examiner then becomes the final arbiter, with no necessary feedback or discussion with the college concerned. Overall success/failure in the examination as a whole is then done administratively and communicated to the colleges as a fait accompli, with no meeting either of the department's staff or between the staff and the colleges. Staff and curriculum development activities are done on the initiative of individual department members or in response to requests from the colleges. These arrangements are clearly inadequate and unsatisfactory, and it is therefore amazing that the colleges and authorities in the Eastern Caribbean have resisted the notion of a Joint Board, which better protects their interest and, indeed, professional status.

When, with the setting up of the Department of Education, training for graduate teachers began via the Diploma in Education, there were

very few graduate teachers in the schools of the region, and the majority of these were imported from Britain. In any event, following the British tradition that any university graduate is competent to teach at the secondary level, no pedagogical training was deemed necessary. Therefore no urgency about training at this level was felt. However, as the regional university started to produce local graduates, a few began to do the one-year diploma.

Two developments, one regional, the other international, helped to set the scene for further debate and action. As opportunities for university education expanded with the opening of campuses of the University of the West Indies at St. Augustine (Trinidad) and Cave Hill (Barbados), more teachers took the opportunity to acquire degrees and more young graduates went into teaching. In Britain training opportunities were increasing, and some local graduates were given the opportunity to go there for training. Hence the need for training at this level was gaining attention.

Furthermore, unionism was beginning to take firm root at this time, and the teachers' unions were agitating for better conditions of work, including better salaries and training opportunities. It was agreed between the governments, UWI, and the unions that efficient and effective training opportunities should be provided on a large scale but without undue burden on the governments. Programmes would be run on UWI's three campuses at the same time. In 1973 diploma programmes started at Cave Hill and St. Augustine, using an inservice model. This model was used because it allowed a substantial number of teachers to be trained each year without the need for replacements in schools. Initially the same basic approach was used at both campuses. Courses were conducted during the August, Christmas, and Easter vacations, and teachers were also released from schools one half-day a week to attend classes. In the beginning, Cave Hill also held classes on alternate Saturday mornings, but St. Augustine resisted this because it would have meant that Saturday worshippers would be excluded. The practice did not last very long at Cave Hill.

At Cave Hill and St. Augustine, the newly appointed staff held meetings with teachers, teachers unions, and Ministry of Education officials, and visited schools. Documents on education, local and regional, official

and unofficial, were read and in some instances questionnaires were done. The idea was to organize and operationalize the best and most relevant and pertinent course to meet the needs of the region without losing sight of happenings in teacher education in the world beyond. Indeed—and being among the initial appointments at St. Augustine I can attest to this—there was a good mix of local/regional and foreign staff, and a substantial number of the local/regional staff had had experience working in teacher education in developing countries.

While the approach at Cave Hill tended to be more traditional, treating discrete areas of the foundations of education, psychology, philosophy, sociology, and so on, an integrative approach was used at St. Augustine. The St. Augustine staff held many planning meetings at which educational issues, ideas, content, concepts from the viewpoint of both an academic discipline and the identified needs and problems of the local teachers were put on the table, teased out, and analysed. We then experimented with ways of integrating these concerns, concepts, problems, and ideas into single themes, which could then be informed, explained, and treated using the knowledge, insights, understandings, and experience from various disciplines. Finally, we arrived at a set of themes which would constitute the core of the programme, and set up teams to plan their execution. We had to produce booklets for each theme as we knew of no material that could cover and present the work as we envisioned it. Booklets stated the objectives and methodology of each session within the theme, provided adequate reading matter, and clearly indicated what was to be done. Booklists for further reading were also supplied.

Each theme was team taught, evaluated by the students, and then reviewed and revised. The approach proved highly successful and is still used today. Unfortunately we depended too much on extracted material, and because of time constraints did not develop as much of our own original material as planned. The second regret is that despite our own predisposition to study, critically evaluate, and disseminate our approach, we never did do so. Thus, this approach which helped teachers to see more holistically educational issues and problems and to seek solutions to them in an integrative way has never been fully exposed. Somewhat later, in 1975, a similar programme came on stream at Mona, but was ended in 1984.

The respective governments fully funded these programmes intended for graduate teachers already in the service. The Government of Barbados offered up to six places each year to the other Eastern Caribbean governments, but they were not always taken up, mainly because of financial constraints. These programmes succeeded in halting the increasing numbers of untrained graduate teachers in the schools. Annual evaluations by students always showed that they were fully satisfied, but also suggested areas needing attention. Though originally intended to be short-term, the programmes had a long and successful run. The programme at St. Augustine is still flourishing after some 22 years. The Cave Hill programme was unilaterally and abruptly discontinued by the Democratic Labour Party government in 1994, just as it was poised to celebrate its coming of age with a substantially revised programme, which had been brokered through extensive research, communication, and dialogue with past students, teachers, administrators, and other partners in education. The programme has been shifted to Erdiston College, the local teacher training college, and is now only examined by the School of Education.

The University, through its Faculties of Education on the three campuses, has played very significant roles in teacher education, training, and certification. These roles as summarized by Miller (1993, 8) have been

1. To prepare and certify graduates for teaching in secondary schools.
2. To serve as external examiners for colleges preparing teachers at both the undergraduate and graduate levels.
3. To license teachers, on behalf of the state, as competent teachers.
4. To guarantee professional standards, on behalf of the teaching profession, of those who are admitted into the profession.

UWI, through its Faculties/Schools of Education, recognizes however that it can contribute significantly to the development of teacher education and training in still more ways. Indeed, the functions listed in TEDD (1988), which apply across the campuses, clearly indicate this. Unfortunately, the Faculties/Schools of Education have focused on and become so involved in their certification and quality control functions that the others have been de-emphasized or totally neglected. While lack of sufficient human resources, financial resources, and equipment and other facilities are partly responsible, it would be facile and false to pretend that

this represents the whole picture. Some of these other possibilities are examined briefly.

Further Contributions to Teacher Education

The faculties had for some time seen the need and accepted the responsibility for both staff development in the training colleges and programmes to upgrade the trained teacher for specialized posts and for senior and middle management posts in the systems. The faculties worked closely with the colleges to provide induction courses, attachments, seminars, and workshops. One-year specialized courses in areas such as the teaching of mathematics, reading, the hearing impaired, have been taught for many years on the Mona Campus. With the introduction of UWIDITE (University of the West Indies Distance Teaching Experiment) these courses became available to teachers across the region. Also originating at Mona, the two-year Bachelor of Education programme (some three-year programmes had recently been added as well) spread over the next 15 years or so, first to Cave Hill and then to St. Augustine. These programmes, now available in a good range of specializations—educational administration, teacher education, curriculum development, reading, early childhood education, special education—equip trained teachers to assume leadership roles in the education systems of the region (primary school principal, education/curriculum officer, college lecturer, etc.). Some training colleges in Jamaica also began offering some UWI B.Ed. degrees: Mico College was involved in the B.Ed. in Special Education, and Shortwood Teachers' College in the B.Ed. in Early Childhood Education. The College of the Bahamas and the Sir Arthur Lewis Community College in St. Lucia have recently started offering their own B.Ed. degrees. This was in keeping with the trend for the contributing governments to seek to reduce the cost of training to themselves and to the individual student, to provide greater accessibility to training, and to build and enhance their other tertiary-level institutions.

The faculties' postgraduate programmes were a further contribution to teacher education development in the region. There were the academically oriented M.A. (Ed.) and Ph.D. and the more practical Master of Education. The range of subjects offered was becoming wider all the time.

Across the campuses, development of print and nonprint material needed to advance teacher education has fallen victim to inertia. However, the Cave Hill Campus developed some initiatives. Under a project funded by the European Development Fund to provide training for the large numbers of untrained nongraduate teachers in the Eastern Caribbean, it was agreed to use distance teaching methodologies. The existing education, language arts, mathematics, and science courses used in the training colleges for nongraduates were modularized, written by educators both from within and outside the Faculty. Some 40 modules altogether were prepared and used. The project graduated its first cohort of trained teachers in 1995, a major development in teacher training described as an "innovative package of enabling resources, structures and processes".

The areas of research and the development of what may be termed indigenous teaching strategies, methodologies, or approaches to support and extend the development of teacher education and training have been badly neglected. There have been individual efforts, but no evidence of serious activity on a faculty or department scale that could influence policy or direction in teacher training even when projects in the Faculty could have benefited from a research input. For example, in the 1970s and 1980s the UWI/USAID Primary Education Project was designed by the Faculty and funded by the United States Agency for International Development to develop materials to improve teaching and learning in a wide range of the primary school curricula. However, no research was done to determine where the teaching/learning problems were, what was the nature of such problems, and how to design the best materials to correct them. More recent projects have been designed to include related research as well as formative and summative evaluation.

Survey to Assess UWI's Role

From this historical perspective of the University's evolving role in teacher training in the Caribbean, attention is now turned to the results of a small survey carried out with a small sample of teachers and other educators across the region to assess their view of UWI's role.

The survey included a questionnaire and both face-to-face and telephone interviews. Some questionnaire items invited opinions on aspects

of teaching that were felt to reflect either the quality of or the need for training, with implications therefore for the University. Respondents were also asked direct for their views on UWI's work in the education and training of teachers (appendix 1).

Questionnaires were distributed at the Caribbean Examinations Council's (CXC) marking centres in Barbados in July 1995. Each year CXC, the region's public examinations body, brings together large numbers of teachers and other educators from across the region to mark its schools' examinations. A list of examiners with their country of residence was secured from CXC, and questionnaires were distributed to randomly selected representatives. When a country was not represented at these centres, questionnaires were posted.

Seventy-five completed questionnaires from countries served by UWI were received, with a gender distribution of 53 females, 20 males, and 2 with no gender indication.

The first item required an opinion on the general quality of teaching in the respondent's country, by sector (early childhood, primary, and secondary education). This breakdown was only to facilitate responses, but interest was on the global picture. Respondents could comment on all or any, as they felt competent. The general picture that emerged is shown in table 2.

The 44 percent rating for "average" defined as "nothing to attract undue positive or negative comment" (appendix 1), was much cause for concern. When added to the 13 percent for unsatisfactory (admittedly relatively low, taken alone) the clear indication nevertheless was that

Table 2
Assessment on Quality of Teaching (First Sample)

Category of Responses	Responses (*N*)	Total Responses (%)
Excellent and good	69	43
Average	71	44
Unsatisfactory	20	13
Total	160	100

improvements were needed. Since, however, several factors could influence the quality of teaching in a situation, and the situation in each country had its own peculiarities, no specific conclusion as to cause and remedial action could be arrived at. Yet inevitably the temptation was at least to wonder what this told us about both the quality of training and the need to intensify training efforts. Research focused on this question is therefore clearly the way forward.

Although these educators were not making a scientific assessment of teaching, their opinions were based on solid reality. In order of frequency, their experiences included:

1. Firsthand professional experience as teachers, school administrators, education officers, and teacher trainers in colleges or faculties of education. All had wide and varying experience in schools and classrooms. Many of the respondents were heavily involved in classroom observation of teachers.
2. Personal experience as parents/guardians. These persons had contact with schools at different levels, and hence a different perspective on schools and what went on in them.
3. (a) Informal, general discussions with a cross-section of people—other parents, teachers, parent/teacher groups, and so on.
   (b) Formal processional discussions at conferences, courses, seminars.
4. By deduction—decline in student performance on public examinations, falling standards of literacy, dropout rates, the number of students who leave school with no certification, and the functionally illiterate.
5. Media information reports, analyses, letters to the press.

Combined, these become powerful bases for forming judgements and must be taken seriously.

Many recommendations were made on how to improve the quality of teaching in the schools of the region. These ranged from the infrequently mentioned, such as reforming the education systems, improving teachers' salaries and conditions of work, introducing a proper system of teacher evaluation, to concerns very frequently mentioned, which were clearly

uppermost in the minds of the majority. In order of frequency of mention these were as follows:

1. Improving the quality of the existing training programmes. Repeatedly made by most respondents, it was often expanded to include training in the use of modern technology, enquiry skills and methods, creative approaches to student evaluation, and guidance and counselling. It was also felt that entry requirments to teachers colleges should be raised, more content should be included in the subject areas, and the period of training should be increased from two to three years.
2. Training should be compulsory before candidates were allowed to teach.
3. Appropriate training should be provided for school administrators in planning and organizing inservice and staff development programmes, which should be mandatory for all teachers.
4. Higher levels of training for tutors in training colleges should be available and required.
5. Teachers should be given training in teaching English as a second language.

It was generally felt that the academic qualifications of the teachers of the region were adequate, but there were pockets of dissatisfaction at the large numbers of nongraduate, untrained teachers and the dearth of science teachers. There was more concern over the professional training of teachers, with substantial support for the "unsatisfactory" category. The comments, "Most graduate teachers are untrained", and "too many teachers have no prior training on entering classrooms" were frequent.

If the judgement of this small but informed sample is to be trusted and deemed representative, then dissatisfaction at the performance of the education systems in the region must cause widespread concern. Only 36 percent of the respondents on early childhood education, and 13 percent on primary and secondary education felt that the systems were doing what was expected of them. Here again the multiplicity of factors involved must be pointed out. The need here perhaps is for focused research to assess how the systems are performing and what the inhibiting factors are.

Responses as to whether the University should do the actual training of teachers are shown in table 3.

Table 3
Perceived Training Responsibility of the University (UWI)

	Yes		No	
	N	(%)	*N*	(%)
Early Childhood Education	40	56	31	44
Primary Education	38	55	31	45
Secondary Education	59	80	15	20
Train Trainers	12	97	2	3

The items on the questionnaire avoided the exclusive position, but sought to see if respondents felt the University had a role in the actual training. Clearly there was support for the University to engage in the training at all levels, even though that support was less strong at the lower levels. This perhaps reflects the view that teachers at the early childhood or primary stage do not need to have much academic content, nor do they need to be intellectually stimulated. The very strong support for the training of trainers is not at all surprising, as many in the region, including university personnel, feel that this is where the University should concentrate most, if not all, of its training. Some significant comments, frequently made, included the view that the UWI should explore ways and means of making more training available and accessible to the non-campus territories to "assist the lowly paid untrained teacher who badly needs training". There was a strong call, too, for the University to develop training for technical/vocational teachers, an area much neglected. In addition, the University should work more closely with other institutions and organizations in all aspects of teacher training.

There was overwhelming support (in every case 94 percent and over) for UWI to do the following in teacher education and training:

1. Large-scale research on the issues
2. Conferences, workshops, and so on, on the latest developments and research findings on teacher training and education in general for teacher trainers and other educators

3. Collaborate with teachers colleges and ministries of education
4. Through its academic departments influence the academic content of teacher training programmes

The University has been very active in (3). The activities covered under (2) and (4), though more modest, have nevertheless been ongoing. TEDD, Mona, has provided leadership for the professional development of teacher educators, for which several days on the JBTE calendar have always been scheduled. At UWI, Mona, several members of the wider University community serve as external examiners and members of the Boards of Studies, and have been able to substantially influence the academic content of the college programmes. The first area, however, large-scale research, has only recently begun in earnest, although significant research has been done on the beginning teacher and on the impact of the college programmes.

There was also substantial support (87 percent) for the item "design/develop curriculum, methodologies and materials for the training of teachers", though some laid down a condition—that it work with the Ministry of Education, teachers, unions, and societal organizations. Some respondents however replied, "Definitely not", but did not go any further.

Many of the suggestions as to other roles UWI might be expected to play were functions the University through its Faculties of Education was already officially expected to fulfil, and might therefore be interpreted as a comment on how active it had been in these areas. Examples of this type of response were

> Help to determine the suitability of staff for the teachers colleges.
>
> Determine programmes and entry requirements for the training colleges.
>
> Become involved in relevant research, and become more aware of the realities of the world of teaching and the impact of teaching by maintaining close contact with schools and teachers.

Others presented new challenges within existing roles or extensions of existing roles and arose out of current needs and problems in the region. Examples were:

> Take the lead in the development of teacher and administrator evaluation in schools and teachers colleges

Develop a greater thrust in distance and outreach to help train and retrain teachers, especially those in remote areas

Provide training for guidance counsellors

Provide academic and professional training for technical/vocational teachers

Provide training in policy analysis, formulation and implementation for Ministry of Education officials.

An interesting suggestion was that UWI should educate the public through seminars, panels, and the media on issues and developments in education.

The whole range of suggestions covered areas in which, given UWI's mandate and the unique status of and regard in which universities in small developing countries are held, it would be reasonable to expect the University to take the initiative. Yet this very uniqueness militates against the fulfilment of this expectation. Universities in developing countries, especially in small developing countries, are faced with challenges of limited resources (human, financial, and so on), small staff, and multifunctionality that put severe pressures on personnel, often restricting them to reactive routine modes rather than creative and proactive ones.

As to how UWI was playing its role in teacher training, the negative comments were almost three times as many as the positive (31 negative, 11 positive). The positive comments tended to be qualified, for example, "The University is doing quite well considering the circumstances." Only on a few occasions was it strong and unconditional, "The university is doing an excellent job." The negative or critical comments may be classified as follows:

1. Courses/programmes are too theoretical/not sufficiently practical, for example,
   (a) The courses are too academic and make no impact on classroom management or teaching.
   (b) More emphasis should be placed on teaching how to teach, stressing innovative strategies involving modern technology.
2. University trainers themselves need to be better trained and updated, for example,
   (a) Lecturers should occasionally do a stint in a primary or secondary school to keep in touch with reality.

(b) University teachers could do with some refresher courses.

3. Role of University is too peripheral—not enough participation in training, for example,

   (a) Much more needs to be done via distance teaching.

   (b) Not enough being done for the non-campus territories.

   (c) Not enough being done in the training of primary and special education.

Tension usually exists between personnel in academic institutions and practitioners in the field, who feel that whatever they do is practical and thus worthwhile, and what is done in the academic institution is remote, theoretical, or mere talk. By being actively involved in meaningful research that demonstrably impacts on educational policy and practice, by producing materials that make a significant impact on classroom practices, and by influencing teaching strategies and methods academic personnel help to reduce this tension. Unfortunately, the universities of the region are not seen as strong in these areas.

University students especially are also growing concerned at the quality of teaching they are experiencing. Some 80 percent of the sample favoured the view, gaining momentum, that training should be instituted for teachers in tertiary-level institutions. One respondent summed up the general position: "The teacher's roles are the same at all levels—facilitating learning, communicating and motivating etc. and therefore training is necessary at all levels."

It was generally felt that UWI, and specifically the School of Education, should be responsible for such training. There were, however, those few who felt that the Ministry of Education alone or a joint operation between the Ministry and UWI would be in order. The most frequent suggestion for duration was a one-year programme. Four different kinds of responses were given:

1. Most teachers at colleges and the university do not use appropriate methodologies that stimulate the development of their students.
2. Most lecturers at the tertiary level, and especially the university, make no impact on their students' learning and are boring.
3. Many have the knowledge but do not have the skill in putting it over.

4. A mandatory one-year training programme prior to teaching will impact positively on the tertiary-level institutions.

In commenting generally on the university's role in teacher training, the respondents made suggestions which may be seen as reiterating old roles, indicating very strongly that these roles were not being well met, and a statement of new roles. The restatements covered several now well-known themes, including research, materials development, distance teaching, curriculum development, upgrading college staff. Those considered new were that UWI should

1. Become the clearing house for vital statistics in education for the region.
2. Establish computer links with the ministries of education across the region and initiate training in new techniques on a large scale.
3. Dialogue more, not only with teachers, but also with the business sector in order to determine and respond to needs.

This survey of teachers and educators has been useful in pointing to trends, issues, and concerns in education, and more specifically teacher education and training. The major findings may be summarized as follows:

1. There is some concern over the quality of teaching in the systems of the region as a whole. The basis of the judgement and the recommendations for corrective action suggest sincerity and seriousness of purpose.
2. While the University has a definite role in the actual training of teachers at all levels, in the interest of efficiency and effectiveness in the use of human and financial resources and for the multiplier effect, its efforts could better be spent in the training of trainers. This would provide more time and resources for other pertinent areas of activities.
3. A greater thrust is needed from the University in technical/vocational training, a neglected area; outreach activities and distance teaching; the development and promotion of systems of evaluation for teachers and administrators; training for guidance counsellors;

training in policy analysis, formulation, and implementation; large-scale research and materials development.

4. The training courses are too theoretical and not sufficiently practical.
5. The University should develop programmes and take responsibility for training teachers at the tertiary level.

Neither the smallness of the sample nor the absence of statistical analyses should be allowed to detract from the value of the findings of this informed and well-placed sample of regional teachers/educators. Their views must at least be taken as indicative, and further, more focused research must be undertaken.

UG and Teacher Education and Training

When the Government of Guyana withdrew from the UWI arrangement, founding its own university, the University of Guyana (UG) in 1963, the Ministry of Education retained its Board of Teacher Training. The following information was gleaned from interviews with two senior UG colleagues, a prominent Guyanese educator now working at UWI, and a Guyanese teacher working part-time at the Ministry of Education. The teachers training colleges, which offer the Trained Teacher Certificate for either primary or secondary school teaching, are independent of any formal inputs or control from the UG, and there is hardly any collaboration between them. UG therefore has no involvement in initial nongraduate teacher training. The Ministry of Education provides supervisory guidance for the colleges, which are responsible for designing their own curriculum, evaluating and assessing student performance, and establishing their own measures of quality control.

UG runs a four-year Bachelor of Education course. However, teachers with the College Certificate in Education are exempt from Year One of the programme, and can thus finish the course in three years. Training for graduate teachers via the one-year Diploma in Education programme is done only at UG, which also runs master's programmes in a variety of areas in education. The Ministry of Education releases teachers to pursue these programmes at the University, and on graduation they are used as leaders in education in the teachers colleges and the Ministry of Education, and as senior personnel in the school system. In spite of this, it was

observed that the relationship between the Ministry of Education and the University of Guyana has tended to be more adversarial than collaborative.

Those interviewed agreed that collaboration between the University and the training colleges would make the best use of existing resources. Specifically, it was pointed out that together, they could develop for implementation by the colleges a wide range of quality training in academic and process disciplines (curriculum development, educational testing, etc.) as well as in special-needs areas leading to certification below the degree level. Such collaboration could also be extended to include the Ministry of Education, and be used to identify, plan, and execute appropriate courses to deal with needs, problems, and concerns as they arise in the short term. Beyond these collaborative roles, the university should accept responsibility for providing, through its undergraduate and graduate programmes, training for teacher trainers, instructional leaders, managers, and other senior personnel. It should also promote and undertake research to underpin its programmes and improve practice at various levels and in different dimensions of the education system.

Survey: Assessing UG's Role

Completed questionnaires were received from 23 respondents, 29 female and 4 male. As with the UWI survey, these respondents' judgements on the different levels of the system were amalgamated to provide a general picture of the system (table 4).

Forty-eight percent rating the system as good or excellent clearly is encouraging, but the message on the whole suggests that there can be no

Table 4
Assessment of Quality of Teaching (Second Sample)

Category of Response	Responses (*N*)	Total Responses (%)
Excellent and good	26	48
Average	19	35
Unsatisfactory	9	17
Total	54	100

complacency. It must surely cause concern that the combined average and satisfactory categories account for 52 percent of the opinions, given that "average" indicates a nondescript, ordinary approach, most likely incapable of motivating the majority of learners, including even the bright but "not turned on", unenthusiastic student.

The nature of the sample provided a solid base for the judgements or opinions expressed. Indeed there was much resemblance between the two samples, and perhaps the differences merely reflected the differences within the two geographical areas. "Professional experience" was the overwhelming basis, as with the UWI sample. "Experience with the system as a parent/guardian" was similarly the next most frequent here. Informal discussion with other teachers, parents, groups, etc. also followed. Here the similarity ends. This sample then paid attention to the number of untrained teachers in the system, the state of the school buildings—physical and equipment, and results of public examinations at both levels.

The suggested remedies seemed to differ substantially across the two regions served by the respective universities. The UWI sample stressed training at different levels and for different purposes, and their recommendations were almost fully focused in this direction. The emphasis of the UG sample was virtually equally placed on the following:

1. Improved equipment and facilities in the schools.
2. Reduce class sizes to create a better student-teacher ratio in the system.
3. Improve pay, conditions of work, and career structure for teachers.
4. Produce more trained teachers for the system.
5. Retrain existing teachers to improve both content and teaching skills.
6. Improve supervisory strategies.
7. More remedial work in mathematics and English.

Fifteen respondents indicated that they felt the academic qualifications of teachers in the system were adequate or acceptable, and only six felt they were unsatisfactory. However, these figures do not square with the number and strength of the comments suggesting inadequacy. Each of

the comments below was taken from a different respondent, but taken together, indicate that this sample knew where the problem lay.

> The B.Ed. degree candidate is not fit to teach in the secondary school and more and more are coming into these schools.
>
> Faculties and personnel are inadequate to deliver the secondary programmes.
>
> Students are being taught by teachers not well qualified themselves.
>
> Vicious circle poor, primary and secondary systems produce students who are poorly prepared academically who then become trained and are sent back into the system as teachers.
>
> Candidates for training are poorly qualified academically.
>
> Too many secondary school teachers are without degrees.
>
> The better qualified candidates are not attracted to teaching because of poor salary, many teachers are not qualified and equipped to teach so they simply hold the fort, receive a salary but little teaching is done.
>
> Persons with minimum academic qualifications are being accepted for training as teachers.
>
> Teachers who have failed as pupils are readily accepted as teachers.

The sample felt more comfortable about professional training, and judgement and feelings expressed were more in synchrony. Seventeen respondents felt that professional qualifications were adequate or acceptable and only three demurred. Concern was expressed, but it was neither unduly strong nor frequent, and there were some positive comments, such as

> Conditions for training have improved in the last decade.
>
> Specialized training is now being offered for all teachers.
>
> Many teachers now have at least a Training College Certificate.

Even the negative comments seemed to have a positive intention:

> It does not include multigrade teaching, or mainstreaming those with learning difficulties.
>
> Training is provided but it suffers because of poor academic levels of the trainees.

This small but well-placed sample of professionals did not have a rosy view of the performance of their country's educational system. While the early childhood stage was promising, with 60 percent adjudging its performance good, at the primary and secondary levels the position looked

bleak. Only one person (5 percent) felt the primary level performance was as it should be. Forty-five percent of the sample felt that pupils left this stage inadequate in numeracy and literacy, and another 45 percent felt the general education was inadequate. Only one person gave the secondary school a clean bill of health. Forty-five percent felt that while students graduated from high school with some preparation for life out-of-school, their academic training was inadequate, and 30 percent felt that there was too much wastage at this stage of education.

Once again it has to be acknowledged that conclusions are difficult given the nature of the study. However, from what has been said by the sample about the quality of teaching, the academic qualifications of teachers, and to a lesser extent some of the things said about professional training, a conclusion can be said to have been indicated. And this conclusion will have something to say about teacher training and the role of the institutions involved.

Table 5 shows how the sample felt about the University's role in the actual training of teachers at the different levels in the system.

The view was strongly expressed that the University should leave the actual training of early childhood and primary school teachers to the teachers colleges. Even at the secondary stage, the scale is only slightly tipped in its favour. However, there is no doubt where the training of trainers should be done. Several respondents also expressed their views on this issue in other places on the questionnaire as well. They felt very strongly that the whole system would benefit more if the resources of the University were invested at this level. This view seems to be gaining greater currency across the Caribbean region.

Table 5
Perceived Training Responsibility of the University (UG)

	Yes		No	
	N	(%)	*N*	(%)
Early Childhood Education	8	40	12	60
Primary Education	7	35	13	65
Secondary Education	13	59	9	41
Train Trainers	23	100	–	–

Several items selected precisely because they were felt to represent traditional roles of a Faculty of Education gained respondents' unanimous support as functions the University should undertake. However, their written comments as well as evidence from the interviews indicated very clearly that very little, if anything, was being done in these areas. Indeed, it was observed in several comments that these constituted new roles. These items, given in full in appendix 1, nos. 16–20, were

1. Carry out large scale research
2. Design/develop curriculum, methodologies, and materials
3. Plan conferences, workshops, etc., to inform teacher trainers
4. Work collaboratively with teachers' colleges and ministries of education
5. Through its academic departments make an impact

There were a few interesting suggestions for new roles for the University. Those in the "traditional" mould included

> Development of distance education programmes and methodologies to take the University into the rural areas and make it more accessible.
>
> Devising supervisory and evaluation strategies and approaches for the different types of schools.
>
> Offering refresher courses for teachers and making its library accessible to teacher trainers.

What appeared to be truly new and challenging roles, which were evidently strongly tied to the social context, were that the University should

> follow up with the Ministry of Education to ensure that training and skills gained through its programmes, B.Ed., master's, etc., are maximally used.
>
> Collaborate with the relevant authorities to see that graduates are highly paid.

Asked to assess how UG was carrying out its role in teacher training and education, the respondents were very critical. Only one truly positive comment was made—"The university plays an important role and is doing it well". There were two conditionally positive remarks: "Doing satisfactory…, but…." The critical comments may be classified as "disagreement over role", "omissions of role", and "inadequate role

performance". Several respondents felt that it was duplicating the work of the training college by training teachers at the lower level of the system:

> The University wastes too much time doing what the teachers colleges should do—training nursery and primary teachers.
>
> Also in the field doing supervision that could be done by master teachers.

Teaching at this level was clearly not the function of the University for several respondents. Examples of role omissions were:

> No training is done in special education needs.
>
> Teachers are not trained for multigrade teaching.
>
> Links should be established with schools to ensure adequacy and relevance of training.
>
> There is no motivation in teaching methodologies.

There were many comments on inadequate role performance.

> Too much time is spent on research methods and research papers and too little on reflective teaching methods.
>
> There is not enough outreach and distance teaching to reach the hinterland.
>
> Training geared to traditional approaches and teachers then have to operate in different situations and environments.
>
> More practice and exposure to different experiences needed.

Clearly the University needs to be aware of how it is seen by its graduates and significant partners so that such adjustments as may be necessary can be made. Eighty-seven percent of the sample felt that training for tertiary-level teachers should be instituted. The prevailing view was that the university should take responsibility for such a programrne but in collaboration with the Ministry of Education. There were many suggestions for the duration and organization of the programme. The weight of opinion favours a not-for-certification course spread over one or two years.

The Way Ahead

The structures, approaches, and methodologies in teacher training and education today are almost unchanged from the original determined and developed in the 1960s. Yet the social, moral, financial, and educational

scene has dramatically changed. Many imperatives and challenges affect teacher education and demand a reorientation of the university's role. So far the universities of the region have been slow to respond, no doubt because they have become comfortable in their traditional roles, but also because of financial, human, and other material resource constraints. This position, however, cannot hold for ever. While money is necessary for educational reform it has to be recognized that there are other, and in some circumstances, more profitable routes. Some of these imperatives will be briefly considered to identify needed changes and indicate the way ahead for the university.

The financial crises, and in some cases structural adjustment programmes, which the region has been facing for some time have led to vastly reduced expenditure on education and other social services. Governments have also introduced tighter measures of accountability and are demanding more effort for less money. This has forced institutions like universities to reexamine what they do and how they do it and with what consequences. Teacher education programmes, certainly within Cave Hill, have been affected. Coupled with the accountability issue is the desire of successive governments across the region to upgrade and expand their own capabilities to deliver higher education in situ. This means increased accessibility for students and cost reduction for the governments. But it also means that governments could have better control over planning and budgeting for education. More and more, therefore, as individual territories develop the capacity to expand their own tertiary-level institutions, they are seeking to offer courses formerly given only at the University. Thus, at Sir Arthur Lewis Community College, St. Lucia, the University of the West Indies B.Ed. degree and other UWI courses in other faculties are being taught. Similar developments have taken place at other campuses of UWI as well.

Perhaps one of the most dramatic developments of this century has been information technology. It has presented boundless opportunities and challenges in all fields, none perhaps more important than education. The computer and satellite communication system have transformed the delivery of education and training, and the opportunities presented cannot be missed in this region. For some time the universities have been using satellite links to present courses across the region, but the full

potential is only now being considered seriously and systematically. Much more remains to be done.

Foreign universities and other institutions and groups, mainly from the United States and the United Kingdom, have been falling over one another in the region in the race to offer educational courses at all levels, to seek consultancies, and generally to promote their own financial interest. Institutions of questionable standing in their own countries can offer courses of doubtful worth, but will find takers among a people hungry for education because they are conscious of the value of education as a market commodity. This situation cuts across the whole field of human activity and has serious implications for the region morally, socially, culturally, financially, and in many other ways as well. It represents a thrust that could be more far-reaching than slavery itself. The universities and governments in the region face a tremendous challenge. To the extent that they can move to meet the demands for education and training in the region, they will help to diminish this menace.

Many factors must contribute to poor student performance and attainment in the educational systems of the region on the one hand, and to the fall in standards of moral behaviour and the rise in indiscipline and violence among school children in and out of school on the other. The two issues have caused great concern and have been the subject of many debates, casual conversations, radio "call-in" programmes, as well as seminars and research. Whatever the circumstances, two assumptions can safely be made. One is that school factors such as school curricula, organization, teacher attributes, teacher qualifications, teaching methods, school ethics, are all among those contributing factors. The other is that a well-planned and well-executed research project will be needed to ferret out and identify the causes so that solutions can be planned and implemented. Both assumptions have implications for the training and education of teachers, and thus affect the role of the university through its Faculties of Education.

Across the region, parents, educators, and other significant partners complain about the high proportion of untrained and unqualified teachers in the schools. At the preschool level very few teachers or supervisors have any formal training. In Belize, Guyana, and the Eastern Caribbean states, large proportions of primary school teachers are untrained or

inadequately trained, and have poor academic qualifications. At the secondary level there are well-qualified and trained teachers in the larger islands and poorly qualified ones in the smaller islands.

The final imperative lies in several governments' reform strategies and plans to revitalize the system to make it more meaningful, fair, and productive. Recent reforms are the Organisation of Eastern Caribbean States (1991) Reform Strategies; the Barbados Government White Paper on Education Reform (1995); and the Trinidad and Tobago Education Policy Paper, 1993–2003. These plans all carry within them the reasonable expectation that the professional support, leadership, and drive necessary to successfully implement them will be forthcoming directly and indirectly from the universities, the educational institutions which the governments support and maintain.

The Universities' Role Redefined

How then can the universities that serve the region reorient and redefine their roles in teacher training and teacher education in the light of these imperatives? First must come the recognition that teacher training is not a "thing" with a fixed shape that can be done in a vacuum, from past experience. Teacher training and education must be nurtured and informed by research and the collecting of relevant data and information, by curriculum and materials development, by cultural and contextual issues and problems, as well as a host of other things. Teacher training therefore must be experiential both for the trainer and the trainee. Second, it must be recognized that a university is a costly institution, where at least theoretically and as a collective the most highly trained and skilled expertise resides. As a result, especially in small developing countries, high expectations are held for universities.

Taking account of these positions, and the not-so-healthy state of Caribbean education as well as the challenges it has to face, the universities cannot sit back and confine themselves to roles they assumed some 30 years ago. Responsibility for initial training and teaching for first degrees in education should devolve to the colleges when they are assessed as ready to undertake them. Two things must be borne in mind here. First, the university has the responsibility to develop the colleges with the cooperation of the countries' ministries of education, which must ensure

that staff, once trained, are not lightly transferred out of the colleges. Second, in the interest of common qualifications and standards monitoring, quality control strategies that are effective and efficient but require far less time and resources should be developed and used, and the certificates and degrees should continue to be granted in the normal way.

If the universities in the region are to make a serious and significant contribution to improving the quality of training, reducing the numbers of untrained teachers, and upgrading and renewing trained teachers, they must emphasize their roles as, and improve their capabilities to be trainers of trainers, curriculum leaders, and experts in distance methodologies. Training of trainers must go beyond providing a wide range of courses and programmes at the higher degrees level. It must include intensive courses to equip trainers and potential trainers with the technical skills and competencies vital to their craft. Curriculum leadership is an inclusive term that covers designing and developing of appropriate curriculum; developing and testing new methods and approaches to teaching more suited to the character and temperament of the people of the region; preparing textbooks, computer software, and other instructional material for print, audiotapes, or videotapes, and so on, for various levels of the system, including teacher training. All materials and courses must be readily available for distance teaching and learning so that education can truly transcend all barriers.

The universities must seek to improve their research records, which are very weak. For the region to find solutions to the educational problems that confront it—poor performance, indiscipline, violence—serious research efforts are necessary. The universities must design research projects, write proposals, and seek funding either directly or through the contributing governments where they themselves do not have the financial or human resources.

The management of education at the systems level and in the school is a regional problem. Bad management practices cause much waste of time, materials, and human and financial resources. These areas needing improvement include interpersonal relationships, staff deployment and development practices, time management, organizational structures and arrangements, and assessment practices, among others. They can seriously affect the teaching/learning process and so contribute to poor stu-

dent performance. The concerns of poor student performance and accountability brought on both by this and by the financial crises have led to a demand for proper systems of student assessment, as well as teacher (including school administrators) and institutional evaluation. This is a sensitive management issue that has to be handled well. The university needs to intensify its management training involvement. Indeed the University of the West Indies is currently developing a course for distance delivery to extend its more traditional offerings in this area. Research, training, developing systems and models to manage the various elements of the system and the schools are vital roles for the universities.

Two suggested roles the university might play came out of the survey and deserve serious consideration. The first is that the university should act as a clearing-house for educational statistics in the region. It is extremely difficult to get important statistical data on any country in the region and difficult too to work without such data. The university would have to establish direct communications link with all ministries of education and perhaps statistical offices, and impress upon them the need to transmit relevant documents to the university.

The second suggested role is equally attractive: The universities should take the lead in promoting and elevating the status of teaching and the teacher. Teachers in the region are generally poorly remunerated, and have little status, socially or professionally. It would be in the direct interest of the Faculties of Education to assume this role. This issue could be tackled in several ways. The faculty could confront the fact that professionally untrained and academically poorly qualified persons are allowed to teach. The entrance requirements to training colleges could be reviewed. Indeed it is remarkable that it could for so long have remained unquestioned in light of the enormous expansion of knowledge. These changes would have to be carefully planned and gradually introduced as they depend on so many other things. Teachers' pay, for example, would have to be raised to attract better qualified students into the profession.

At the more substantial and immediate level, the Faculties/Schools of Education could develop and promote professional standards for teachers and for teaching, and ethical codes of behaviour. They could promote conferences and seminars to create a spirit of camaraderie and a sense of belonging to a larger body of professionals, and be a forum for generating

ideas to promote professionalism. They could help to develop and determine the criteria that could be used as benchmarks in the struggle to be termed a profession. They could work to restore the status the teacher once enjoyed in Caribbean societies. If the Faculties of Education worked with the teachers' unions and other professional bodies in these endeavours much could be achieved.

This reorientation of the university's role in teacher training and teacher education would differ substantially from its 1960s role. It makes great demands of the universities, but our societies have traditionally looked to the university for guidance and direction. My own experience in the University of the West Indies and dialogue with officials of the University of Guyana are persuasive evidence that these institutions acknowledge and are willing to undertake these roles. Although they have not escaped the ravages of the regional financial crises, they recognize the challenge and are seeking help from compatible available sources. One source is working with reputable foreign institutions who are willing to collaborate as *genuine partners* to help the region. The regional universities must be the fillip for the collaborative effort of both local/regional and foreign partnerships.

APPENDIX 1

Please read through the whole Questionnaire before you start filling it.

Please state your

1. Sex
2. Country of Residence
3. Academic Qualifications
4. Professional (teaching) Qualifications
5. Occupation

(Be as precise as possible e.g. Primary School Teacher, Teachers' College Lecturer, Education Officer etc.)

Please answer the following as thoughtfully as you can and be sure always to indicate which level of the education system you are referring to. The abbreviations used are

E.C.E. Early Child Education
P.E. Primary Education
S.E. Secondary Education

6. I would describe the quality of teaching in my country as

6.(a) Comment briefly on your assessment and indicate wherever possible tile basis for your assessment e.g. media views, personal experience as parent, teacher etc., general discussions etc. etc.

(b) What in your view needs to be done to improve the quality of teaching in the system as a whole.

Descriptions		Stage			
Excellent	i.e. Teaching is generally creative and innovative.	E.C.E.	P.E.	S.E.	Other
Good	i.e. Teaching is interesting and appropriate to the needs of the children.	E.C.E.	P.E.	S.E.	Other
Average	i.e. There is nothing to attract undue positive or negative comment.	E.C.E.	P.E.	S.E.	Other
Unsatisfactory	i.e. Teaching is inappropriate with respect to both content and methods.	E.C.E.	P.E.	S.E.	Other
Unable to assess		E.C.E.	P.E.	S.E.	Other

I consider the academic and professional qualifications and training of the teacher in my country, taking in account the challenges and demands of the country and region in today's world to be:

7. Academic Only: Adequate ❒ Just acceptable ❒ Unsatisfactory ❒
Please give reasons for rating.

8. Professional Only: Adequate ❒ Just acceptable ❒ Unsatisfactory ❒
Please give reasons for rating.

I would a*ssess the performance/achievements of pupils/students at the different levels as indicate. Please tick the appropriate box.*

9. Early Childhood Education
   (a) Pupils leave this stage with adequate readiness for the Primary Education. ❒
   (b) Pupils leave this stage partially prepared for the Primary Education ❒
   (c) Pupils leave this stage not all prepared for the Primary Education. ❒
   (d) Not applicable/ No assessment possible. ❒

10. Primary Education
   (a) Pupils have a good basis in literacy and numeracy and general education. ❒
   (b) Pupils have a good basis in literacy and numeracy, but their general education is inadequate ❒
   (c) Pupils are inadequate in literacy and numeracy ❒
   (d) No assessment possible. ❒

11. Secondary Education
   (a) Students do well in relevant public exams and are prepared for out-of-school life. ❒
   (b) Students do well in relevant public exams but are not prepared for out-of-school. ❒
   (c) Students do not do well in public exams but have some preparation for life out of school. ❒
   (d) There is too much wastage at this stage. ❒

What are the major factors that explain the situation as you see it and how might they be dealt with. (Be sure to be specific as to the stages you are discussing.)

I think the University should: *Please check all (that apply).*

12. Do the actual training of teacher at the Early Childhood Education stage. Yes ❒ No ❒
13. Do the actual training of teacher at the Primary Education stage. Yes ❒ No ❒
14. Do the actual training of teacher at the Secondary Education stage. Yes ❒ No ❒
15. Train persons, as teacher trainers, through post-graduate courses and other courses specifically designed for the purpose. Yes ❒ No ❒
16. Carry out research on a large scale on relevant training of teachers. Yes ❒ No ❒
17. Design/develop curriculum, methodologies and materials for the training of teachers. Yes ❒ No ❒

18. Plan conferences, workshops etc. to inform teacher trainers and other educators of the latest developments, research findings etc. pertaining to teacher training and education in general. Yes ❒ No ❒
19. Work collaboratively with Teachers' Colleges and Ministries of education for the benefit of teacher training. Yes ❒ No ❒
20. Through its academic departments make an impact on the academic content of teacher training programmes. Yes ❒ No ❒
21. Any other role(s)

Please comment briefly on any aspect of the role of the University in teacher training not covered above.

22. Give briefly your views of the way the University is playing its role in teacher training today. Be sure to make suggestions which may be useful in the years ahead.

23. Normally, teacher training is limited to the school system. Do you feel here is a strong case for the training of teacher at the tertiary level including the University. Yes ❒ No ❒

Elaborate your answer indicating how, for how long who should take responsibility etc. etc.

24. Please give any further comments pertaining to the role of the University in teacher training.

NOTE

In 1996, 12 years after reverting to Faculty status, the Faculty of Education once again became the School of Education.

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Jamaican Student Teachers

Interpretations of Reading Lecturers' Beliefs and Practices

Clement Lambert and Ruth Hayden

Introduction

A growing body of research exists on preservice teachers' experiences in reading methodology courses in North America (e.g., Allen and Piersma 1995; Hayden 1993/94). However, their counterparts in the Caribbean in general and Jamaica in particular have not enjoyed similar attention. Lack of local investment in research may be because children of wealthy Jamaicans usually attend the more prestigious private schools, generally from kindergarten through grade 12, then resort to countries of the North for their higher education (Goulbourne 1988).

A few studies on teacher education in Jamaica are important to this study. In her report on Caribbean first-year teachers' reason for choosing teaching as a career, Brown (1992) highlights the paucity of research on teacher education in Jamaica. Her perspective on teacher preparation in Jamaica and other Caribbean states is that "the tendency is for teacher educators to focus more on theoretical knowledge about education and teaching than on the practical application of this knowledge" (p. 195). Lambert and Hayden (1997) reported a study on Jamaican language arts teacher educators' perspectives. These educators concluded that although the participants identified a plethora of problems within their instructional contexts (e.g., curriculum conflicts and competency in language use), they believed that there were solutions to these problems. However,

the perspectives of Jamaican preservice teachers remain unexplored. This article describes a study conducted in Jamaica with preservice teachers and their lecturers in reading methods courses. These preservice teachers' interpretations of the reading beliefs and practices of their instructors are described, with some attention to the influence of these perceived beliefs and practices on the preservice teachers' reading pedagogy.

Related Literature

Preservice teachers' beliefs have been identified as an important focus for teacher educators desirous of effecting change through their instruction (Pajares 1993). Research involving preservice teachers in reading courses in North America suggests that teacher educators in reading methods courses influence prospective teachers' thinking and practice concerning the teaching of reading (Shaw 1994; Wedman, Kuhlman, and Guenther 1996; Turner and Traxler 1995). Shaw (1994) reports on three studies investigating preservice teachers' belief systems concerning reading and the effects of a methodology course on these belief systems. The results of those studies suggest a causal relationship between the teacher educators' instructional approaches and the preservice teachers' beliefs about reading by the end of the course. Shaw (1994) concluded that teacher educators needed to reflect on their own instruction and take responsibility for solving problems in teaching reading in elementary schools. The study also reminded teacher educators, "We cannot expect our students to do what we are unwilling to do" (p. 232).

Research on the beliefs and orientations of preservice teachers is usually concerned with the change in respondents' orientation after treatment (e.g., Wedman, Kuhlman, and Guenther 1996; Hayden 1993/94). These studies note changes in preservice and inservice teachers' expressed orientation for literacy acquisition: their change from one orientation to another, with change generally attributed to exposure to reading methodology courses. However, little attention has been given in the literature to the importance of student teachers' conceptualization of their instructors' beliefs and practices, and the implications of these beliefs and practices for teacher education.

The Jamaican Context

Jamaica's capacity to prepare its own elementary school teachers was established over 150 years ago. This period was "almost as long ago as the same capacity was developed in industrialized countries" (Miller 1995, 25). Since the abolition of slavery in 1838 and independence in 1962, the country has made important strides toward establishing education at all levels.

The Joint Board of Teacher Education, an organization which jointly represents the University of the West Indies as well as the governments, teachers colleges, and teachers' unions in Jamaica, the Bahamas, and Belize, centrally administers and monitors the programme of study for preservice teachers. Normally, teacher educators who are university graduates with teacher certification prepare preservice teachers in a three-year diploma programme that certifies them to teach in early childhood, primary, special education, or secondary educational institutions (Joint Board of Teacher Education 1993). Common curriculum guides in reading methodology across teachers' colleges provide the core instructional resource for preservice teachers' exposure to methods of teaching reading. Connelly and Clandinin (1988) state that despite the existence of curriculum guides, crucial decisions concerning instruction ultimately reside with the instructor. Therefore, the purpose of this paper is to describe Jamaican student teachers' views of their reading instructors' beliefs and practices, and the implications for teacher education.

Methodology

The study was qualitative, using ethnographic techniques for data collection and analysis. These techniques included semistructured interviews, observations, and reflective notes. Two approaches to interviewing were employed. Focusing questions were designed to encourage respondents to reflect on their beliefs about reading and preparing reading teachers for Jamaican primary schools (see appendix 1). The remainder of the interview pursued points raised in response to those questions to clarify respondents' perspectives.

Focused observation was also important in this study as it was used to gather data while the respondents were within a situation (Berg 1995; Spradley 1980). Direct observation notes were written on interactions among the respondents (student teachers and teacher educators) throughout the instructional session. Besides observation notes, reflective notes were written at the end of each day in the field. These notes included initial insights on the interviews and observations.

To protect the anonymity and confidentiality of the respondents, pseudonyms are used for participants and research sites in reporting the findings of this study. Data were collected in two Jamaican teacher-training institutions: Commodore Teachers College in Jamaica's capital city, Kingston, and Grand Vale Polytechnic in rural Jamaica. A total of eight reading methods students were interviewed concerning their perceptions of their instructors' reading instruction. Corrective Reading, a 45-hour mandatory course, was designed for year three primary teachers and offered by both instructors, Ms. Speid and Ms. Stephens. Advanced Reading was an elective course taken by years two and three students who intended to become reading specialists. Only Ms. Stephens, the instructor at the rural college, offered this course.

Seven of the eight student teachers were individually interviewed twice during the study (the eighth was interviewed only once because of illness). Interview questions focused on preservice teachers' expectations for the reading course, their impressions of the concepts the teacher educators conveyed to them concerning reading and the Jamaican primary school context, and their description of the teacher educators' practices. The first interview with each preservice teacher occurred close to the beginning of the course, while the second interview took place during the last three weeks. At Commodore College, six of eight student teacher interviews occurred outdoors on concrete benches. The remaining two took place in the classroom. At Grand Vale, all seven student teacher interviews took place in classrooms. Only interviewer and interviewee were present at each interview.

Data from interviews and observation notes were systematically compared through content analysis, which involved identifying special characteristics of the messages conveyed in the data (Berg 1995). During a

process of open coding, the objective was to identify as many themes as possible. Most of these categories were later combined through the process of axial coding, where broader headings were developed to encapsulate related categories of data in the open coding phase (Strauss 1987). These super-headings provided the themes included in the narrative accounts. The transcripts of the recorded interviews and initial analyses were given to the participants to confirm the accuracy of the representation of their views. In addition, a Jamaican colleague, a teacher educator conversant with qualitative research methods, also read and commented on randomly selected transcripts and analyses to provide additional perspective to the data reduction procedures.

Data were collected using multiple techniques in an attempt to fortify the trustworthiness of the study. The number of participants involved in this study and the purposeful selection of respondents mitigate claims of generalizabilty. However, procedures employed enhanced the potential for transferability of the findings (Guba 1981). These procedures included establishing the typicality of the case, which included the commonalities between the participants and the programme researched so that others could make comparisons within their own contexts (Merriam 1988).

Results and Discussion

The findings on instructors' beliefs and practices are reported elsewhere (Hayden and Lambert 1998). Among the more dominant instructional beliefs of the college reading instructors were the following:

1. Approaches to assessment and evaluation were generally inappropriate within Jamaican primary schools. More time was spent on testing than on the teaching of reading.
2. The approaches to teaching reading in primary schools were often inappropriate, as most Jamaican primary school teachers tended to rely heavily on basal readers and conducted "reading lessons" in this singular mode.
3. The Jamaican primary school teacher is faced with extraordinary challenges—large classes and inadequate instructional materials. Therefore, innovation was essential in teaching reading within these contexts.

The major areas for comparison that emerged from the data on the influence of the college reading educators' instruction on their preservice teachers were (a) perspectives on assessment, (b) approaches to teaching reading, and (c) creativity as effective practice.

Perspectives on Assessment

Student teachers generally shared common perspectives about the inappropriate testing practices in Jamaican primary schools. Althea, a student from Ms. Speid's group, described her own experiences as a primary school student. Her reading classes then, she indicated, were more directed toward assessment of oral reading abilities than instruction.

> Well at the end of her course, we will be a different kind of teacher. When I was in primary school coming up I just thought reading was that you just came, took out the book, turned to page 63, read story 5. Our teacher would just come and say, "Read story 5—stand and read." I mean going out there now we are prepared concerning how we teach reading. Not to just come to the class and say, "Read the book." It goes far beyond that.

Althea believed that her instructor discouraged the preponderance of reading lessons that sought to test children. She identified a learner-centred approach as the ideal situation suggested by her instructor. This belief reflected a consensus among Ms. Speid's preservice reading teachers that the teacher needed to be involved in instructional contexts where the children play an active role in their literacy experiences. These student teachers no longer viewed the teacher's role as that of assessor but as that of facilitator. Ruddell (1995) characterizes this view of teaching as one that encourages collaborative literacy experiences that are centred on the learner for the effective teaching of reading.

Another perspective on testing was also evident among Ms. Speid's students. In her Corrective Reading classes, each student teacher was required to administer a battery of diagnostic reading tests to a child from a neighbouring primary school who had been identified as having reading difficulties. Althea spoke of the merits of administering these diagnostic tests:

> Well I have completed the diagnostic tests and I have found the weaknesses and the strengths of my student and I have—I tried my best to get things where I could help her in her reading difficulty.

On the other hand, Samantha, an outspoken student teacher, complained that her instructor insisted on administering too many diagnostic tests. She believed that some of these tests were quite onerous for both herself and the child:

> I found some of the diagnostic tests boring and she found them boring too. Like to identify the sight words, those exercises were boring, boring, and I didn't really want to continue it, but the phonics, when she heard like the auditory perception, she liked that. I don't know if it's because she wants to hear me speak or so but she enjoyed that one and the comprehension, but the sight words were very boring. I think the list of words was unattractive. You know the basic sight words. Those were the trouble. Those words were difficult.

It is noteworthy that most of the tests in the battery were taken from North American contexts (e.g., Dolch sight words) and were generally not modified for the Jamaican context.

Student teachers in Ms. Stephens's group expressed agreement with their instructor's advocacy of moving away from the notion of the Jamaican primary school as a testing ground. Like their instructor, they highlighted the need to create nonthreatening instructional contexts for children with reading difficulties by removing the preponderance of tests that these children had grown accustomed to. However, while there seemed to be consensus between instructors and preservice teachers on the assessment practices for children, Ms. Stephens's own assessment practice was the main concern of her student teachers. Three of the four student teachers interviewed from that course commented that one of their immediate concerns was their instructor's severe marking practice. Latoya, a student in the Advanced Reading group summarized her perspectives of her instructor's assessment practices:

> She marks hard—very hard. OK, if she gives you a question to do then you have to give her back the almost exact same thing. She marks very hard—you have to give her back—if you miss out even two words then she just marks you down for that. I think she marks very hard. Well, I think she rarely gives a B+, she always tries to find the simplest little thing to take off …she marks very hard.

According to Latoya, Ms. Stephens's reputation for "marking hard" was quite intimidating, and as a result this student entered the course with some trepidation.

Vanessa, a student in the Corrective Reading course, also suggested that Ms. Stephens's marking had a negative influence on her student teachers.

> Well, some [concerning feedback from other student teachers] are negative because most people don't like the grading scheme of Ms. Stephens and her marking. You'll find that 70 percent of the students have the positive attitude. Others are just there because they have to go to the classes. They try to pass the course by swotting the thing just to pass it, but others I know for sure that they have developed a love for it. It's on the tip of their tongue. Every time you go out there you know how to behave because you know how to do it and all of that.

Generally, preservice teachers seemed to be influenced by their instructors' beliefs concerning assessment and evaluation. In many cases there was accord between their perspectives. However, discord was evident in the preservice teachers' perceptions of what their instructors told them about assessment and what was evidenced in their instructors' own assessment practices.

Approaches to Teaching Reading

Like their instructors, student teachers believed that reading instruction in Jamaican primary schools was often inadequate in meeting the needs of children. Samantha described her student's progress during eight tutoring sessions to illustrate the inadequacy of the primary school classroom in meeting the individual needs of children.

> There needs to be a lot more improvement in teaching reading, especially in the primary schools. After teaching the child the vowel sounds she was able to recognize them, use them in sentences, and on the whole, recognize sight words. She was able to comprehend better although I wasn't teaching her sight words or comprehension. By teaching her phonics she was able to do all of those things and even her sentence patterns improved. At first when I used to question her she used to just talk in one-syllable words and then during the course and at the end she was able to speak in a complete sentence. She was very motivated.

While student teachers and lecturers agreed on the inadequacy of the primary school instruction, there were often contradictions between the teaching methods their instructors encouraged and those the instructors themselves actually used to prepare them to become reading teachers.

Samantha complained about Ms. Speid's exclusion of her student teachers' creativity in course assignments. "She gives us an outline as to how we are to write the study and we just have to follow it. I don't see that it should be really done that way. You can use your own creativity, but she says, follow her so you have to just do it and I don't like that."

Preservice teachers' interpretations also mirrored their lecturers' emphasis on the necessity for treating children in the primary schools as individuals. Annette highlighted this need as a result of the instruction she received in her reading methods course:

> Based on what she says—we also spoke about the factors that contributed to the child's reading—so being a reading teacher these are some of the factors we are supposed to consider when we go out there. Ensure that these factors are conducive to the child's reading and if they're not, we are supposed to find strategies to alleviate them or to correct them. Because she spoke about the child's physical health, which includes his overall health, his ability to speak well, hear well and what have you. The child's social environment—we are supposed to find out about the child's background and what have you. So the kind of reading teacher that she wants is somebody who will be able to take these into consideration.

Annette's description of her instructor's perspective on the teaching of reading reflects a learner-centred approach that suggests a shift from traditional deficit models of teaching reading to one that is more concerned about the milieu and socialization of the Jamaican child.

Courtney, a member of Ms. Stephens's Corrective Reading group, shared his instructor's perspective that improvement in instruction was necessary in Jamaican primary schools.

> Well, my current impression is that many students are being neglected out there—reading students. For example, there are little weak ones in the classes and some teachers just teach and don't pay them any mind, but from being in that course we are equipped to really deal with different groupings in the classes. For example, what is necessary for the remedial ones—a lot of them, they need to start from the bottom line and what we are getting in Corrective Reading deals exactly with that.

Courtney also believed that the kind of preparation his lecturer provided was relevant to addressing the needs of children in the primary schools.

> When I started teaching practice in September, I didn't know how to teach reading. I was using the method where you just gave everybody the reading book to read. Then I realized that wasn't the method. You are supposed to group them according to their ability and give them different exercises. Maybe some children can manage picture reading only. You have to start with that because maybe that's what they can do. Those who can just identify a few words you teach them a few new words. The others that can read well you have them read and discussing the questions. So the lecturer is preparing us to really deal with streaming them and having everybody getting a fair share.

Generally, student teachers shared their lecturers' perspectives that the current approaches to teaching reading in Jamaican primary schools were inadequate. However, there was little consensus on approaches for effecting improvement. Like their instructors, the student teachers did not allude to a theoretical framework for teaching reading within the primary schools. In most cases, the student teachers' emphasis was on discrete skills, which mostly entailed instruction in phonics. In contrast, during conversations with the lecturers, Ms. Stephens advocated the integration of skills while Ms. Speid emphasized the use of children's literature as a vehicle for reading instruction. Attention to these approaches was not evident in the conversations with preservice teachers.

Creativity as Effective Practice

Student teachers' descriptions of methods of teaching reading mirrored the consensus of both lecturers that creativity and resourcefulness were imperative in teaching reading within the Jamaican primary classroom context. The descriptions student teachers provided on tutoring children in reading reflected their lecturers' views concerning the necessity of innovation. Annette's description of creating a model of a football pitch to improve a child's sight vocabulary typifies the approaches preservice teachers described for tutoring children with reading difficulties.

> He told me that he liked all ball games. He specified the ball games and since it was a period of football and it's a ball game and I think that every Jamaican at that time from children to old people were just jubilant about football, our country getting the privilege to participate in the World Cup. The first lesson—remembering that he said he liked ball games, I thought I would make a model of a football pitch. I made a model of a football pitch, I made some word cards, I made a little model ball as well and I made some

> words and some footprints and I took them with me. He was so excited just seeing the model and I asked him about the football games. That went two days before and he was so enthusiastic he told me everything. As soon as I presented the words, even though he did not use them they were words related to the pitch and other football words and so we developed a lesson around that. I clued him as to the words I wanted him to identify on the cards and then I presented the cards to him and said these are some of the words and I listed them and we did that. But in doing that I did it—it's like a drill method. I allowed him to spell the word and somehow make a mental picture of the word because that's the [method we use] in teaching sight words I use things around his experience and he was able to do very, very, well at that. I must say a hundred percent well. He got all the words and he could spell them, anyway you turned them, he could identify them, and then I did a second game of football with him. This time I used the jersey, I made models of the jersey, the shorts and other garments that the footballers wear and he wrote the words on it. This time he submitted those words to me.

Annette was pleased with the success the child enjoyed and attributed much of this progress to her resourcefulness in creating an activity that catered to the interest of the child. The resourcefulness of this student teacher was characteristic of many of her colleagues' efforts to find innovative ways of teaching children who experienced reading difficulties. In developing countries educators are faced with the challenge not only of finding solutions to children's reading difficulties but also of creating the instructional materials that are needed. Generally, student teachers saw this situation as a challenge to their creative abilities and often rose to this challenge.

The emphasis on creativity was not confined to students in the Corrective Reading classes. Latoya's description of what her instructor would consider a good reading lesson also contained this feature.

> She teaches us how to make reading material to get the pupils interested in what you are going to teach. You can use different games to stimulate them to want to learn. Say, for instance, you teach a skill: you can use a game to reinforce it, especially for children who lack interest in reading.

However, Latoya sometimes found creating her own instructional material challenging, especially when her instructor assigned grades to them.

> When it comes on to the reading games, you have to make them very big and if you make them small then she marks you down for it. I am not saying

> that it should be small you know but big, big, big, I don't see why she should mark us down for that.

The paucity of prefabricated instructional materials in developing countries has often challenged educators and preservice teachers to be resourceful in making their own instructional aids (Murray 1993). The preservice teachers in this study were evidently aware of the need for creativity. Their response to this need involved summoning their innovative abilities to make instructional materials from discarded commercial products (e.g., used cardboard boxes and waste paper). A major concern expressed by some student teachers was the unavailability of enough waste material to make instructional aids. However, no student teacher disputed that it was essential for them to develop their own instructional materials.

Conclusions and Recommendations

The results of this study highlight points of influence of college reading instruction on preservice teachers. In all three areas highlighted, there was accord between lecturers' instructional perspectives on reading and what their students held as effective practice within Jamaican primary schools. There was agreement that the teacher needed (a) to be sensitive to the needs of individual students, (b) to break the mould of traditional approaches to teaching reading within Jamaican primary schools, and (c) to be creative in designing strategies and materials for reading instruction. However, tensions were evident between student teachers' perceptions of their instructors' preferences and the realities of their circumstances as student teachers. If one agrees with Selye (1974), tension can be both positive and negative and is a necessary component in effecting change. However, there was little indication that participants in this study attended to the tensions in an effort to effect change in instructional practices.

This study addressed the influence of a major group of stakeholders in teacher education within the Jamaican teacher education context on another group. Sanacore (1996) underscores the importance of stakeholder involvement in implementing language arts innovations. Instead of using the term "stakeholders," Corrigan and Haberman (1990) appro-

priately employ the term "spheres of influence" to denote different sectors that influence teacher education within the context of the United States. They present these spheres as influences on the knowledge base, quality controls, resources, and conditions of practice that prevail in teacher education in general and among preservice teachers in particular. These researchers conclude that the types of interaction between the different spheres of influence determine the kinds of changes that occur in teacher education. It is important to note that student teachers and their lecturers enjoyed unanimity concerning their views on the inadequacy of current approaches to teaching reading in Jamaican primary schools. However, neither group suggested collaborating with classroom teachers, who are faced with the daily challenges of teaching reading to children, to find innovative ways to teach reading. If one agrees with Sanacore (1996) and Corrigan and Haberman (1990), it may be advantageous if Jamaican teacher educators, preservice teachers, and other stakeholders (e.g., primary school teachers) work collectively to find solutions concerning reading instruction.

Tension was also evident between the teaching approaches teacher educators expected their student teachers to employ and what student teachers reported that these educators did in their own instruction. Studies have suggested that modelling effective instructional practices is crucial in effecting change in preservice teachers' thinking on teaching reading (Shaw 1994; Wedman, Kuhlman, and Guenther 1996; Turner and Traxler 1995). Therefore, teacher educators need to practice what they preach concerning assessment practices and other approaches to teaching reading within the Jamaican context.

The teaching of reading in Jamaican educational institutions may be conceptualized through the notion of a transactional network. According to the transactionalists (e.g., Rosenblatt 1978), reading involves negotiation between the reader and the text. However, a transactional teaching model for reading, within the context of this study, appears to suggest that a negotiation process is needed between the lecturer, the student teacher, the school classroom context, and other stakeholders. For example, lecturers who plan lessons that involve children's literature in reading activities need to consider the availability of such resources to their student teachers.

The influence of Jamaican college instructors' instruction on their preservice teachers was evident in several aspects of this study. Ruddell (1995) suggests that the extent to which former students retain what their teachers taught even after many years is important in identifying the influence of educators' instruction on their students. It must also be noted that influence within the contexts explored in this study did not occur as a one-way process. College instructors also recognized the influence their preservice teachers had on their instruction (Hayden and Lambert 1998). It would also be prudent to conduct a longitudinal study with these respondents in real Jamaican classroom teaching contexts in order to explore the long-term influences of these college educators' instruction on their preservice teachers' practices.

APPENDIX 1
Interview Questions for Respondents

Questions for college instructors

- How did you arrive at your current perspectives of teaching reading? Could you tell me more about these views?
- From your point of view what makes an effective reading teacher within the elementary school context? Describe his or her practice.
- Tell me about your role in preparing this kind of teacher.
- What do you believe to be your most important responsibility towards your students in preparing them to teach reading?
- How do you view your role as instructor in an advanced reading class compared to your role in the introductory classes? How do you see the different groups?
- Tell me about the sources of satisfaction in your work as reading instructor. Tell me about the sources of frustration in your work.
- What are three books, personal or professional, that you would like to have your preservice teachers of your program read before they begin their careers, books that you think would make them better teachers.
- Are there any other experiences or concerns you would like to share with regards to yourself and preparing teachers of reading?

*Adapted from Ducharme, E. R. 1993. *The Lives of Teacher Educators.* New York: Teachers College Press.

Questions for student-teachers

- Tell me about your expectations of this reading course.
- How do you think these expectations will be met?
- Tell me about your lecturer's role meeting these expectations.
- What are your current impressions of what your lecturer is imparting about reading?
- Based on what the lecturer says in class, describe the kind of reading teacher you think your lecturer is trying to prepare.
- Based on what the lecturer does in class, describe the kind of reading teacher you think your lecturer is trying to prepare.
- Are there any other experiences or concerns you would like to share with regards to your impressions of your lecturer and the kind of preparation you are receiving for teaching reading?

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Preservice Teachers' Metacomprehension Strategy Awareness and Teaching Performance

Samuel S. Myers

Background

Most teacher education programmes in the Caribbean and other parts of the world continue to face the challenge of training teachers who are often not equipped with the reading comprehension strategies necessary for the academic pursuits of preservice training. The majority of these strategies relate to metacomprehension, that is, awareness of, and control over, the requirements of "reading to learn" tasks. The need for these teacher trainees to be in command of metacomprehension strategies takes on a special urgency, for they will be later expected to assume responsibility for instruction in reading-to-learn pursuits, which undergird performance in all school curricula.

There is general consensus in the related research literature that good readers, irrespective of age, are aware of metacomprehension strategies such as previewing text; making and verifying predictions; generating questions; using background knowledge; attending to text structure; and summarizing and applying fix-up strategies. Two intriguing assumptions characterize the research initiatives designed to examine the metacomprehension strategy awareness and abilities of readers. The first is that students at the primary as well as the secondary grade levels need instruction

in metacomprehension strategy awareness and use, especially since teachers are presumed to be doing little to promote this important aspect of reading instruction (Schmitt and Baumann 1986). The second, though tacit, assumption in the research literature on readers' metacomprehension competencies is that, presumably, mature readers such as those at the college/university level evaluate their comprehension as they read (Hare and Pulliam 1980). The first assumption would suggest the need for teachers to receive training in how to provide metacomprehension instruction in their classrooms. The second assumption would support the need for more research in evaluating college students' metacomprehension abilities, particularly in teacher training departments and faculties.

One study endeavoured to test empirically the first assumption, that primary and secondary students need to be guided in the use of metacomprehension strategies (Schmitt and Baumann 1986). The sample comprised 10 teachers from four different school districts, and represented grades 1 through 6. The teachers' interaction with their students during guided reading of basal reader selections was analysed to ascertain how much teachers did to promote students' metacomprehension abilities.

Results of the study indicated that most teachers failed to facilitate the development of students' metacomprehension abilities. The strategies specific to metacomprehension that were observed as relating to instruction (such as previewing material; activating background knowledge; attending to text features; establishing purpose for reading; generating questions; predicting; verifying predictions; recognizing a comprehension breakdown; and using repair strategies) revealed that teachers assumed most of the responsibility themselves for students' comprehension. Very rarely were teachers observed directing students to engage in metacomprehension strategies, or executing the lessons in a manner that promoted comprehension monitoring.

As a consequence of these findings, Schmitt and Baumann (1986) challenged educational publishers of basal readers to provide teachers with more guidance designed to encourage direct instruction in metacomprehension strategies in the use of commercial materials. They extended a similar challenge to teacher educators to incorporate more preservice and

inservice training in how to promote metacomprehension during the guided reading of basal readers.

The second assumption (that students at the college level are aware of, and use, metacomprehension strategies) has been implicitly challenged by the findings of a few studies (Baker and Anderson 1982; Hare and Pulliam 1980; Zabrucky 1990). For example, Hare and Pulliam (1980), adopting the protocol analysis paradigm used earlier by Olshavsky (1978), investigated college students' awareness of comprehension, and their disposition to employ compensatory strategies when there was a breakdown in comprehension. The results indicate that metacomprehension strategy awareness needed much enhancing among many college students. In particular, those who read with more consciousness of the metacomprehension strategies required by specific reading tasks, comprehended better than those who did not. Later, Zabrucky (1990) used the error detection paradigm to assess college students' awareness of metacomprehension strategies, specifically their ability to evaluate their understanding of texts. In this research model students were given the opportunity to identify errors deliberately embedded in a text. She discovered that most students frequently failed to evaluate their understanding of texts. She ascribed this failure to a lack of awareness relating to metacomprehension strategies.

Studies of more recent vintage have yielded findings which underscore the urgent need for college students to (1) be more aware of, and use, metacomprehension strategies during their academic pursuits, and (2) receive direct instruction and structured training in the application of such strategies (Bean 1997; Dikonty-Applegate, Benson-Quin, and Applegate 1994; El Hindi 1996; Frazier 1993; and Myers 1997). For example, in their case study of two college students (who were found to be directing their comprehension monitoring toward inappropriate or irrelevant goals), Dikonty-Applegate et al. (1994) provided instruction designed to expand the students' knowledge base of content and technique for monitoring. The two students reportedly became reflective and successful in their academic pursuits.

In a study of 43 college students, El Hindi (1996) discovered that providing instruction in metacomprehension strategies resulted in an increase in metacognitive awareness. She suggested that more integrative

approaches to instruction at the college level may improve the learner's reading and writing skills. In a case study of five college students, I found an overall positive relationship between metacomprehension strategy *awareness* and *use* (Myers 1997). I recommended that college tutors be encouraged to assume responsibility for fostering metacomprehension strategy awareness among their students and for ascertaining whether this awareness was applied to "reading to learn" pursuits.

These research findings, indicating shortcomings in college students' metacomprehsion strategy awareness and use, also apply to those college students enrolled in undergraduate teacher training programs. Bean's (1997) study of 27 preservice content area teachers revealed that although most preservice teachers were aware of the need for their students to demonstrate metacomprehension awareness, only 2 of 10 interviewed reported that they incorporated the related metacomprehension strategies in content literacy lessons during their practicums.

To the extent that preservice teachers subsequently assume responsibility for young readers' reading comprehension competencies, the assessment of these college students' metacomprehension strategy awareness carries special urgency. First, it will be worthwhile to find out whether their metacomprehension strategy awareness is related to their performance on some measure of reading comprehension. Second, it will be of practical significance to discover whether these preservice teachers' metacomprehension strategy awareness is reflected in their instructional procedures during teaching practice with students in regular reading classes. If preservice teachers are aware of, and use, the metacomprehension strategies peculiar to the requirements of particular reading tasks, they may be more inclined to foster similar awareness and application among their students during, and subsequent to, their practicum training experience.

Method

Subjects

The four Jamaican preservice teachers in this case study were randomly selected from a class of 35 preservice teacher trainees completing the final year of a three-year teacher training programme. These teacher train-

ees were enrolled in the Joint Board of Teacher Education (JBTE) secondary route training programme in preparation for teaching service in Jamaican secondary and high schools. Because English Language and Literature was one of their two specialist options, these preservice teachers were obliged to pursue reading methodology instruction courses. Included among these methodology courses was a reading practicum or teaching practice course.

The study had two main focuses. Primarily it attempted to ascertain whether the four preservice teachers' metacomprehension strategy awareness was reflected in their instructional procedures during interaction with students in regular classroom sessions for the reading practicum. Metacomprehension strategy awareness was measured by a Content Area Metacomprehension Strategy Index (MSI) questionnaire (appendix 1). Performance in the practicum was assessed by an Observational Schedule (appendix 2).

Second, data available on the preservice teachers' performance on the "Form F" Nelson-Denny Reading Test (Brown, Bennett, and Hanna 1981), taken in the second semester of the third year, were used to examine the relationship between metacomprehension strategy use and awareness as measured by the Content Area MSI questionnaire. This second focus was designed to ascertain whether there was any correspondence between process (strategy awareness) and product (strategy use) in reading comprehension among the preservice teachers.

Instrumentation

The data generated in this study were therefore derived from the two instruments, the Content Area Metacomprehension Strategy Index (MSI) questionnaire and the "Form F" Nelson-Denny Reading Test.

Content Area Metacomprehension Strategy Index (MSI) questionnaire. The questionnaire used in this investigation was adapted from Schmitt's (1988) Metacomprehension Strategy Index (MSI), initially designed to measure strategies specific to the comprehension of narrative text. As Schmitt (1990) later suggested, her MSI questionnaire could be modified for use with expository text since it addressed strategies such as previewing, prediction/verification, self-questioning, summarizing and fix-up strategies. The adapted version used in this study, Content Area MSI questionnaire

(Myers 1997), contained an additional strategy awareness item cluster, namely, attending to text structure/features, as shown in table 1. In addition, most items were couched in language that reflected the demands of content area reading tasks.

The Content Area MSI is a 25-item, 4-option, multiple choice questionnaire that asks the preservice teachers to tell the strategies they would use before, during, and after reading expository selections/texts (appendix 1). It was designed to assess college students' awareness of a variety of metacomprehension reading strategies within seven broad categories:

1. Predicting and verifying
2. Previewing
3. Purpose setting
4. Self-questioning
5. Drawing from background knowledge
6. Summarizing and applying fix-up strategies
7. Attending to text structure/features.

The appropriate response for each item that indicates metacomprehension strategy awareness is underlined in appendix 1. Table 2 illustrates the correspondent relationship of the individual Content Area MSI items to the seven categories. For instance, in appendix 1, option (a) in item 17, Seek answers to questions I had asked myself, relates to awareness of self-questioning strategies. The strategies assessed by the Content Area MSI questionnaire are compatible with those used in some instructional studies (Palinsear and Brown 1984; Risko and Feldman 1986).

The "Form F" Nelson-Denny Reading Test. The Nelson-Denny Reading test, Form F (Brown, Bennett, and Hanna 1981), comprises two subtests, vocabulary and comprehension. The vocabulary section consists of 100 items, each with five answer options. These items focus on meaning vocabulary, in which the correct responses impose demands on the reader's schema or background knowledge. The comprehension component contains nine reading passages and a total of 36 questions, each with five choices. The passages deal with topics from literature, history, economics, and science. The 36 questions can be divided into a group of 18 largely interpretive items and a group of 18 primarily literal items. The

interpretive items required the student-teachers to infer or deduce answers. On the other hand, the literal items tested their ability to note or recall explicit details. The nine comprehension passages, by virtue of their content and organizational patterns, encourage awareness and use of the metacomprehension strategies outlined in table 1.

Informal Observation of Instructional Procedures

The informal observation of instructional procedures during the Reading Practicum (see appendix 2 for observation schedule) focused on the extent to which the preservice teachers provided opportunities for students to be aware of, and use, the metacomprehension strategies explained in table 1 and represented in the Content Area MSI Questionnaire in appendix 1. The observation was informal in that the emphasis was on collecting information on the qualitative fostering of comprehension monitoring strategies among students rather than on quantitative measures of teacher competence derived from a standardized assessment instrument. The significance of these metacomprehension strategies to strategic reading is outlined in table 1. The Reading Practicum lasted for eight weeks.

The preservice teachers were assigned one of four possible grades, namely A, B, C, and D. The grade of A indicated excellent teaching practice performance. It was awarded for instructional procedures executed during a 45-minute lesson in which the preservice teacher facilitated awareness and promoted opportunities for the use of all but not less than 80 percent of the metacomprehension strategies appropriate to the reading comprehension lesson. The grade of B indicated above-average performance in which the preservice teacher provided opportunities for awareness and use of more than 50 and up to 75 percent of the metacomprehension strategies necessary. The grade of C indicated teaching performance that was barely average and in which the preservice teacher attempted to encourage awareness and use of up to 50, but not less than 40 percent of strategies appropriate to the reading comprehension lesson. The grade of D indicated unsatisfactory efforts at fostering the metacomprehension strategies essential to the reading lesson being taught. The preservice teacher earning an overall grade of D for the six-week teaching practice would be deemed to have failed the Reading Practicum. Overall,

Table 1

Strategies Measured by the Content Area MSI Questionnaire

Prediction and Verification

Ability to predict the contents, or portions of selections from a textbook, facilitates active comprehension by providing readers with a purpose for reading. In other words, this kind of purposeful reading assists in verifying prediction. Evaluating predictions, and the subsequent generating of new ones enrich the constructive nature of the reading processes.

Item Numbers: 1, 4, 13, 15, 23.

Previewing

The previewing process assists comprehension in the sense that it activates background knowledge, thereby providing information for making predictions.

Item Numbers: 2, 3.

Purpose Setting

Establishing a purpose for reading fosters dynamic, strategic reading pursuits.

Item Numbers: 5, 7, 1.

Self-Questioning

Formulating questions to be answered fosters active comprehension by providing readers with a purpose for reading, namely, to provide answers to the questions.

Item Numbers: 6, 14, 17.

Making Recourse to Background Knowledge

Arousing and applying information from background knowledge contributes to comprehension by helping readers to draw inferences and generate predictions.

Item Numbers: 8, 20, 24, 25.

Summarizing and Applying Fix-up Strategies

The ability to summarize at various stages in a text serves as a form of comprehension monitoring. Reviewing and suspending judgement and sustaining reading when comprehension breaks down contribute to strategic reading.

Item Numbers: 11, 12, 19, 21.

Attending to Text Structure/Features

Understanding how authors cue meaning and flag information is important to text comprehension. A powerful arsenal is knowing how to identify and use surface clues which signal the kind of information to expect from text.

Item Numbers: 9, 10, 16, 18.

he or she fostered opportunities for awareness and use of less than 40 percent of the strategies appropriate to a reading lesson. The final performance grade for each preservice teacher during the Reading Practicum was the average of five teaching sessions observed by the practicum supervisor over the eight weeks. The practicum supervisor was the college tutor responsible for Reading Methodology instruction. In addition to awarding a final grade for performance during the Reading Practicum, the supervisor was requested to provide a brief summary statement on the instructional procedures observed for each preservice teacher.

Procedures

The Content Area MSI questionnaire was administered to the four preservice teachers with no time restriction for completion. Completion time ranged from 25 to 35 minutes. As indicated earlier, the Content Area MSI was designed to assess awareness of the related metacomprehension strategies specified in table 1. The data generated were regarded as process measures relating to reading comprehension, to the extent that they were derived from the preservice teachers' perception of the strategies they would deploy during engagement with particular reading tasks.

On the other hand, performance scores on the "Form F" Nelson-Denny Reading Test were used as product measures of reading comprehension. It was anticipated that performance scores on the Nelson-Denny test would give some indication of strategy use, and suggest possible correspondence with strategy awareness as measured by the Content Area MSI questionnaire.

The Informal Inventory Observation of the preservice teachers constitutes the assessment phase of the Reading Practicum course. This assessment focused on the degree to which the preservice teachers' interaction with students provided observable evidence of instructional procedures designed to foster awareness and use of metacomprehension strategies. Accordingly, performance grades for the Practicum were awarded on this basis.

Results

Table 2 presents the four preservice teachers' performance on the Content Area MSI questionnaire and the Nelson-Denny Reading Test. Per-

Table 2

Preservice Teachers' Performance on MSI and Nelson-Denny Reading Test

Preservice Teacher	Content Area MSI Data								Nelson-Danny	
	P/V (5)	PRE (2)	PUR (3)	QUE (3)	BK (4)	S/FU (4)	TF (4)	TOTAL (25)	TOTAL 172	
									RS	RGL
Mawel	5	2	2	3	3	4	4	23	113	15.0
Chelsea	4	2	3	2	1	3	4	19	106	14.5
Michelle	2	2	2	2	2	3	1	14	67	10.2
Leon	5	2	2	3	4	4	4	24	73	10.9

KEY:

P/V = Predicting and verifying; PRE = Previewing; PUR = Purpose setting; QUE= Self-questioning; BK = Drawing from background knowledge; S/FU = Summarizing and Fix-up strategies; TF = Attending to text structure/features; RS = Reading Score; RGL = Reading Grade Level.

The number of items within each MSI strategy cluster, as well as total possible score on the Nelson-Denny, is indicated in parentheses.

formance on each of the seven metacomprehension strategy item clusters is given as well as the total Content Area MSI scores. These scores range from 14 to 24. The corresponding reading grade level equivalents for the total Nelson-Denny scores are also shown. The summary statements on the instructional procedures observed for each preservice teacher during the practicum are provided in table 3.

The total Nelson-Denny Reading Test scores for the four preservice teachers range from 67 to 113, and the corresponding grade reading levels from 10.2 to 15.0. For the Reading Practicum, one preservice teacher earned an A for excellent display of instructional procedures which fostered awareness and use of metacomprehension strategies among students. Another earned a B grade for above-average performance, another was awarded a C grade indicating a bare or marginal pass for the Reading Practicum, and the last received a D or failing grade.

The following discussion is based on a quantitative and qualitative interpretation of the data in tables 2 and 3 for each preservice teacher. Performance scores on the Content Area MSI questionnaire are dis-

Table 3
Preservice Teacher's Practicum Grade and College Tutor's Observation

Preservice Teacher	Grade	College Tutor's Observation
Mawel	A	Consistent in her efforts to foster awareness and use of all meta-comprehension strategies specific to each reading comprehension lesson. An excellent reading teacher; very reflective; capitalizes on students' responses to promote their awareness and use of metacomprehension strategies, exemplary questioning techniques.
Chelsea	B	Fairly good at promoting metacomprehension strategy awareness and use in some lessons. Needs to make much more use of students' background knowledge. Encourages students to make and verify predictions; always reminds students to observe the organizational patterns of text and signal words.
Michelle	C	Occasionally attends to the use of metacomprehension strategies. However, misses many such opportunities when appropriate to reading lesson; needs to encourage students to pay more attention to overviews, summaries, main ideas, and supporting details.
Leon	D	Too content with the content information of reading passages. Needs to pay more attention to strategic reading processes used by students. Hardly capitalizes on students' background knowledge.

cussed in relation to the Reading Practicum grades and the Nelson-Denny reading scores. The discussion is conducted in accordance with the two main focuses of the study:

1. Was metacomprehension strategy awareness, as measured by the Content Area MSI questionnaire, reflected in the preservice teachers' instructional procedures during the Reading Practicum?
2. Was there any correspondence between strategy awareness and strategy use, as suggested by performance scores on the Content Area MSI questionnaire and the Nelson-Denny Reading Test, respectively?

Discussion

Mawel

As shown in table 2, Mawel has the second highest score on the Content Area MSI questionnaire. She identified 23 of 25 possible appropriate responses that are indicative of good metacomprehension strategy awareness. The individual scores for her on the seven-item categories suggest exemplary awareness of the majority of strategies. She earned perfect scores on 5 of 7 strategies: prediction and verification; previewing; self-questioning; attending to text structure; and summarizing and fix-up strategy. On purpose setting, she scored 2 out of a possible 3. Also, her score of 3 out of 4 on the use of background knowledge was very satisfactory.

As shown in table 3, Mawel's grade of A for teaching practice during the Reading Practicum would seem to suggest that her level of metacomprehension strategy awareness is commensurate with, or reflected in, her ability and willingness to promote these related strategies among her students. The practicum supervisor's summary comments indicate that she is consistent in her attempts to encourage students to be both aware of, and use, metacomprehension strategies during reading-related academic pursuits.

Mawel's composite score of 113 on the Nelson-Denny Reading Test is indicative of a very good comprehender. This score corresponds to a grade reading level equivalent of 15, as derived from the examiner's manual for the Nelson-Denny Reading Test: she is reading at the level expected of a college student completing year 3. Although it may not be advisable to represent the status of an above-average college/university senior by the grade equivalent score, it seems reasonable to suggest that Mawel appears to be a good comprehender. In addition, it does seem that her Nelson-Denny Reading score indicates some positive relationship with her Content Area MSI score.

Chelsea

The Content Area MSI total score of 19 for Chelsea can be considered fairly satisfactory. As shown in table 2, she made perfect scores on awareness relating to the following strategies: previewing, purpose setting, and

attending to text features. In addition, her scores of 4, 2, and 3 on prediction and verification, self-questioning, and summarizing and fix-up strategy were very satisfactory.

The grade of B awarded to Chelsea for the Reading Practicum course indicates above-average teaching competence in her ability to foster awareness and use of metacomprehension strategies in interactions with students during reading comprehension lessons. The practicum supervisor's summary statement on her instructional procedures implies that she had displayed very satisfactory attempts at providing guided instruction in some of the related metacomprehension strategies during the practicum (table 3). The observation that Chelsea "needs to capitalize more on students' background knowledge" may not be too surprising, given her low score on this metacomprehension strategy on the Content Area MSI questionnaire (table 2). Similarly, the tutor's comments that "she encourages students to make and verify predictions" and to "observe the organizational patterns of texts and signal words" seem to be consistent with her high scores on the related item clusters, prediction/verification and recognizing text features in table 2.

Her total score of 106 on the Nelson-Denny Reading Test and the corresponding grade equivalent reading level of 14.5 suggest she is a good comprehender. Her reading achievement score also appears to be consistent with the metacomprehension strategy awareness suggested by her performance on the Content Area MSI questionnaire.

Michelle

Michelle's Content Area MSI total awareness score of 14 is the lowest of the four preservice teachers. On the three strategies, prediction and verification, use of background knowledge, and attending to text features, she made less than satisfactory scores. However, she performed satisfactorily on the four remaining metacomprehension strategies (table 2).

In addition to Michelle's overall poor performance on the Content Area MSI, an interesting feature emerged in her responses to some items. Unlike the other three preservice teachers, she demonstrated a tendency to choose incorrect response options during oral reading or phonic analysis. This suggests that her awareness of particular strategic reading processes indicates a reliance on the graphophonic cue system. For

instance, in items 7, 16, and 17, dealing with purpose setting, attending to text features, and self-questioning, respectively, she chose: "(a) Make certain I can pronounce all the words", "(b) read the material orally to my instructor", and "(c) make sure I am pronouncing the new vocabulary".

If her awareness of strategic reading processes is more related to the graphophonic cue system, then this may help to explain her below-average performance in the Reading Practicum, which focused on the preservice teacher's ability to encourage metacomprehension strategy awareness and use. The practicum supervisor's observation that she often failed to capitalize on instructional opportunities to foster comprehension monitoring would seem to account for her marginal pass in the practicum course.

Michelle's score of 67 on the Nelson-Denny Reading Test is also the lowest among the four preservice teachers. The corresponding grade equivalent reading level of 10.2 suggests a college student whose reading performance is below expectation. Michelle's low reading score may not be normal for students entering teachers college for training. However, like that of Leon's, described below, her poor reading performance is unsatisfactory for a prospective teacher.

Leon

Leon's performance on the Content Area MSI questionnaire is the best of the four preservice teachers. He identified 24 of the 25 appropriate responses that indicate metacomprehension strategy awareness. His individual scores on the seven strategy item clusters suggest exemplary awareness. He earned perfect scores on six of the seven strategies.

However, Leon's excellent performance on the Content Area MSI questionnaire contrasted with his Reading Practicum grade as well as with his score of 73 on the Nelson-Denny Reading Test. This lack of a positive relationship between strategy awareness and use was discovered in an earlier study (Phifer and Glover 1982). The supervisor's summary comments on his teaching performance during the practicum suggest that, overall, Leon experienced difficulty in facilitating learning among his students. In particular, his over-preoccupation with the content information in reading passages, his failure to use students' background knowledge, and lack of attention to metacomprehension strategies actually used by students,

would seem to account for his failing grade of D in the Reading Practicum.

Leon's Nelson-Denny Reading Test score of 73 and the equivalent reading grade level of 10.9 also contrast with his superior performance on the Content Area MSI questionnaire. His level of metacomprehension strategy awareness was not consistent with his reading performance.

Conclusion

Two hypotheses implicitly undergird this investigation of teachers college students' ability to foster metacomprehension strategy awareness and use among students during the Reading Practicum course. First, if preservice teachers are cognizant of, and use, metacomprehension strategies, they are likely to be more disposed to promote these among young readers during and subsequent to, the practicum. Second, their own awareness of metacomprehension strategies (as specified in this study) is likely to be manifested in strategy use, as indicated on some measure of reading competence.

The findings of this study may only be generalized to the very small case-study sample of four preservice teachers involved. In fact the small sample restricts the range of permissible inferences that may be drawn from the findings. However, as shown in tables 2 and 3, the data generated from the performance of Mawel, Chelsea, and Michelle, would seem to support the two hypotheses.

In the first instance, levels of metacomprehension strategy awareness, as measured by their performance on the Content Area MSI questionnaire, were reflected in the Reading Practicum grades for these three preservice teachers. Mawel, with the second highest total MSI score of 23, distinguished herself by exemplary performance on the Reading Practicum course with an overall final A grade, based on the extent to which she was observed to foster the metacomprehension strategies appropriate to particular lessons. Chelsea and Michelle, with MSI scores of 19 and 14 respectively, earned teaching practice grades of B and C, which appear to be commensurate with their strategy awareness.

In the second instance, there also seemed to have been some correspondence between these three preservice teachers' metacomprehension strategy awareness, and strategy use, based on performance scores on the

"Form F" Nelson-Denny Reading Test, as a measure of reading competence. With reading performance scores of 113, 106, and 67 (table 2), the proportionate relationship with strategy use for Mawel, Chelsea, and Michelle is illustrated by their MSI scores of 23, 19, and 14.

Altogether then, these three preservice teachers showed some positive relationship between their metacomprehension strategy awareness, ability to incorporate metacomprehension strategies in teaching, and reading ability or strategy use. Their levels of strategy awareness were reflected in their instructional procedures as well as in their reading competence.

The exception was Leon, whose top MSI score of 24 contrasts with his failing Reading Practicum grade of D, as well as with his Nelson-Denny Reading Test score of 73, corresponding to reading grade level 10.9. His high level of metacomprehension strategy awareness was not reflected in his teaching practicum performance, or in his strategy use, based on the Nelson-Denny score. However, his comparatively low reading score was consistent with his Reading Practicum failing grade of D.

Recent emphases on the process of learning, as opposed to the product, have driven researchers and educators to pay more attention to students' awareness of thinking processes that lead to learning. To the extent that most of the strategic cognitive processes involved in "reading to learn", have as their primary objective successful comprehension, a large part of cognitive monitoring in reading is virtually comprehension monitoring or metacomprehension. Accordingly, it has been discovered that awareness of metacomprehension strategies characterizes good readers (Paris and Jacobs 1984; Schmitt 1988). More important, it has been shown that children can be taught metacomprehension strategies (Paris, Cross, and Lipson 1984; Baumann, Beifert-Kessell, and Jones 1987). Such strategies include those identified in this study (table 1 outlines their significance).

However, although research findings have documented the view that children can be taught metacomprehension strategies, these findings cannot be translated into classroom practice if the related strategy awareness and use are not characteristic of the teachers who provide instruction. Teachers cannot deliver that which they are not aware of, or which they themselves are not able to use.

Notwithstanding the limitations of this study, the findings confirm earlier research. First, the metacomprehension strategy awareness of college students cannot be taken for granted (Baker 1979; Hare and Pulliam 1980; Zabrucky 1990; Myers 1997). As this study has shown, this is likely even among college students being trained as teachers. However, one encouraging, permissible inference emerging from the data in this study, is that there seems to be a corresponding relationship between preservice teachers' metacomprehension strategy awareness and their ability to promote these strategies among the students they are teaching during reading-related academic pursuits. Therefore, the need for this category of college students to have the required metacomprehension strategy awareness assumes a very special urgency, given the educational mission for which they are being prepared.

Second, although it may be presumed that metacomprehension strategy awareness may have some corresponding relationship with strategy use, this may not necessarily be the case (Phifer and Glover 1982). In the current study, the preservice teacher with the highest metacomprehension strategy awareness demonstrated comparatively poor strategy use in his performance on the Nelson-Denny Reading Test, as a measure of reading competence. In addition, the findings of this study indicate that in the case of the same preservice teacher, a high level of metacomprehension strategy awareness was not reflected in the ability to promote awareness and use of related strategies among students in the classroom context. The educational implications would seem to be that, in these instances, the need to help the teacher trainees translate awareness into classroom practice carries equal urgency in our teacher training institutions. As Roe and Kleinsasser (1993) suggest, those who undertake the training of reading teachers should assume the responsibility "to model the attributes recommended to those they mentor" (p. 91).

The literacy development of children is contingent not only on their good performance scores on some measure of reading competence. It is crucially dependent on the extent to which they are aware of, and can select and use, appropriate strategies in monitoring their comprehension as they read, in order to remember and understand information. Teachers in training not only need to be aware of the importance of those metacomprehension strategies identified in this study, but they themselves

should be able to use these strategies. The combined awareness and use of such strategies by preservice teachers should prepare them adequately for guiding students in the classroom to become more strategic comprehenders of written discourse.

APPENDIX 1

Content Area Metacomprehension Strategy Index (MSI) Questionnaire

INSTRUCTIONS: Think about some of the strategies you can use to assist you in understanding your textbook materials better, before, during and after you read them. Read each of the lists of four statements and decide which statement would help you most. There are no right answers. It is just a matter of what you think would be most helpful to you. Circle the letter of the statement you choose.

A. In each set of FOUR, choose the ONE statement which suggests a clever thing to do, to assist you in understanding your textbook better before you read it.

1. Before I begin reading, it is a good idea to:
   a. Determine how much time it will take to read the chapter.
   b. Find the meanings of all the difficult words in the dictionary.
   c. Make some predictions about what I think the new material is about.
   d. Consider what has gone before.
2. Before I begin reading, it is a good idea to:
   a. Examine the illustrations to see what the material is likely to be about
   b. Ascertain how many pages I have to read.
   c. Pronounce the words which I do not know.
   d. Find out whether the material is making sense.
3. Before I begin reading, it is a good idea to:
   a. Request someone to read the material to me.
   b. Consider the title to determine what the material is about.
   c. Find out if most of the words have more than two syllables
   d. Check to see whether the illustrations are meaningful and properly arranged.
4. Before I begin reading it is a good idea to:
   a. Make sure that none of the pages are missing.
   b. Make a list of the words I am not sure about.
   c. Use the title, sub-headings, and illustrations to assist me in making predictions.
   d. Read the last paragraph to give me an idea of how the chapter ends.

5. Before I begin reading, it is a good idea to:
   a. Establish my purpose for reading the material.
   b. Use the difficult words to make predictions about the contents of the material.
   c. Re-read sections to verify the meaning of what I have read.
   d. Seek assistance with the difficult words.
6. Before I begin reading, it is a good idea to:
   a. Paraphrase all the main ideas encountered in the material before.
   b. Ask myself questions for which I desire to finds answers in the material.
   c. Consider the words which have more than one meaning.
   d. Read through the selection to find all the words with suffixes.
7. Before I begin reading, it is a good idea to:
   a. Ascertain whether I had read the material before.
   b. Use my questions and predictions as a rationale for reading the material.
   c. Make certain I can pronounce all the words before I commence.
   d. Consider an alternative title for the selection.
8. Before I begin reading, it is a good idea to:
   a. Think of how what I already know relates to the illustrations, title, and sub-headings.
   b. Check on the exact number of pages to be read.
   c. Select the best portion of the material for a second reading.
   d. Read the material aloud to someone.
9. Before I begin reading, it is a good idea to:
   a. Practice oral reading of the selection.
   b. Restate all the main ideas to ensure I can remember the material.
   c. Thumb through the chapter, reading just the title and subtitles.
   d. Decide whether I have adequate time to read the story.
10. Before I begin reading, it is a good idea to:
    a. Check to ensure that I understand the material so far.
    b. Find out whether the words have multiple meanings.
    c. Read the introduction and summary of the chapter.
    d. List all the important details.

B. In each set of FOUR, choose the ONE statement which suggests a good thing to do, to help you understand your textbook material better <u>while</u> you are reading it.

11. While I am reading, it is a good idea to:
    a. Read the material slowly enough in order not to miss any important details.
    b. Check the title to see what the information is about.
    c. Find out whether the pictures have any missing features.
    d. Check to ensure whether the material is making sense by summarizing what I have read so far.

12. While I am reading, it is a good idea to:
    a. Stop and repeat/recall the main ideas to ascertain whether I am understanding what has been read.
    b. Read the material quickly to understand the details.
    c. Read only the beginning and the conclusion of the material.
    d. Omit the sections which are too difficult.
13. While I am reading, it is a good idea to:
    a. Search for all the unfamiliar words in the dictionary.
    b. Discard the book and choose another one if things are not making sense.
    c. Keep in mind the title, subtitles and illustrations to help me anticipate the on-coming information.
    d. Bear mind the number of remaining pages.
14. While I am reading, it is a good idea to:
    a. Keep track of the time it is taking me to read the story.
    b. Test myself to see whether I can answer any of the questions I asked before I started reading.
    c. Examine the title to see what the material is likely to be about.
    d. Supply the missing features to the illustrations.
15. While I am reading, it is a good idea to:
    a. Let someone read the story aloud to me.
    b. Take into account how many pages I have already completed.
    c. List the main characters in the story.
    d. Check to see whether my predictions are correct.
16. While I am reading, it is a good idea to:
    a. Determine whether the events are real.
    b. Consider the writing patterns and key signal words in the chapter.
    c. Pay attention to illustrations which might be confusing.
    d. Read the material orally to my instructor.
17. While I am reading, it is a good idea to:
    a. Seek answers to the questions I had asked myself.
    b. Avoid confusing my previous knowledge with what I am reading.
    c. Read the material silently.
    d. Make sure I am pronouncing the new vocabulary correctly.
18. While I am reading, it is a good idea to:
    a. Decide on my reason for reading the story.
    b. Pay attention to italicized words and bold-type print.
    c. List what happened first, second and so on.
    d. Re-read to be sure I have not missed any of the words.
19. While I am reading, it is a good idea to:
    a. Re-read sections or read ahead to see whether I can figure out the meaning, if I am not understanding the material.
    b. Take my time reading so that I can be sure to understand the material.

c. Change the conclusion so that it make sense.
d. Check to find out whether there are enough illustrations to help make the ideas clear.

20. While I am reading, it is a good idea to:
    a. Ascertain whether I can recognize the new vocabulary words.
    b. Be careful not to omit any parts of the material.
    c. Check to see how many of the words I already know.
    d. Continue thinking about my previous knowledge of the material in helping me to decide on the new information.

C. In each set of FOUR, choose the ONE statement which suggests a good thing to do, to help you understand your textbook material better after you have read it.

21. After I have read my textbook material, it is a good idea to:
    a. Determine the number of pages I read with no mistakes.
    b. Find out whether there were enough illustrations accompanying the material to make it interesting.
    c. Ascertain whether the purpose I had set for reading has been accomplished.
    d. Underline the cause and effects.
22. After I have read my textbook material, it is a good idea to:
    a. Underline the main ideas and topic sentences.
    b. Outline the main points of the selection or chapter to make sure I understand the material.
    c. Revise the material to ensure I had pronounced all the words correctly
    d. Practice reading the material.
23. After I have read my textbook material, it is a good idea to:
    a. Read the title and revise the material to see what it is about.
    b. Check to see whether I missed any of the vocabulary.
    c. Reflect on what enabled me to make good or bad predictions.
    d. Make a prediction about what next the material will contain.
24. After I have read my textbook material, it is a good idea to:
    a. Research all the difficult words in the dictionary
    b. Read the most interesting sections aloud
    c. Request someone to read the material orally to me
    d. Reflect on how the main ideas in the material relate to information I knew before I started reading.
25. After I have read my textbook material, it is a good idea to:
    a. Think about how I would have written the information in the material.
    b. Practice reading the story silently for the purpose of good reading.
    c. Review the story title and illustrations to determine what additional information to expect.
    d. Make a list of the most interesting words.

APPENDIX 2

Informal Observation Schedule Used
duringTeaching Practicum

Content Area Metacomprehension Strategies Promoted by Preservice Teachers	Ratings			
	A	B	C	D
Prediction and Verification: Encourages students to use strategies related to prediction-use of titles, sub-headings etc. to make predictions; provides opportunities for students to verify predictions				
Previewing: Invites students to examine summaries, graphical presentations, and illustrations in ascertaining what the content of the reading assignment is about.				
Purpose Setting: Assists students in establishing purposes for the reading task; reminds students to keep established purposes in mind as they engage in reading pursuits.				
Self-Questioning: Collaborate with students in getting them to generate questions to be answered during and after reading tasks.				
Recourse to Background Knowledge: Diagnoses and capitalizes on students' previous knowledge about the contents of the reading material.				
Summarizing and Fix-up Strategies: Provides opportunities of students to identify main ideas, supporting details, and make outlines relating to the reading assignments.				
Attending to Text Structure/Features: Encourages students to pay attention to writing patterns, and to see how signal words, bold type print, and italicised words flag important information.				

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Breaking the Vicious Cycle

Can Jamaican Teachers Colleges Change the Face of Music Education?

Joan Tucker

Introduction

During the last decade several Caribbean countries have focused much of their resources and energy on developing national curricula. Jamaica has been prominent among them with the Reform of Secondary Education (ROSE) project, which developed curricula first for five subjects, and later for four more subjects, among them music. More recently the development of a primary music curriculum and the piloting of a syllabus in music by the Caribbean Examinations Council (CXC) have added significantly to the number of innovations that school music faces. The primary, secondary, and CXC syllabuses focus on the three parameters of music education (performing, audience-listening, and composing) that provide learners with direct experiences of music (Swanwick 1979). By including composing and a broader musical repertoire that speaks to the cultural pluralism of Jamaican society, these curricula espouse an eclectic approach to music education. To implement these curricula, teachers already in the system may need to broaden their musical skills and knowledge. They will also need to change their teaching methodologies, reducing their customary role of musical director to take on more facilitatory roles in the type of classroom processes that foster student decision making and the development of creative thinking.

In light of all this, there is need to examine the role of teachers colleges, whose preservice programmes for music teachers will need to equip their graduates to participate in the changes intended in music education. While colleges may be reasonably successful in educating primary generalists who can deliver the primary music curriculum, it is in the education of secondary music specialists that colleges will be most challenged. This article therefore is directed mainly at the challenges and issues of training secondary music teachers, although reference is made to the programme for primary teachers where germane.

There is a problem of numbers in the secondary programme, for there are few applicants now. There is also the question of whether even those students accepted in the secondary programme have the prerequisite skills and knowledge to master the programme. The problem of numbers and the absence of prerequisite knowledge reside in the limited provisions made for music teaching in most secondary schools. There are many secondary schools in which music is not taught at all, and there are others in which there is a limited provision for two or three grades. There are few secondary schools that offer the type of music programme that would lay the foundations for study in a tertiary institution. The majority of students leaving our secondary schools have done some singing (often in casual "singalongs"), some elementary theory, and in the lower grades, a little recorder playing. Unless students have had access to private tuition outside of school they would be unable to meet the teachers college entry requirements—and only a minority of adolescents have had private tuition.

Faced with an insufficient number of student teachers applying to enroll in secondary music programmes, most of whom show musical potential but inadequate musical knowledge, colleges struggle to maintain the numbers and standards desired. In the long run they are unable to provide an adequate number of suitably trained secondary music teachers for schools. And the system is self-perpetuating, for the state of music in schools has a direct impact on music in teachers colleges, and so it continues in a seemingly endless cycle in which the deficiencies in one part of the system impact on the other part of the system. The question is, How can colleges break this vicious cycle in order to provide the society with

teachers who can effectively implement the new music curricula and in so doing change the face of school music in the years to come?

This article is intended to stimulate discussion on ways in which this can be accomplished. It examines recent major changes in the teachers college music curriculum, and points to areas of the programme that require further change. This is done in the belief that Jamaican teacher training institutions have played, and can continue to play, a dynamic role in improving music education in schools.

Background Information

Music has long been established in Jamaican schools. The education of elementary school teachers was established over 150 years ago, and music became a part of the curricula for schools and elementary teachers when the "new" code of regulations in 1867 broadened the curriculum beyond the "chief" subjects (reading, writing, and arithmetic) to include "secondary subjects", one of which was music (then called singing). Reforms in teacher education in Jamaica in 1953 and 1966 led to the training of secondary school teachers and a massive expansion of the entire educational provision. It was as a result of these reforms that programmes for secondary music teachers were introduced in two tertiary institutions, making a significant impact on music teaching. Before, subject specialists had been drawn from among musicians who had studied in conservatories abroad, most of whom were competent pianists and piano teachers, but had little knowledge of class music as a subject for the educational development of children of different aptitudes and abilities. Three tertiary institutions now offer secondary music programmes.

Until the late 1960s and early 1970s, the teachers college music curriculum, as in the schools, continued to be modeled on the 19th-century British choral tradition, and focused therefore on singing and the mastery of tonic solfa. In the 1970s and 1980s the emphasis in music teaching at all levels of the system was on broadening the curriculum by including Jamaican folk music, and to a less extent, popular music as well (Tucker 1995). These and other post-independence changes have had an impact on shaping the nature and purpose of music teacher education. Below, I outline the major changes attempted in teacher education during the

1980s and 1990s and the degree to which they have been successfully implemented.

Performing

Over the last two decades musical performance in teacher education has been directed by two main aims. The first of these has been to broaden instrumental skills by adding courses in which student teachers are taught to perform on a range of musical instruments. The second aim has been to broaden the musical repertoire.

In the primary music programme, broadening instrumental skills and moving away from a concentration on the voice only have resulted in a substantial increase in recorder playing and the inclusion of tuned and untuned percussion. The relative ease with which the recorder can be learned, its availability, affordability, and suitability for music education in primary schools have made it central to the programme for primary student teachers. In addition, the instrument's melodic capacity allows it to provide a needed contrast to the rhythmic character of Jamaican music, which is conveyed through the congo drum and other percussion instruments.

In the secondary music programme there has also been an increase in the instruments studied, in marked contrast to the two or three instruments that secondary students studied during the early years of the teachers college secondary music programme. As all teacher education programmes in music are now examined by the Joint Board of Teacher Education, which carries out the function of state licensing, common curricula have been developed for the diploma music programmes for secondary subject specialists in tertiary institutions. This is a change from the 1980s, when the two institutions offering secondary music programmes—Mico Teachers' College and the Jamaica School of Music—offered considerably different programmes. Over the last decade changes in secondary music have resulted in study on many more instruments, both those central to Western European musical culture and those that are part of Caribbean musical culture. Student teachers have therefore experienced the challenges inherent in a curriculum that aims to accord with the cultural pluralism of Jamaican society. Students in all secondary programmes are now expected to leave college with competencies

on a range of "functional instruments" such as the piano or guitar, the recorder, the drum, and other percussion instruments used in Caribbean folk music. Added to these is a range of classroom instruments (tuned and untuned percussion) relied upon both in primary and secondary schools to provide musical experiences. In addition to the functional instruments, secondary student teachers who opt to specialize in only one teaching subject and select music as that subject, are required to choose an area of specialization, such as choral conducting or the conducting of band instruments. In connection with the chosen area of specialization an instrument is selected as the main performance instrument.

Attempts to broaden the musical repertoire beyond the Eurocentric preoccupations of the pre-independence years have been for the most part successful. A pattern has emerged, however, where the repertoire for certain instruments tends to fall within a particular musical genre. For example, the solo recorder repertoire is generally taken from the European art music instrumental literature. In contrast, the vocal repertoire tends to reflect a cross-section of the musics heard in Jamaican society, and includes therefore classical music, gospel, Caribbean folk music, and popular music.

Over the last two decades, developing ensemble work in colleges has been a focus. Much of this work has taken place on tuned and untuned classroom instruments, recorders, keyboards, and guitars. These instruments are often augmented by Caribbean folk instruments, and occasionally the steel pan is included. One institution has a steel pan ensemble. The major success over the last three decades is the total acceptance of the congo drum in teacher education and in schools. The work carried out by Marjorie Whylie, prominent ethnomusicologist and master drummer, has resulted in a repertoire of the rhythms of Jamaican traditional folk forms. These materials provide stimuli for improvisation and other types of composing, and are heard in solo and ensemble performances.

The absence of instrumental work on wind instruments or other orchestral instruments in most institutions reflects a deficiency in curriculum practice throughout the education system. On the other hand, their absence has had certain positive results, for there has been greater reliance on folk instruments, often resulting in a unique fusion of the European and African elements in Caribbean musical culture.

It is perhaps in the area of musical repertoire and in the increased range of instruments played that most of the changes have been made in the last two decades. This is not surprising, because musical performance has been the focus of attention at all levels of the education system and the wealth of Jamaican musical culture resides in an innate enjoyment of performing.

Skill Development

The gradual inclusion of Jamaican folk music in the musical repertoire of schools and teachers colleges during the 1960s and 1970s was accompanied by a dwindling interest in sight-singing and tonic solfa which had accompanied and facilitated the choral tradition of the earlier years. Seemingly intent on holding on to the notation needed in the performance of Western art music, during this period there was a strong concentration on the theory of notation in most teachers colleges. A practice emerged by the 1980s in which the common examinations set by the Joint Board of Teacher Education were examinations only in the theory of notation, history of music, and teaching methods. Practical work had less prominence than theory, and much less prominence than it has now. And in keeping with the examination procedures used by the British inspectors of schools in the early part of the century, group singing was heard in colleges in an informal assessment only to ascertain the general standard of the singing in a particular institution. A major change since the 1980s has been that student teachers in all programmes are individually examined by the Joint Board in all areas of their practical work. This includes aural, sight-singing, and sight-reading.

During the last ten years there has been less emphasis on writing theory and more emphasis on the application and use of theoretical skills and the development of aural skills. I have argued that there is a strong tendency in Jamaica to confuse the ability to write and identify notes with being musically literate, even if those theoretical skills do not result in an ability to produce musical sound (Tucker 1994). Also, for some teachers, the theory of notation legitimizes the subject and provides it with status. In an education system that grapples with high levels of illiteracy, mastering the writing of musical symbols is often regarded as an important educational achievement.

Over the last two decades skill development in music has caused ongoing debate in teacher education. The manipulative skills needed in instrumental music are not easily acquired by adult learners if they have entered teachers college programmes without solid foundations in musical performance. And the struggle to fuse and balance the teaching of aural skills with translative skills in order to progress beyond the mere teaching of theory is one in which college lecturers are engaged. Teacher educators agree that sight-singing has value. But it is evident that when the choral tradition ceased to dominate music teacher education, sight-singing began to have less importance. In addition, the inclusion of Jamaican folk music in education opened the door to an aural culture. The increase in instrumental music also reduced the need to sight-sing, for in instrumental performance instruments translate musical symbols into sounds. There has been a shift therefore from sight-singing to sight-reading.

However, in teacher education insufficient attention has been paid to the importance of the ear in facilitating the visualization of sound, and the way in which sight-singing, aural visualization, and sight-reading are related.Therefore, throwing out sight-singing when the curriculum no longer focused only on choral music was tantamount to "throwing out the baby with the bath water". Colleges, belatedly realizing the need for these skills, are now trying, with difficulty, to reestablish sight-singing in their programmes, particularly by student teachers in primary and secondary programmes who are not proficient instrumentalists or who lack confidence in accompanying. Compiling vocal anthologies of songs not yet learned, but held for future use in classrooms, is futile if student teachers lack skills for independent learning. The absence of teaching materials for most subjects, and particularly for music, means that recorded school songs and other curriculum materials suited to schools are not readily obtainable in Jamaica. It is important therefore that teachers entering the profession have compilations of teaching materials. But it is equally important that they have the skills needed to learn them and to use them accurately and effectively.

Audience-Listening

The term "audience-listening", often used interchangeably with "audition", means "responsive listening as (though not necessarily in) an

audience" (Swanwick 1979, 45). Although "audition" is frequently used in the professional literature, the more familiar term used in Jamaica, audience-listening, is used in this article. It is essential to note that both terms refer to the type of listening that goes beyond that which is done in aural courses in order to develop certain skills. Keith Swanwick describes audition as

> a very special form of mind often involving empathy with performers, a sense of musical style relevant to the occasion, a willingness to 'go along with' the music, and ultimately and perhaps too rarely, an ability to respond and relate intimately to the musical object as an aesthetic entity. (P. 43)

In earlier years, teachers here and abroad sought to develop the type of listening, and the resulting musical engagement described above, through courses in musical appreciation and the history of music. Over the last 20 years there have been considerable changes in how music teachers have approached this part of the curriculum. More emphasis is now placed on listening being active rather than passive. Courses in audience-listening focus on the development of critical awareness that results from an analysis of music (Howell 1996); and it is through appraisal that we affirm that there is knowledge and understanding of music (Swanwick 1992).

In Jamaica, where earlier courses would have focused only on providing information on the lives of European composers of the classical and romantic periods, courses in listening and analysis now offered in teacher education are broader and include the study of 20th-century European art music, pop music, and Jamaican folk music. The focus is now on knowing all the musics in Jamaican culture; and there is an intention to remove the musical hierarchies that once existed by focusing on musical commonalities and the cultural contexts in which these musics exist. Courses are now aimed at helping student teachers understand music as an aspect of the culture of which it is part (Nettl 1992).

The problems that colleges have encountered in attempting to teach Jamaican and other Caribbean musics in this way are immense. One problem is that there is a large body of research on Jamaican traditional music but little of it has been published. Those college lecturers fortunate enough to study Jamaican music as part of their professional education enjoy an advantage. College lecturers not as fortunate find that they must research and analyse materials suited to the courses offered in their insti-

tutions. This is a task of some magnitude, for not only does it require certain skills—skills that lecturers may not have—but it becomes virtually impossible given a lecturer's workload and the absence of resources in institutions. Lecturers who lack the tools of analysis will find there are few texts to which they can refer. Attempts to analyse Jamaican music will also encounter other problems: the point has been made concerning non-European musics that most of the definitions and terminology we use to analyse music are derived from European Art music and are not necessarily suited to musics outside of that tradition (Wiggins 1996).

In summary, the effort to change the ways in which colleges attend to audience-listening, though ongoing, is most difficult because courses in audience-listening rely not only on lecturers' skills and knowledge but also on equipment and teaching materials. Financial constraints impact negatively on the provision of equipment; and as for teaching materials, the efforts so far to relate music teaching to Jamaican musical culture have not been sufficiently supported by the development of materials that speak to that culture and are also suitable for teacher education. One has to acknowledge that these problems relate to a particular time and period in the history and development of music education in Jamaica, and continue to try to address them.

Composing

A major thrust was made in the 1970s to establish composing in the programme in one teacher training institution. The work done in this institution was initiated by Michael Burnett, a prominent British educationist who has earned considerable respect through his years in teacher education and through his publications. In his teaching he includes musics of different genres. And as one of the early proponents of pop music in the classroom, he has used different media to articulate ways in which it can

be composed and performed in schools. It is through his teaching of Jamaican students and students from other Caribbean countries that we now have several young composers who have provided the region with compositions that are highly suitable for schools.

In an effort to develop this early initiative further, over the past 20 years there have been several attempts to make composing a central part of both primary and secondary programmes in all colleges. Success has been limited, however, although some institutions encourage student teachers to create sound collage, and with or without the use of traditional notation, create simple arrangements of Jamaican folk and popular songs. Despite these attempts, the secondary programme in particular lacks sufficient opportunities for experimentation with new musical ideas and the development of broader approaches to composing. The result is that student teachers often work within the confines of the melodic and rhythmic materials most commonly found in Caribbean folk music, and the development of students' abilities within this parameter of music education is seldom fully realized.

It may be argued that the lack of progress in the teaching of composing in colleges has been related to the values and practices in schools—only over the last four years has composing been attempted within a few schools. These attempts have been made in schools piloting the ROSE secondary music syllabus or the CXC music syllabus. Coming before similar initiatives in the school system, teachers colleges "blazed a path" in trying to establish composing in music teacher education. It is hoped that with the new syllabuses there will be wider interest in classroom composing and greater support from schools. It is essential that schools broaden their perceptions of the role of a music teacher, who until recently has been seen as little more than a musical director/conductor engaged in training vocal and instrumental ensembles for school and community performances. It is hoped that the new curricula will lead to the realization that a teacher's role is also to foster the development of a range of creative abilities, abilities that have not been valued in the past. It is in this new and exciting period of change that teachers colleges should build on their early efforts to include composing in colleges.

Future Developments in Teacher Education

If teachers colleges are to play a significant role in changing practice, they must continue the process of change that began some 20 years ago. Some of the curriculum matters that have been discussed here reside in broader issues touching on theoretical principles central to professional discourse and future action. These broader issues, including cultural pluralism and exploration and experimentation, should inform curriculum practice in music teacher education.

Teacher Education and Cultural Pluralism

As noted earlier, attempts to develop a rapport between the teachers college curriculum and the musical culture of Jamaican society have posed problems for teacher educators. But besides the problems experienced in audience-listening, the absence of analysis and developed knowledge of aspects of our musical culture has resulted in their marginalization and low status. Most important, however, are issues of parity in the skills and standards needed in the study and performance of different musics. Related to this are questions as to what counts as musical knowledge and musical ability in teachers colleges.

An example of this is in aspects of the teachers college music syllabus. The syllabus identifies the skills and knowledge prerequisite to entry to secondary music programmes by reference to the graded examinations of overseas examination boards, the British Associated Board of the Royal Schools of Music or Trinity College, which are often taken in Jamaica. The syllabus clearly outlines the requirements to be met by young musicians whose competencies lie in the field of European art music. On the other hand, there is an absence of clear guidelines on the prerequisite skills and knowledge needed in popular or folk idioms for young musicians whose early musical development has been in an aurally transmitted culture and who seek to become music teachers. One reason for this is the absence of analysis and appropriate terminology for musics outside of the Western art music tradition, which was noted earlier. This has far-reaching effects, because there is often a less positive approach to potential students whose skills and abilities lie in folk or popular idioms, and who have developed their competencies outside of what one could call

the "formal system of the private studio". In their early music education these students would not have been assessed (and thereby graded) by the overseas examination boards, or indeed by any other public examination body. How we in teacher education assess the competencies of such persons, ascribe a value to those competencies, and provide for their development, therefore require examination. A different approach is essential, one that is likely to lead to an increased number of student teachers accepted in colleges, as well as a broadening of the type of musical knowledge, skills, and interests among teachers in the future.

Colleges should provide the school system with teachers who have a broad understanding of the musics of the Caribbean, who can deliver, without personal bias, the new music curricula which speak to the cultural pluralism of Jamaica and other Caribbean societies. Currently, colleges are impeded by the absence of a known and established way of assessing and developing those students whose expressions lie within an aural culture, be it folk or popular musics. It is necessary therefore for those of us in music teacher education involved with the development of syllabi and their delivery to develop our understanding and knowledge of these musics, and to know how to accommodate them in formal education. Only if we do this can young persons from an aurally transmitted musical culture be fairly assessed on their aptitude to enter music programmes in teachers colleges. And having been accepted in those programmes, can they then be provided with a learning environment that can nurture and develop these important skills and abilities.

The Value of Exploration and Experimentation

Earlier attempts to establish composing in schools had limited success, and some of the problems encountered were discussed earlier. Other problems arise from some college lecturers' beliefs that musical composition is best attempted after students have developed literacy skills. These beliefs reside in a traditional approach to music teaching whose aim is to pass on European musical traditions, which depend on the mastery of the theory of notation. But this approach to music teaching has been replaced by others in which providing opportunities for the expression of personal ideas through a chosen medium, as in visual arts, is of primary importance. In music, such opportunities can be provided along with the devel-

opment of all types of musical skills and should not depend on the prior acquisition of skills. Based on this approach, in some countries, particularly Britain, classroom composing has become a central part of music education for children of all ages, including the very young.

Adopting a similar approach in Jamaican schools would require colleges to provide leadership, first discussing and clarifying their own approach to classroom composing. The degree to which tutors value the inclusion of composing in the teachers' programme needs to be clearly indicated. If they value it they will seek to develop appropriate teaching methods, and will also endeavour to give students' compositions a more prominent place in the colleges' musical offerings.

This will pose certain difficulties, for music departments in many colleges operate in an institutional culture that is similar to that of a school. It is a culture in which the music department's primary duty is to respond to the institution's needs for music as a part of important college events. Music departments are seldom seen to take an independent initiative to project their work, the type of work that is important and necessary to the professional development of young music teachers. Because of this, too little of the music heard in colleges speaks to the innovative and experimental. The music presented in most colleges goes along conventional paths, because it is often learned and presented for an event that already has its own purpose and aesthetic needs. Unless music departments accept the responsibility to expand and develop the musical tastes and interests within their departments and the college community, then the teaching of composing in teachers colleges will merely be peripheral to other work, and colleges will not provide schools with positive models for curriculum practice. Having made an early start in establishing composition in their curricula, colleges owe it to themselves to provide leadership in this important curriculum area by placing more value on students' capabilities to be innovative and to express personal ideas through music. Colleges need to have the confidence to foster an environment in which experimentation with sound and the development of the attendant creative processes are fundamental to becoming a teacher of music.

There is also the need for greater experimentation in selecting the musical repertoire that students are taught to perform. The appeal of Jamaican music, with its rhythmic vitality, can result in college lecturers

settling for a narrow repertoire of local music that has instant appeal. There is too little evidence of the musics of other Caribbean countries or contemporary music from outside the Caribbean. As noted earlier, some of the successes in teacher education over the past 20 years have come from the broadening of the musical repertoire, but that repertoire needs extending once again. Over the past decade music educators in many countries have become committed to breaking down human prejudices and the barriers that exist between different peoples and continents, by bringing the musics of other countries into their classrooms. Colleges need to be aware of this and to be generally more aware of the social and other messages that we convey through the musics we teach.

With the advent of the CXC syllabus, the way is paved to explore the musics of other Caribbean countries, which will bring student teachers into contact with Indian music and the music of South America, as well as the fusion of musics from Africa and Europe that have been, and continue to be, transformed over time. Lecturers might find the challenges almost overwhelming, but the benefits are tremendous—the Caribbean is a rich repository of different musics, many of which are unknown to Jamaicans, and if introduced through the teachers colleges could broaden and energize our conception of music and music education.

At the beginning of the new millennium, Jamaican teachers colleges may still be unable to provide the number of music teachers needed in the system, but the programmes that they offer should bring a new approach to music education. Drawing on their past achievements colleges should be ready to reawaken interest in the subject by opening the door to a wider range of musics and musical activities. Programmes should draw more substantially on the wealth of Caribbean musical culture and the musics outside of the Caribbean. And most important, music teacher education should be characterized by exploration and experimentation.

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