CARIBBEAN EDUCATIONAL RESEARCH JOURNAL

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

Tel: 1 246 417-4425
Fax: 1 246 417-9615

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

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

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

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

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

The Caribbean Educational Research Journal, in this edition, continues to focus on broadening intellectual resources, understanding and developing exchange of ideas among education professionals in order to offer intellectual contributions towards educational development in the Caribbean.

This edition of the journal features articles from the Caribbean, Canada and Africa, with titles ranging from high-stakes testing, deaf education, workforce education, pre-service teacher internet self-efficacy, valuation of university course, leadership style, measurement of speaking proficiency in teaching English Language to education technology.

The authors present very interesting findings, implications and conclusions that are valuable to educational development. For instance, Dr. Barrow and Nicole Kent submit that positioning test preparation strategies while working with students about to write high-stakes examinations can generate some intended and unintended consequences for both teachers and students while Dr. Ben Braithwaite, focusing on deaf perspectives on deaf education, concludes that it is deaf people themselves, young and old, who must lead the way in evolving a system of education suited for their particular conditions and needs.

Dr. Debra Ferdinand focuses on the perceptions of graduate students of cultural insensitivity in classroom teaching and suggests faculty diversity training and diversification of teaching styles in keeping with multicultural education, ethno-centrism and critical race theory.

Dr. Olugbenga Ige, in a study that seeks to investigate the predicting effects of some computer variables of some pre-service teachers suggests that efforts should be intensified to provide teaching laboratories powered by 21st century ICT equipment to empower pre-service teachers.

Drs. Pamela Rose and Rajkumar Sookraj also confirm that needs analysis is a useful tool for gaining insights into issues related to academic language development. On the other hand, Dr. Janice Jules presents a piece of applied linguistic research in a fascinating manner.

In another study which is about principal leadership style and teacher stress, Dr. Ian Marshall recommends that there is a need to develop differentiated stress management systems to address the different levels of stress being experienced by older and newer secondary school teachers in Barbados.

Finally, Dr. Alaba Agbatogun, Professor Biodun Ogunyemi as well as Dr. Tayo Omoniyi present an exploratory study which is very inviting to read.

Dr. Babalola J. Ogunkola
Managing Editor
Strategies Teachers Use in Helping Students Overcome the Eleven-Plus Barrier: A Multi-site Case Study of High-stakes Testing in Belize

Dorian A. Barrow* and Nicole N. Kent

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

Teachers preparing students to write high-stakes tests choose teaching strategies that they think will best prepare students for these exams. At the same time they attempt to provide students with the best educational experience that the school context allows. The tension between these two goals, however, sometimes forces teachers to select teaching strategies that are more aligned with one of these goals than the other. This qualitative multi-site case study draws upon an integrated conceptual framework, drawn from socio-cultural theory. The study reports on how seven elementary school teachers who prepare students to sit the Eleven-plus examination (locally known as the Primary School Examination or PSE), went about choosing the strategies they used to prepare students to write this high-stakes exam. The study also focused on the intended and unintended consequences these choices had on the quality of the educational experiences their students encountered. The results showed that the teachers in the study gave priority to three strategies when preparing students to write the high-stakes examination. These are: drill-and-practice, supplementary tutoring and reflexive praxis. These choices of strategies had both positive and negative implications for the students, whom the teachers were trying to help to overcome the barriers to the high-stakes test. The authors suggest some of the actions that could be taken to mitigate against the negative effects of the strategies selected by the teachers, for example a shift in beliefs from that of a didactic approach to teaching to constructivism.

Keywords: Professional Practice of Teachers; Teacher-identities; Test-accountability System; High-stakes Test; Primary School Examinations, Eleven-plus Examinations; Supplementary Tutoring; Drill-and-practice; Reflexive Pedagogical Praxis

Introduction

High-stakes testing at the primary school level has been a part of the Anglophone Caribbean education landscape for more than fifty years. One outcome of the emphasis on high-stakes test is increased pressure on teachers to raise test scores. Also, these pressures can lead to a distorting effect on teaching and learning, if teachers cannot adopt their professional identities to adequately position high-stakes test preparations strategies in their classrooms (Rex & Nelson, 2004). Identity in this context means “being recognized as a certain kind of [teacher] in a given context” (Gee, 2001, p. 99). Teachers preparing students to write high-stakes tests, therefore, choose teaching strategies that they think will best prepare students for these exams. At the same

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ISSN 1727-5512
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time they attempt to provide students with the best educational experience that the school context allows. The tension between these two goals, however, sometimes forces teachers to select teaching strategies that are more aligned with one of these goals than the other.

Socio-cultural theory posits that whether identity is conceptualized as a set of beliefs about oneself, as a subject-position in relation to other people within a practice, or as a narrative told about oneself, one’s identity changes within the context of practice as one becomes adept at the practice; that is, as a result of one’s learning (Lave & Wenger, 1991). Teacher’s professional identity development, therefore happens all the time and in all contexts, through markers such as type of students they interact with, how, the context in which the interactions occurs, and so on (Holland, Lachiotte, Skinner & Cain, 2001). Though these constructs – teacher identity, agency or positioning – are different labels that essentially refer to the same idea, their connotation may be different. For example, whereas teacher identity may carry the connotation of an enduring, static and centralized self, teacher positioning point to ways in which one does not have one identity, but rather inhabits or invokes multiple identities or identifications. These identities may shift in salience and in meaning as one moves from one context, for example where there is a high alignment of the school with the pressure to raise test scores on these high-stakes tests, to the next where such alignment may not exist (Esmonde, 2009).

Against this background, it is necessary to gain greater insight into how teachers go about making these decisions when functioning within the context of Belize, a high-stakes testing learning-environment that lacks a formal test-accountability system. This qualitative multi-site case study reports on how seven elementary school teachers who prepare students to sit the Eleven-plus examination (locally known as the Primary School Examination or PSE) went about choosing the strategies they used to prepare students to write this high-stakes exam. The study also focused on the intended and unintended consequences these choices had on the quality of the educational experiences their students encountered. The study is intended to contribute to a better understanding of the purposes elementary schooling is currently serving in the Anglophone Caribbean, where high-stakes testing occurs under more or less similar circumstances of non-accountability. It is also hoped that the study will shed light on the role teacher identity, agency or positioning plays, among the teachers who operate in these schools, on the growth and development of the students they serve.

The “US” in the Study
As researchers our primary interest is in segueing how our systems of schooling functions at the micro-political level. We have always felt, like Donna Haraway (1996), that there is good reason to believe that vision is always better from below “the brilliant space platforms of the powerful” (p. 255). So we place premium on establishing the capacity to see schooling from the peripheries. This report is therefore an argument for the local or indigenous knowledge of practicing teachers (George, 1999). It is also an argument against various forms of “unlocatable, and so irresponsible knowledge claims” (Haraway, 1996, p.255) made by some researchers in their name.

We are also fully cognizant that there lies in this stance the serious danger of romanticizing and/or appropriating the visions of the less powerful while claiming to see from their positions. This notwithstanding, a subjugated standpoint is preferred because it seems to promise more adequate, sustained, objective, transforming accounts of the world of education (Haraway, 1996).

This article is therefore written from the perspective of someone who has identified himself with the politics of education in Belize for over forty years and someone who has identified herself with the politics of education in Tobago for over eight years. This suggests that we both
bring an “optics that is a politics of positioning” (Haraway 1996, p. 257). Hence, the answers the participants provided to these four sub-questions forms the basis of this preliminary report.

Our positioning of the subjugated is not exempt from critical re-examination, deconstruction, interpretation or any of the other modes of critical inquiry, nor is it an innocent positioning. On the contrary, it is preferred because in principle it is least likely to allow the denial of the critical and interpretive core of all teacher knowledge.

As a preliminary to a discussion of some of the findings of the study, we present briefs on the literature and the integrated conceptual framework that guided the study. These include a brief overview of socio-cultural theory of learning and situated learning theory’s view of identity and agency. We then argue for the importance of the identity/agency related processes in understanding how teachers position their classroom preparation strategies when preparing students to sit high-stakes test. We then present the major findings and conclude with a set of open questions for further investigations.

Theoretical Consideration
This paper discusses the ways in which seven grade-six teachers in Belize go about selecting teaching strategies while preparing students for a high-stakes test, in a country where there are no test-accountability systems in place. We examined how these teachers, when positioning their test preparation strategies, aligned with, or stymied, the pressures to raise test scores, as an expression of their own personal test-accountability (Rex & Nelson, 2004). It also reports on how looking at high-stakes testing through the lenses of teacher identity/agency related processes, provides us with some interesting insights, into some of the consequences of the teaching strategies chosen, on the quality of the educational experiences students are expose to when preparing for a high-stakes test. This is particularly important, in the context of Belize, an environment where there is no formal test-accountability system in place.

Background: Eleven-Plus, Primary School Examination, Other High-Stakes Tests
This study is based on how teachers select their classroom preparation strategies when preparing students to sit the Eleven-Plus Examination. This examination is also known within the Caribbean as the Common Entrance Examination (CEE) or in Belize the Primary School Examinations (PSE). In carrying out this inquiry, it was assumed that adequate and appropriate test preparation plays an important role in helping students demonstrate their knowledge and skills in high-stakes testing situations (Gulek, 2003).

Not only are test preparations important, but Norton and Park (1996) in their study, found a significant relationship between test preparation and academic performance. Chittooran and Miles (2001) also concluded that adequate test preparations significantly improve students’ attitudes toward taking tests. And in a large scale study of test preparation, Miyasaka (2000) identified five types of test preparation strategies that help students more fully demonstrate their knowledge and skills on high-stakes tests. These included, teaching in the content domain of the area to be tested, using a variety of assessments and formats, teaching time management skills, fostering students’ motivation and reducing test anxiety.

The PSE is defined as a high-stakes examination administered to some students in the last year of primary education, governing admissions to various types of secondary schools (De Lisle, 2008). Because of this there is an intense competition among students to get into their first choice secondary schools (De Lisle, 2008). Furthermore, there is a defined relationship between test preparation and academic performance (Norton & Park, 1996). Thus looking at the
test preparation strategies teachers use to prepare students to sit the PSE, was considered to be also important and worthy of study.

**Teacher Identity, Agency and Positioning**

Socio-cultural and situated learning theorists’ posit that learning to teach happens through any one of four facets. They contend that the principal form of learning happens through participation (Lave & Wenger, 1991; Rogoff, 2003; Wenger, 1998). It may also occur however in relation to social ecology (Bronfenbrenner, 1999; Erickson, 2004), through communication about the subject matter (Lerman, 2000; Vygotsky, 1978; 1986) and through a process of identity development (Martin, 2000; McAdams and Bowman, 2001; Sfard & Prusak, 2005; and Walshaw, 2005). The agency development conception allows one to use terms, like learning, identity, identification, subject position and positioning, interchangeably (Gee, 2001).

Socio-cultural theory also posits that whether identity is conceptualized as a set of beliefs about oneself (Martin, 2005), as a subject-position in relation to other people within a practice (Lave & Wenger, 1991), or as a narrative told about oneself (Sfard & Prusak, 2005), one’s identity changes within the context of practice as one becomes adept at the practice, that is, as a result of one’s learning (Esmonde, 2009). Learning, or positioning, or identity development therefore happens all the time and in all contexts, through markers such as the language we speak, the way we dress, whom we interact with and how, and so on (Holland, Lachiotte, Skinner & Cain, 2001).

Though these constructs are different labels that essentially refers to the same idea, their connotation may be different. For example, whereas identity may carry the connotation of an enduring, static and centralized self, positioning point to ways in which one does not have one identity, but rather inhabits or invokes multiple identities or identifications. These identities may shift in salience and in meaning as one move from one context to the next (Esmonde, 2009).

However, just because ones identity, identification or subject-position, are constructed in the moment, and are therefore not predictable, does not mean that individuals have perfect freedom to construct their identities or subject-positions any way they choose. Instead, practices, or how the teachers go about selecting strategies when preparing students for the Eleven-plus Exams, are built around “a socially accepted association among ways of using language, of thinking, feeling, believing, valuing, and acting” (Gee, 2000, p. 103). Helms (1998) capture this image of the content and structure (Kearney, 1984) of one’s subjected-positioning, or identity, in her visual model of identity shown overleaf (Figure 1).
It is important to note that the teacher’s classroom learning is not so much about the individual’s acquisition of bytes of knowledge, but is learning how to (i) behave appropriately in the context of the pressures to raise scores on the high-stakes examination; (ii) to read the context of the lesson and select the appropriate teaching strategy; (iii) use the right language; and (iv) to behave in ways so as to be perceived as a good teacher (Solomon, 1998; Black, 2004). Adopting these modes of belonging, or ways of being, may be easier for some teachers than for others. For example, in schools where there is a high level of alignment to the pressures to raise test scores, a teacher whose view is to resist this pressure may find adopting to the valued discourse of the school difficult, but may still teach in ways which are consistent with the cultural expectations of the school. The processes through which these modes of belonging, forms of membership, and levels of meaning occur are captured well in Wenger’s model of identity formation shown overleaf (Figure 2).

Figure 1: Visual Model of Identity (Gee, 2000)
These frameworks will be used to explain why some teachers position certain strategies over others when preparing students to write high-stakes tests.

**Research Questions**

In carrying out this project, both the data collection, and the case and variable analyses were guided by the following overarching research question: How does teachers’ professional identity help to position the high-stakes tests preparation strategies they select to use in their classrooms? In operationalizing this research question the following four sub-questions were generated:

1. How do teachers’ views of teaching and learning influence the strategies they select to prepare students to sit the Eleven-Plus (PSE) Exams?
2. How do what teachers know, believe and value about the Eleven-Plus Exams (PSE) influences the teaching strategies they select when preparing students to sit the exams?
3. How does the school community influence the strategies teachers select in preparing student to sit the high-stakes Eleven-Plus Exams?
4. How do the perceived expectations of significant others (inside and outside the school) to raise test scores on the Eleven-Plus Exams influence teachers choice of strategies when preparing students to write this exam?
**Methodology**
The study involved seven participants from four school sites. A typical case sampling technique was used to select the case sites whereby one typical primary school from the North, South, East and West of the country were purposively selected. The four schools selected were then ranked on the basis of their overall performance on the PSE and labeled using their location and ranking. These rankings are as follows: E1 (school in the East has highest ranking); N2 (school in the North has second highest ranking); S3 (school in the South with the third highest ranking and W4 (school in the West has fourth highest ranking).

In selecting the seven actors a convenient sampling technique was employed. Two actors were chosen from each of the schools in the North and South. One of the actors from each of these schools was a teaching principal. The two actors from the school in the East were senior teachers, and so was the sole teacher from the school in the Western Education District. All actors were grade-six teachers and were identified by their school location and ranking. For example, N2T was used to identify a teacher from the school in the Northern Education School District.

The design for the study was a qualitative multi-site case study (four sites) design. Each of the school sites constituted a case. The actors in each school context sampled were interviewed together and each interview was carried out on a separate day. Each interview ran for about two hours. Interviews were audio-taped and tapes transcribed. To commence the analysis, a start list of thirty eight codes was generated mostly from the literature and the integrated socio-cultural conceptual framework. Following coding of the transcribed texts, a series of matrices were developed. This started with the partially-ordered meta-matrix (Miles & Huberman, 2002). The first level of analysis used the matrices to generate themes. Variable and case themes were then compared and screened for redundancies. Finally, themes were clustered based on the domain or subject of the themes, namely themes about the teaching strategies selected to deliver the PSE curriculum. This process generated eight themes – power, assessment literacy, reflexive praxis, drills, extra-lessons, unpreparedness, anxiety and alienation. Finally these were bundled under three clusters, namely strategies involving: reflexive praxis, drills and supplementary tutoring.

**Findings and Discussion**
This section presents and discusses the major findings of the study. It is organized around significant statements the teachers made in response to the overarching question: How do teachers’ professional identity help to position the high-stakes test preparation strategies they select to use in their classrooms when preparing students to write the Eleven-Plus (CEE, PSE) examinations? The findings were organized around the overarching research question and discussed in the context of the relevant literature associated with the socio-cultural theory’s postulates on teacher professional identity (Gee, 2001; Helms, 1998) and its formation (Esmonde, 2009; Wenger, 1998).

The representational themes from the findings, in part, reflect the interminable dialectic, or what Wenger (1998) calls the negotiability, occurring between the positioning of the grade-six teacher’s identity and the demands of the high-stakes examination system, in the context of his/her local school culture. In response to the question: how do the teachers’ view of teaching and learning influence the strategies they select to prepare students to sit the Eleven-plus Exams?, the teachers identified three strategies viz. drill-and-practice, supplementary tutoring and reflexive practice, but none of the teachers showed exclusive commitment to any one of the
three strategies. Instead, the teachers from all four sites discussed their use, in quite an integrated manner, claiming that both school context and their professional views of teaching had the most influence in determining which of the three strategies they would select. They also indicated that the struggles between the forces of the culture of the school, and the external high-stakes testing arenas (Bourdieu, 1993), were also significant in determining which combination of the three strategies they chose to deliver the Eleven-plus curriculum. The themes and clusters, together with the supporting texts from the interviews with the actors are presented in Table 1. A brief description of the analysis of the data excerpt follows.

How Identity Shapes Practice: Drills, Supplementary Tutoring, Reflexive Praxis
One of the potential dangers of the latent function (Merton, 1968b) of a large scale high-stakes testing system without formal accountability structures in place, is that such an assessment system can transform the cultural spaces of schools from places where meaningful student learning occurs, to one where there is a mad rush for students to do well on these high-stakes exams. The latter can be so, sometimes, at the expense of meaningful learning (Foodun, 1992). In this regard, the grade-six teachers can at times find themselves functioning as gate-keepers whereby they are solely responsible for maintaining the balance between teaching for meaningful learning and teaching to the test. In this way they can either embellish the type of cultural transformation that tends to make elementary schooling more dysfunctional, as a result of the mad rush to get a few students among the “top” thirty (30) performers; or they can resist such tendencies by positioning their test preparation strategies in ways that enhances their reflexive pedagogic praxis (Rex & Nelson, 2004). Whether they embellish or resist such tendencies is, in part, a function of their professional identities, that is, what they know, believe and value about high-stakes testing, their perceptions of what significant others expect of them in their preparation of students to sit this high-stakes examination, and their long-term commitment to the teaching profession in such an examination environment.

As the results in Table 1 show all the teachers who participated in this study do both the embellishment and resistance to such tendencies, with some teachers favoring the drill-and-practice strategy over the reflexive praxis strategy, while others selected these strategies in the reverse order depending on their personal views of the teaching act, that is, their teacher identity. The supplementary tutoring strategy, however, was selected by all the teachers in the sample with more or less the same consistency. This suggests that the salience of the drill-and-practice or the reflexive praxis strategies as teacher-choice were better qualitative indicators of type of identity formation teachers had developed than the ubiquitous supplementary tutoring strategy.
### Strategies Teachers Use When Preparing Students for the PSE High-stakes Examinations

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<td><strong>E1T:</strong> “When we get back the results we analyze it immediately. I especially focus on the math results since that was one of our weakest subjects. I went to the master sheet since that would give you a break-down of where they went wrong on the problem solving paper and made notes of what I needed to do for next year, in terms of different methods of teaching and how much more time I needed to spend on a topic”.</td>
<td><strong>REFLEXIVE PRAXIS</strong></td>
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<td>Some teachers use the high-stakes test results to position how they prepare students by improving their praxis.</td>
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<td><strong>N2T:</strong> “Each year we review our PSE results and use that review to help us set our personal goals and plan for the next year’s cycle. First of all we want to remain at least as competitive as we were the previous year and to improve on that. The focus is on gradual sustainable improvement in students’ performance on the test. For us having one or two students pass in the top ten is not as important as having all our students improve on their test performance each year regardless of their disability. So we use the test results mainly to show us the weak areas that need more strengthening. I have my paper right here and it’s showing us that next year we need to work on problem solving more, again. Yes, problem solving, because our children did excellent in English”.</td>
<td><strong>REFLEXIVE PRAXIS</strong></td>
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<td>Teachers use the high-stakes test results to position how they prepare students by improving their praxis.</td>
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<td><strong>S3T:</strong> “I am one of those teachers who believe that the real problem with problem solving is that in a lot of cases the students cannot comprehend from the written text what the problem is. So we did a whole lot of comprehension exercises with our Standard VI class. I had them write stories, read stories. I had them answer questions from stories. I did a whole lot of drills in extra-classes in the evenings, and on Saturdays, in order for them to come up with ideas. In addition, I brought in a math expert from the community to provide extra help to us in addressing this math problem”.</td>
<td><strong>DRILL-AND-PRACTICE</strong></td>
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<td></td>
<td>Teachers use the high-stakes test results to position how they prepare students to take the test. The strategy some teachers frequently select is Extra-lessons to do more ‘drill-and-practice’ with students.</td>
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<td><strong>N2T:</strong> “Despite our efforts at ‘holistic’ education, because this is an inclusive education school where we do social promotion. The special needs children arrive at grade-six sometimes less prepared than the regular children and so we try to give them as much individual help as we can. To catch up, they have to participate in extra-lessons, and even though some of them complain of us pressuring them, they see that the preparation strategy has some advantages. Many of the schools in the Orange Walk education district are complaining about having to do extra-classes with their students in their grade-six classes, even though they have no special needs children. I would say that generally students are not as prepared as they should be when they begin grade-six and the general response to deal with this has been extra-lessons, outside of regular school time”.</td>
<td><strong>EXTRA LESSONS</strong></td>
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<td>Many students arrive at grade-six less prepared than they should be and have to do ‘Extra-lessons’ (supplementary tutoring) outside of regular school hours to catch up. This was a common strategy used by all the teachers with the same level of consistency.</td>
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As the data examples in Table 1 show, improving praxis tends to be the preferred positioning strategy for test preparation by some teachers. Though the examples [reflexive praxis] are of teachers operating in the high and medium level performing schools (E1 & N2) respectively, this strategy choice is not limited only to those teachers operating in the high-end schools. It does occur among the teachers in the sample working at the two low performing schools (S3 & W4) also, but the codes for this theme from their interview text were much fewer. From the analysis of the transcripts of the interviews, the teachers in the two underperforming schools (S3 & W4) seem to prefer the ‘drill-and-practice’ test preparation strategy. The quote from S3T and W4T underscores this point:

I did a whole lot of drills in extra-classes in the evenings and on Saturdays, in order for them to come up with ideas [S3T].

W4T: “Yes I do use the results of the PSE to make decisions and have for years been trying to get administration to take a whole school approach with this but have not been successful to get them to buy in. For example, I always have a chat with them in administration on our weaknesses on the exam. I always tell them that the main weaknesses of our school are in the math and writing areas... with math I see that it’s basically problem solving because of the same reason that students have challenges in the writing area: many of them can’t read when they arrive at standard six”

According to Freire (1987) praxis, or what Bourdieu (1967) has labeled habitus, is a form of practice or actions that are the outcome of the dialectical relationship between structure and agency. Structure in this context refers to the patterned interactions and persistent relationships between the teacher, the local school community and the high-stakes examination system. Agency is actions that are perpetuated by actors, in this case, teachers. When teachers function as agents, “whatever action that occurs would not have occurred, in that way, were it not for the fact that [the teacher] intervened and took the action in question” (Freire, 1987, p. 269). Praxis, or habitus, as a form of teacher positioning is therefore not objectively determined, nor is it the product of free will (Bourdieu, 1993). Praxis can be thought of as a type of practice grounded in a set of ideas a teacher has developed through socialization in the field of schooling about how the world of educating children works, what is to be valued in that world, what one’s place in that world is, and what didactic and pedagogical approaches are the correct or proper ones. In this context, praxis translates notions of agency and power into strategies useful for test preparation more so for teachers in the high-end schools, while at the same time challenging the constraints and inequities of the high-stakes examination system as the teacher at the high end E1 school suggest below:

E1T: “I don’t think the PSE hold a lot of benefits. Frankly, no, because when the results are released I have never seen a parent or guardian who fully understands what the results say about our system of schooling beyond the top thirty (30) students who they see as representing the top thirty schools. They never seem to understand that that’s a few or one student from a school and so the big picture of schooling in Belize is lost. The whole population of primary school students and our 300 plus primary schools are judged solely by the top 30 spaces on the PSE exam, which to me does not make sense”

In other words, reflexive praxis as a form of positioning emphasizes the role of the individual teacher. It allows him/her to understand and create his/her own solutions to the problems the students face with the high-stakes test. This mode of operation is free from the
mediation, or the definition of good practice, by the school or other educational agencies. It is a standard that the individual teacher sets and consistently maintains as part of his/her personal accountability system.

‘Drill-and-practice’, on the other hand, whereby students experience the same phenomenon repeatedly as in an algorithm, is a much more mechanical and disempowering form of action when utilized as a test-preparation strategy, and appears to be a the dominant of positioning by teachers with a certain professional identity type. Doing “a whole lot of drills in extra-classes in the evenings and on Saturdays [S3T]”, seems a limited but non-transformative way to get students “to come up with [novel] ideas” to solve word problems in Mathematics. Furthermore, this form of positioning seems to give priority to rote learning and to reinforce a type of action that does not have the potential to help students solve the type of contradictions they face in high-stakes testing. This is so especially in Mathematics among the teachers operating in the low-end schools or those with certain beliefs about teaching and learning, and may instead be contributing further to the alienation of students from the education system through what Sarason (1983) calls learned helplessness.

Additionally, current literature on problem solving suggests that students’ dependence on algorithms impedes as oppose to help their problem solving processes, in that the student who relies heavily on using algorithms in most cases lack deep conceptual understanding (Lorenzo, 2005). Algorithmic approach to problem solving has been shown to limit their abilities to adopt and apply their previous knowledge to unfamiliar problems (Bodner, 2003). As far back as 1984, Frazer and Sleet had provided empirical evidence of this in their study on students’ abilities to solve science problems, whose solutions required more than one step to solve. These researchers and others since then, for example Lorenzo (2005) and Gunderson (2011), determined that some students were able to successfully solve the sub-problems at individual stages but could not manage to solve the complete problem when it was presented to them as a whole. They ascribed this to the learners’ inability to plan a solution to the problem. Hence, drill-and-practice as a stand-alone strategy, will not “get students to come up with novel ideas” to solve word problems in Mathematics, in the way S3T is endeavoring to do.

Furthermore, the way students employ their problem solving strategies may detract from their ability to solve complex problems. The two tools most commonly employed by students during problem solving are the algorithms, we discussed above, and heuristics (Bodner, 1987; Frank, Baker & Herron, 1987; Gunderson, 2011). Algorithms as we pointed out are straight forward procedures that students select, almost automatically as a result of drills in their use, and apply to produce an answer. For example, in the context of the high-stakes PSE test, an algorithmic unit analysis may be used to solve multi-steps profit-and-loss problems. The use of algorithmic or drill-and-practice methods helps to provide learners with problem solving practice and gives them a repertoire of tools that can be used with heuristic type problem solving.

Heuristics are general procedures that may or may not lead students to a solution to the problem. When a learner is faced with a problem for which there is no apparent solution or adaptable algorithm, they are forced to develop and test a new model to arrive at a solution. In preparing students for the high-stakes test, instead of focusing on drills or algorithms only, teachers’ foci should have been on increasing students’ awareness to using heuristics in their problem solving process.

The third and final strategy that the teachers in this sample used to help students overcome some the barriers of the high-stakes Eleven-plus (CEE, PSE) Exams is supplementary tutoring. As the data examples in Table 1 show, generally, students are not as prepared as they
should be when they begin grade-six. This unpreparedness also helps to determine what teaching strategies will be deployed in test preparation. The most common teaching strategy adopted by the sample of teachers who participated in this study was extra lessons. Extra lessons, or supplementary tutoring, refer to additional classes after school and on Saturdays, usually provided by the grade-six teacher “to help the students to catch up”.

The extensive supplementary tutoring literature (Barrow and Lochan, 2011; Bray, 2006) does not cite the inadequate preparation in pre-extra lessons classes as one of the reasons why students access supplementary tutoring or the shadow education system of a country (Stevenson & Baker, 1994). This may also account for why in the Anglphone Caribbean region the extra-lessons tutors are almost always the grade-six teacher, whereas at the secondary level the extra-lessons tutor is almost always some other teacher than the mainstream teacher. Furthermore, it may also help to explain why supplementary tutors do not, at this level, insist on collecting a fee for their services from those students who may not be able to afford it, since the act of providing this service is an expression of teachers’ own personal accountability in response to high-stakes testing (Rex & Nelson, 2004).

How the student responds to the pressures of an expanded school day is in part related to how the teacher presents the option to the student. When students are involved meaningfully in the negotiation process they end up “[seeing] that the preparation strategy [extra-lessons] has some advantages [N2T]”. When they are not as involved in this negotiation process, as was the case at W4 where the teacher admitted that,

“So for me, it’s a lot more like pressuring them and stressing them out. Put my boot on their corns, so to speak” [W4T],

students become not only more anxious about spending more time at school doing school work, time which they would have normally spent enjoying their childhood, but also become more ambivalent about, and more alienated from the high-stakes test itself, as the quote from a student that W2T recalls below suggests:

“Miss, why do we have to take the PSE? Why do we have to do all this meaningless work? … I am tired”. [W4T]

The propensity and ability to negotiate meaning with students is a dimension of teacher’s identity (Wenger, 1998). According to Wenger the economy of meaning, or negotiability, is a competence teachers develop best in schools that are configured as learning communities. Learning communities are school communities that are pregnant with reflective practitioner teachers at various levels of competence to negotiate the economy of meaning of schooling. Wenger describes such a community using the metaphor of the onion where the concentric layers represent community members at various levels of development of the economy of meaning with regards to schooling with novice teachers at the periphery and master teachers at the centre. The majority of teachers are in the middle, most of whom are mentored by the master teachers as they grow towards the center to become master teachers themselves.

A community of learners is a community where the teachers reflect critically on all aspects of schooling, including on the testing environment in which the school operates. They are generally characterized by their independent thoughts on things like assessment and would align themselves with high-stakes testing only if they feel like it’s serving the greater purpose of the holistic education of the child. It is a unique and valued type of teacher identity and teachers who embrace it mostly select the reflective praxis strategy not only when preparing students to sit high-stakes examinations (e.g. E1T and N2T in this study), but in preparing students for life and the “world of work” (Wenger, 1998, p.24).
Implications and Conclusions
Positioning test preparation strategies while working with students about to write high-stakes examinations can generate some intended and unintended consequences for both teachers and students. An example of the latter is the case of the students at the low performing primary school in Western Belize, W4. As a result of the teaching strategy chosen by the teacher, drill-and-practice and supplementary tutoring, the students ended up questioning the very purposes of the test for which the strategy was selected to better prepare them for: “Miss, why do we have to take the PSE? Why do we have to do all this meaningless work?” [W4T].

It is therefore important to inform teachers of some of the unanticipated consequences of the strategies they position when preparing students for high-stakes tests and how these are affecting the children in their care in unintentional ways. Some of these unanticipated consequences include: test anxiety, learned helplessness and in some cases even alienation from the schooling system.

In summary, utilizing the integrated socio-cultural conceptual framework as our analytic lens, the data examples from the four sites brought light to three core teaching strategies that are engendered by teachers who function in a high-stakes testing learning-environment, which lacks a test-accountability system. These strategies include: reflexive praxis, drill-and-practice, and supplementary tutoring. The seven teachers who participated in this study took stances in each of these dimensions as they responded to the overarching research question: how does teachers’ professional identity help to position the test preparation strategies they select to use in their classroom? A qualitative analysis of their responses to this question revealed their preference for these three teaching strategies and the consequences these choices had for the teachers and the students writing the high-stakes test. Some of the implications this has for high-stakes testing can consequently be inferred.

The first is that high-stakes testing assumes a level of pedagogical competence on the part of teachers preparing the students to sit the exam. In a high-stakes testing environment, for teachers whose pedagogical content knowledge is limited, this pedagogic limit can become a hazard that can contribute to the level of risks to which the students are exposed. For example, this level of risk can be moderate, or even high, for students if the strategies in the teachers’ rapporteur are limited to just drill-and-practice and supplementary tutoring; since these strategies in combination have been shown to raise certain students’ levels of anxiety towards the high-stakes test. In extreme cases this can contribute to students’ alienation from the education system. Prior knowledge of the teacher’s level of pedagogical competence is therefore important. In cases where significant gaps exist, teachers must be provided with training opportunities to fill this breach. Such professional development must include extensive practice in the use of reflexive pedagogical praxis as a source of personal knowledge development about teaching and learning. In so doing we can lower the risks to which students are exposed, when operating in high-stakes testing environments that lacks a test-accountability framework.

Most importantly, high-stakes testing systems assume that the teachers preparing students to write the exams have acquired a certain level of agency through which they can decide, on their own, on which of the teaching strategies is most appropriate to select depending on the context. The study showed that in many cases, this assumed level of agency on the part of the teachers preparing the students for this high-stakes test was absent.

Agency is, in part, a belief system that teachers hold. It is a belief system that is predicated on the notion of learning whereby students should be allowed to work together to discover knowledge and apply their knowledge as they solve real world problems (Loepp, 1999).
That is, teachers with a high level of agency have adapted the view that learning – individually as well as in collaboration – takes place through the activity of the learner in solving real world problems and not through this over-emphasis on algorithms alone. More of our teachers who are preparing students to write high-stakes examinations must shift their beliefs systems from what they are currently, which is one that is primarily didactic in nature (Beijaard, Meijer & Verloop, 2004). In this study this view is best illustrated by teacher S3T in his efforts at teaching creative thinking to his students:

“I did a whole lot of drills in extra classes in the evenings in order for them to come up with novel ideas” [S3T].

If teachers are to be more helpful to students in overcoming some of the barriers to high-stakes testing, they need to shift their beliefs system to one that has a foundation in constructivism. For as Nespor (1987) and Pajares (1994) have emphasized, if teachers have beliefs that are constraining their practice, efforts must be made to get them to deconstruct such beliefs with the aim of replacing them with more appropriate ones; despite the many challenges of doing so.

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Deaf Perspectives on Deaf Education: An Ethnographic Study from Trinidad and Tobago

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This paper discusses the results of ethnographic research into the views of members of the Deaf community of Trinidad and Tobago on Deaf education, and highlights some ways in which their perspectives diverge from prevailing philosophies and policies in Deaf education in the Caribbean. It argues this kind of research is needed to address the shortcomings of current educational provisions for Deaf children and adults, and that the perspectives of Deaf adults, in particular, must not be relegated to the periphery. Instead, Deaf communities around the region have crucial roles to play in addressing the problems in Deaf education and in planning for an uncertain future. Finally, it presents an example of how research which fails to sufficiently involve Deaf adults can produce misleading results and potentially misguided policies.

Keywords: Deaf Education; Trinidad and Tobago; Ethnography; Special Education

Introduction

“If the Hearing educational establishment were to recognize the Deaf community as a legitimate minority group, they would soon be forced to admit they know nothing about the structure of the group and that Deaf people could probably help themselves a lot better than Hearing people can.” (Woodward, 1982:13) Although Woodward was writing over three decades ago, his words are all too pertinent today. While the emergence of the field of Deaf Studies, and the development of new frameworks such as Ladd’s concept of ‘deafhood’ (Ladd, 2003), and the idea of ‘Deaf Gain’ (Bauman & Murray, 2014) have opened up exciting new avenues for empowering research which places Deaf communities at the centre of work in Deaf education, most of this research has been led by academics in North America and Europe. As (2011:6), among many others have noted, “too little has been published about sign languages and the deeper social situation of deaf communities outside of the United States and Europe”. This paper contributes in a small way to addressing this lacuna by reporting on ethnographic research from the Deaf community of Trinidad and Tobago.

It is widely acknowledged that there are longstanding problems in the Caribbean with the educational systems provided for citizens who were either born deaf, or lost their hearing early in life. For example, the Government of Trinidad and Tobago’s National Language and Language Education Policy, prepared in 2010 by linguist Ian Robertson, states that: “At no time in the history of education in the country has there been sufficient information on deafness and Deaf Education for a policy position to be arrived at.” Important foundational research is now being done by teachers and educational administrators. For example, Paul (2008) looks at the perspectives of hearing parents of deaf children in Trinidad and Tobago, and Conrad et al.
(2010) discuss the role of special schools in social justice. Mitchell (2012) provides a detailed case study of the educational experiences of a deaf child in St Lucia, based on interviews with the child, the school’s principal, and three teachers. Soutar’s PhD thesis on Deaf education in Jamaica focuses on the issues faced by teachers in implementing a new bilingual educational policy. Such work is timely and important. Nonetheless, it is striking that while this research investigates the experiences of deaf children and their predominantly hearing parents and teachers, the points of view of Deaf adults are rarely represented.

There are several reasons for this gap. One important factor has to do with language. Hearing researchers, especially those in the field of special education but without much direct contact with Deaf communities, may lack the linguistic abilities to conduct research directly with Deaf adults. As a result, they must either rely on the assistance of sign language interpreters, or choose to focus their research on hearing stakeholders such as teachers and parents. At the same time, research continues to be disseminated almost exclusively in journals, which demand a high level of English (or Spanish or French) reading and writing skills. This makes findings inaccessible to the vast majority of members of the Deaf communities in the region, for whom these written languages are not native, and among whom levels of literacy in spoken languages remains generally low.

Problems in Deaf education can be self-perpetuating. The failure of the school systems in the Caribbean to prepare Deaf students for successful entry into higher education has meant that the number of Deaf professionals and academics able to contribute to the development of Deaf education here has remained very low. To date, only one Deaf adult has completed a Bachelor’s Degree, and she is also the only trained Deaf teacher. Without the perspectives and skills of Deaf professionals, improvements in Deaf education have been limited, and deaf children have been denied potential role-models. As Deaf education across the Caribbean has moved towards a focus on the use of natural sign languages in the classroom, it has become clear that lack of linguistic competence among teachers is a problem. Soutar found that: “An outstanding weakness of many teachers was their low JSL [Jamaican Sign Language - BB] competence and lack of linguistic knowledge of JSL and English, which impacted their ability to effectively apply appropriately selected teaching strategies and techniques.” This is one area where it is clear that Deaf professionals should be making major contributions. Although Deaf adults in Jamaica are employed as Deaf Cultural Facilitators in schools operated by the Jamaican Association of the Deaf, Deaf teachers remain the exception in the Caribbean, rather than the rule, and Deaf researchers are even less common.

This paper argues that one way to better understand and address these problems is by producing research which reflects the insights and knowledge of Deaf adults. Such research can identify issues which have been hitherto overlooked by researchers and professionals working in the field of Deaf education, and suggest new, culturally sensitive solutions to longstanding problems. As Lane (1992:23) puts it: “deaf people themselves should be crucial participants in the discussion and agreement concerning the lives of deaf children and adults and the roles of the professions that serve them, but they have been excluded — socially, by law, and by oppressive education.”

Methodology
The starting point for this research is the view that deafness can be understood from a cultural-linguistic perspective. Traditionally, deaf people have been treated by medical and educational professionals within what has come to be known as a ‘pathological’ view of deafness: they are
‘broken’ and require treatment, rehabilitation or cure (Woodward, 1982). Since the 1970s, an alternative model has arisen: of Deaf people as members of minority cultural groups, with their own norms, shared experiences and, crucially, languages (Padden & Humphries, 2005). The Deaf community of Trinidad and Tobago meets this definition: it has its own language, Trinidad and Tobago Sign Language (henceforth TTSL), its own organisations, and many shared values. These values are often not fully recognized by statutory bodies: It is telling to note, for example, that the body to which most government funding is assigned in Trinidad and Tobago is called the Trinidad and Tobago Association for the Hearing Impaired; Deaf Trinbagonians almost unanimously reject the term ‘hearing impaired’, in favour of ‘Deaf’.

The research presented in this paper involved an ethnographic study of the views of members of the Deaf community of Trinidad and Tobago on Deaf education. Ethnography focuses on describing a culture or a group of people though participation as well as observation. The following key features of the ethnographic approach were adopted in this research project:

1 **Extended participation in the community.** The research being presented in this paper was conducted over a period of more than six years. During this time, I have been involved on a daily basis with members of the Deaf community of Trinidad and Tobago. This involvement includes participation in community events, and membership of various community organisations, including being elected as a Board member of the Deaf Empowerment and Advancement Foundation (DEAF).

2 **Learning the language of the community.** When I first began this research, my knowledge of TTSL was extremely limited. Over the years, I have learnt and researched the language, achieving sufficient fluency to participate fully in community events and to function as a sign language interpreter.

3 **Observation from within the community.** It is important to recognize the limitations of my connections to the community: I am hearing, and though I have lived and worked in Trinidad and Tobago for the past seven and a half years, I was born in England. In order to address these limitations, I have worked closely alongside Deaf researchers and organisations, in an effort to achieve, as far as possible, an accurate insider perspective.

As well as community participation, the research process has involved recording of conversations, in order that it be possible to reproduce utterances and opinions accurately. The following measures were put in place to ensure the reliability of recorded data:

1 All recordings were conducted by Deaf researchers, generally without a hearing person (including the present author) being present.

2 The language of the interviews was TTSL, the natural language of the community.

3 Interviews took place in Deaf community spaces. These included at Deaf sporting events, and at the homes and workplaces of Deaf people.

As is often the case in ethnographic research, interviews were generally unstructured (Cohen, Manion, & Morrison, 2007). Since the topic of education is of considerable interest within the community, it frequently arose spontaneously in conversation. In total, a corpus containing recordings of 100 different Deaf signers, from all areas of Trinidad and Tobago, aged between 18 and 76, and totaling approximately 25 hours has been compiled. From this rather
large corpus, I coded by topic, and thereby extracted data of relevance to Deaf education. In selecting extracts to present in this paper, the following factors were considered:

1. The view expressed should be widely held within the community. This was established through an ongoing process of review. Opinions expressed in interviews were repeatedly discussed with other members of the community, including at community meetings, in workshops and in informal settings. Only views which were widely accepted by the community are included here.

2. The paper aims to cover both some historical information and perspective on the current educational system. Therefore, I have included information from community members of all ages.

Finally, the following considerations guided the presentation of data as I wrote this paper:

1. The findings are presented in a narrative format, including frequent direct quotations.
2. Where necessary, I have provided additional information in order the contextualize comments for the reader.
3. All quoted opinions are anonymized. I provided the English translations myself, with assistance from native signers where necessary.

Ethnography aims to “convey the subjective reality of the lived experience” (Pole & Morrison, 2003:16). Inevitably, there are a variety of opinions within this community, as in any other. The value of this research is not in providing definitive solutions to questions surrounding Deaf education, but rather in providing important perspectives which have too often been overlooked, rooted in the experiences and knowledge of a community which, more than any other, has been affected by the policies and practices of Deaf education.

**Findings and Analysis: Deaf Perspectives on Deaf education in Trinidad and Tobago**

Given that Deaf communities are defined partly in terms of their use of signed languages, the history of signing can provide important insights into the history of a Deaf community. The linguistic situation in the Deaf community in Trinidad and Tobago is complicated, and directly linked to the history of Deaf education. The first residential deaf school, Cascade School for the Deaf (CSD), was opened in 1947 (see Braithwaite, Drayton, & Lamb, 2011 for an overview of the history of Deaf education in Trinidad and Tobago). Although there may have been fragmentary pockets of deaf signers before this time, no direct evidence has yet been found and, as far as we know, the establishment of CSD created the first opportunity for deaf children from around the country (and from elsewhere in the region) to come into contact with each other.

The prevailing educational philosophy at the time, oralism, was imported from Britain. This approach focused on trying to teach deaf children speech and lipreading skills, and saw signed language as a barrier to success (Lane, 1992). Deaf Trinbagonians who went to school in the first three decades after the foundation of CSD remember teachers using speech drills, and banning them from signing in the classroom. Despite this, they also remember that once classes were over, they signed to each other anyway, using signs of their own creation. It was in this way that Trinidad and Tobago Sign Language (TTSL) was first born. One remembered: “At my school, Cascade School, we didn’t use American Sign Language, we only used Trinidadian Sign Language. It was completely different. For example, there were difference signs for ‘mother’,
‘father’, ‘woman’, ‘bus’ and ‘home’.” As the first generations of Deaf students created this new language, a new Deaf community was born.

In the 1960s and 1970s, research into American Sign Language (ASL) established that it had the same levels of linguistic structure as spoken languages, and opened the way for new educational approaches in which ASL and other signed languages played greater roles in Deaf education (Nathan, Marschark, & Spencer, 2003). At the same time, the popularity of oralism in the Caribbean began to wane. A proponent of one of these new approaches, Frances Parsons, was invited to come to CSD from Gallaudet University in Washington DC, to teach parents and teachers the basics of ASL. From the diary she kept at the time (archived at Gallaudet University) it seems that Parsons herself was not aware of the existence of a signed language in Trinidad when she arrived in 1975. After Parsons left, ASL and English-based signing continued to be used right up to the present day.

While the move to signing in schools is widely regarded as a positive step by Deaf Trinbagonians, it created a language barrier between Deaf people who had gone to school before 1975 and those who went to school later. One interviewee described how he learnt ASL as a second signed language: “After I had left Cascade School for the Deaf and grown up, my [Deaf] sister had a [Deaf] child. My nephew went to the school in Marabella. I used to drive to the school to pick him up and take him home. I was surprised to see that they were using a new sign language, American Sign Language. I asked him to teach me, so that I could understand.”

In fact, this individual is rather unusual: few Deaf adults in Trinidad and Tobago have other Deaf family members (apart from spouses). Others who had used TTSL at school never became fluent in ASL. When asked about her linguistic preferences, another older interviewee reported: “Trinidad and Tobago Sign Language is better. American Sign Language is different, and I don’t completely understand it, but Trinidad and Tobago Sign Language I know completely.”

Washabaugh (1981) wrote about the effects that changes in educational policies in Grand Cayman had on the deaf people living there. As a result of a genetically inheritable condition, the proportion of deaf people living in Grand Cayman in the first half of the twentieth century is known to have been very high. Washabaugh describes how the various different approaches to Deaf education which were tried, including periods of oralism, as well as influence from JSL, ASL and an indigenous Caymanian signing variety, created divisions within the deaf community: “These shifting educational programs for the deaf certainly account for much of the great variability of signing on Grand Cayman. But they also account for certain divisions in the deaf community. The deaf who were in different eras subjected to different educational programs do not see eye to eye on what is good and what is bad about the communicative techniques used by the deaf. They have different loyalties, partly because their educators have taught them to despise different aspects of deaf communication. As a result the deaf of Grand Cayman are not only geographically scattered; they are also socially disjointed.”

The situation in Trinidad and Tobago is somewhat similar: As a consequence of changing currents in educational policy, there is a sharp difference between the TTSL created and used by Deaf Trinbagonians who went to school before 1975, and the predominance of ASL among younger signers. This has lead to problems for some older individuals who are isolated from younger members of the community by the language barrier. It has also raised the possibility that the older indigenous way of signing may disappear forever, to be replaced by a variety of ASL (Braithwaite, 2014). The move towards mainstreaming of Deaf children, has also contributed to the endangerment of TTSL. In the past, the transmission of TTSL across generations was aided
by the presence of older TTSL signers working at CSD. Several interviewees remember learning TTSL from those Deaf adults, even while ASL was being used in the classroom. Mainstreamed children, however, who often have little or no contact with older Deaf signers at school, are unlikely to acquire TTSL. The prospect of the disappearance of TTSL is of concern to many Deaf adults, for whom it represents a truly unique Deaf Trinbagonian cultural creation and a source of community pride. It is not only school-aged children who are affected by changes in educational policy and practice, but adults too, and for this reason, all Deaf community members have a stake in decisions made about the future of Deaf education.

Many Deaf adults expressed concerns about the present system of Deaf education at various levels. At the earliest level, many felt that more needed to be done to make sure that deaf children have early access to signed language. A Deaf teaching assistant described an example of the kinds of problems he had encountered. One pupil, he said, only started school aged 12. Because the boy’s family was all hearing, he had had no access to a signing model, and so when he arrived at the deaf school, had to be taught the basics from scratch. This inevitably took a long time, and resulted in very serious educational delays. Another interviewee felt that early access to sign language was the biggest priority in Deaf education, saying: “Some Deaf children never go to school. I think it’s very important that Deaf children learn sign language.”

Talking about their own experiences at secondary school, several people reported that they felt isolated when placed in a mainstream school with few or no Deaf peers. Many said that they would have preferred to attend a special secondary school for Deaf students. One interviewee remembered: “For CXC’s, I wanted to find a Deaf secondary school, but there weren’t any, so I had to go to a hearing school. I was the only Deaf person there.” Another said: “When I was studying for CXC’s, I had many challenges. The Deaf were not accepted by the hearing people, and there were many communication problems.” The failure to achieve success at CXC level, especially in English, was a constant theme, and many reported that this was their greatest barrier to fulfillment later in life, limiting career and further educational options severely.

Some complained that the sign language used by teachers and interpreters was limited and that it was excessively influenced by English. One contrasted his experiences at schools in Trinidad and America: “When I graduated [from school in Trinidad], I went to a Deaf school in America. Here, the teachers follow a hearing culture approach. In America, there were hearing and Deaf teachers, but they all sign more naturally, and adopt a Deaf cultural approach.” Many felt that the provision of sign language interpreters in mainstream schools had been inadequate, and that this had a negative impact on their educational performance.

Many of those who had left school expressed a desire for further education, and frustration at the lack of educational opportunities available. One interviewee said: “I want to learn more. I’m interested in taking CXC’s and going to university, but there is no support for Deaf people. I’d like to take English and Maths CXC’s, but there are no interpreters.”

For demographic reasons, the number of people in this situation is in fact much higher than the number of Deaf children currently in education. The incidence of pre-lingual deafness in Trinidad and Tobago has varied considerably over time. Historically, the single biggest cause of pre-lingual deafness was rubella (German measles). Karmody (1969) showed how a rubella epidemic in the early 1960s resulted in a particularly high number of deaf babies being born at that time. Another epidemic in the early 1980s had the same effect (Ali, Hull, & Lewis, 1986). As a result there are large numbers of Deaf Trinbagonians aged around 50 and 30. Successful vaccination campaigns have meant that rubella was more or less eradicated from the country in
the 1990s (Irons, Lewis, Dahl-Regis, Castillo-Solórzano, Carrasco, & de Quadros, 2000). As a result of this, CSD, which was reported as having a waiting list of over 200 children in the early 1970s (Pedro, 1973), now has less than 30 pupils. Many Deaf people from the generation born in the early 1980s shared a desire for educational opportunities. Despite this, the vast majority of the resources spent on Deaf education continue to be focused on the much smaller population of children under 18.

Conclusions
Even from this very brief report, it is clear that some of the issues raised by Deaf adults are barely touched on in the academic literature. Almost all of the literature on Deaf education in the Caribbean focuses on the education of children, but there is clearly a need for more attention to be paid to the educational needs of the large populations of adults who left school without qualifications and want access to further educational opportunities. Mainstreaming may be less popular among those who lived through it as students than policy makers might imagine, and is placing unanticipated pressure on the future of TTSL. The recent introduction of cochlear implants, almost unanimously unpopular among Deaf in Trinbagonians is another area where the views of the Deaf community seem to be at odds with those of policy makers.

Deaf adults are not always seen as stakeholders in the education of Deaf children to whom they are not related. The vast majority of deaf children are born to hearing parents (Schein & Delk 1974). Deaf adults who have left the education system, and do not have deaf children may not seem to have the same stake in discussions as hearing parents or teachers. In fact, as we shall see, many Deaf adults do feel strongly about this topic, and decisions made about Deaf education can have profound and often unanticipated effects on whole Deaf communities.

In the early years of Deaf education in Trinidad and Tobago, when schools were being established for the first time, there was a shortage of expertise in Deaf education, a lack of knowledge about Deaf communities and signed languages, and the Deaf community was just beginning to emerge, it is perhaps understandable that Deaf Trinbagonian perspectives were largely absent from debates around Deaf education. We can no longer make these excuses. The previous section gave a flavor of some of the perspectives that Deaf adults have to bring to these discussions. I will finish by discussing an example of how their contributions are essential to research in this area.

Bobb-Alleyne-Dann (2008) investigated linguistic variation in sign language varieties used around the Caribbean. Working with a group of teachers and students from Trinidad and Tobago, Barbados, St Lucia and St Vincent, she used pictures to elicit signs for distinctively Caribbean concepts, such as local foods. She found that in some cases, there were considerable differences between the signs produced by the participants from different countries, for example in the names of their own countries. She also found that her participants didn’t know signs for many Caribbean concepts, claiming that there are no signs for “spice, clove, nutmeg, breadfruit, chenette, genip, ackee, dasheen, cassava, and so on”, and concluding that “the absence of signs for popular Caribbean words is disturbing” (Bobb-Alleyne-Dann, 2008:51).

The problem with this experiment is that it failed to include a sample of Deaf adults. In fact, there are many signs for such local concepts, including at least some of the ones on the list above. The Dictionary of Trinidad and Tobago Sign Language (to which Bobb-Alleyne-Dann contributed, along with the crucial involvement of Deaf adults) contains signs for breadfruit, chenette and cassava, among many other local concepts. The fact that the group of teachers and students surveyed did not know these signs is not a reflection of linguistic gaps. Instead, it is
indicative of the problems caused by leaving Deaf adults, the group with the greatest signing competence, out of Deaf education. Were there more Deaf teachers, the chances are that some of them would have known these signs, and been able to pass them on to their pupils. That the hearing teachers in this survey did not, shows that they need more training, and perhaps more contact with the Deaf communities who use such signs every day.

Some of the Bobb-Alleyne-Dann’s conclusions are also somewhat problematic. The solution to the perceived problem of linguistic diversity is to work towards the creation of a standardized Caribbean sign language variety: “Educators of the Deaf and their students need to assemble in a forum that discusses sign language. The relevant ministries in each island must collectively discuss a plan for standardizing Caribbean signs and developing a dictionary of signs”(Bobb-Alleyne-Dann 2008:51). Should any such project take place, it would be essential that it was lead by the core members of the language communities in question, a group omitted from this list. Moreover, Deaf communities around the Caribbean do not necessarily recognize the need for standardization in the first place. Internationally, organisations such as the World Federation of the Deaf and the Sign Language Linguistics Society have emphasized the importance of protecting the linguistic diversity of Deaf communities. Indeed, rather than seeing local varieties as problematic, members of the Deaf community of Trinidad and Tobago have lead efforts to preserve and teach their language, seeing the uniqueness of TTSL as a source of community strength and pride.

Bobb-Alleyne-Dann’s article makes a number of important points, such as the observation that there is considerable linguistic diversity in the signing communities around the Caribbean, and the emphasis placed on the importance of local sign language varieties is echoed in the Deaf community in Trinidad and Tobago. Bobb-Alleyne-Dann herself writes that: “The process of documenting and standardizing must be no hearing person’s trophy. Every step must be managed by the culture that it affects.” The issues that the paper raises only go to show that this is correct. There are important issues here, but they cannot be addressed until Deaf adults are placed at the centre of the discussion.

The first West Indian teacher, at the first school for the Deaf in Trinidad, Floretta Case, wrote in 1948 that “[e]xperts from outside may visit and make very helpful suggestions; but it is the West Indian people themselves who must evolve a system of education suited for their peculiar conditions and needs” (Case, 1948: 45). That Caribbean educators and administrators like Bobb-Alleyne-Dann, Paul, Soutar, Mitchell and others have lead the way in pursuing new research in the Caribbean is an excellent sign of the progress which has been made. The time has come now for Deaf perspectives to be placed at the centre of the discussion. To parallel Case: while hearing professionals may make very valuable contributions to the development and improvement of Deaf education, it is Deaf people themselves, young and old, who must lead the way in evolving a system of education suited for their peculiar conditions and needs.

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Workforce Education and Development (WED): Graduate Students’ Perceptions of Cultural Insensitivity in Classroom Teaching – A Mixed Methods Study

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Growing ethnic student diversity (to include Caribbean students) on U.S. campuses requires exercising cultural sensitivity in classroom teaching, in accommodating for the culturally/internationally diverse students in U.S. classrooms. A Midwestern university embarked on a diversity thrust that included workshops for boosting faculty cultural competence in facilitating culturally/internationally diverse learners. This descriptive study examined the extent to which culturally insensitivity existed in WED teaching delivery. A Within Stage Mixed Model research design and a pragmatic paradigm were employed to guide the study’s design and data collection/analysis of its census survey data consisting of quantitative and qualitative data from three student groups: Minority, Majority, and International. Findings included the following: International students felt that cultural insensitivity occurred in verbal and non-verbal communication with students in WED teaching delivery very often; U.S. majority and minority students felt it almost never or sometimes occurred respectively. Suggestions from WED graduate students for addressing this cultural deficit mainly include faculty diversity training and diversification of teaching styles, in keeping with multicultural education, ethnocentrism and critical race theory.

Keywords: Workforce Education and Development (WED); Perceptions; Cultural Insensitivity; Classroom; Teaching

Introduction
Having studied as a Caribbean student from my Associate’s to Doctoral degrees in three different U.S. institutions in three different states, I became aware of that very delicate intersection between cultural insensitivity and classroom teaching as an international student. In exploring how policy is practiced relating to teaching culturally and internationally diverse graduate students, my intention in this article is to elicit their perceptions on whether cultural insensitivity exists in classroom teaching and to focus more on their suggestions for any improvements in teaching delivery for them. The latter warrants attention as the U.S. aggressively markets its higher education institutions abroad and its population becomes more diverse (Millet, 2009; Institute of International Education, 2012). Student diversity projections on U.S. campuses reveal a noted increase of 19 percent or 16 million students by 2015 with the following ethnic breakdown: An increase from 10% to 15% for Hispanics and from 12.8% to 13.2% for African

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ISSN 1727-5512
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http://www.cavehill.uwi.edu/fhe/hum/publications/EducationCERJ.htm
Americans. A decrease from 71% to 63% is expected for Caucasians (Chronicle of Higher Education, 2000). International students enrolling in U.S. universities and colleges have increased by 32% over the past decade. An increase of 5% over the previous year to a total of 723,277 international students was reported for the academic year 2010/2011 with China being the leading sending country. The other countries following after China included India, South Korea, Canada, Taiwan, Saudi Arabia, Nigeria, and Venezuela (Institute of International Education, 2012). Caribbean students accounted for 11,644 of the total 727,277 studying at U.S. tertiary institutions with the top three sending islands being Jamaica (3,172), Trinidad and Tobago (1,882), and Bahamas (1,720) for the academic year 2010/2011 (Institute of International Education, 2012).

While service sectors like retailing and banking are quick in responding to changing customer demographics and growing preferences for customization and innovation (Gordon, 2003; Werner, Dellaert, Manfred, Kumar, & Varadarajan, 2011), higher education has been catching up. An accredited Midwestern University (MU) embarked on a policy initiative-“Southern @ 150”- that recognized diversity as a core value in achieving its educational remit, which included hosting campus-wide cultural competency workshops for faculty. Cultural competence in this diversity thrust refers to accommodating for students’ cultural differences to include language, race, ethnicity, geographic location, values, customs, and religion in teaching and learning (Buila, 2009; Sahin, 2003; SIUC, 2009a). One cultural competency that is critical to creating an inclusive classroom climate is cultural sensitivity referred to as respecting learners’ diverse cultural differences in classroom delivery (Buila, 2009; Sahin, 2003). Ranked among the top and largest in the U.S., MU’s workforce education and development (WED) graduate program specifically prepares teachers/trainers for delivering occupational subject content to diverse learners (SIUC, 2008; Sum, McCaskey & Kyeyune, 2010). The current study, a first attempt at any type of assessment of the MU’s diversity efforts, explores answers to the question: To what extent do WED graduate students’ of diverse cultural and international backgrounds experience cultural insensitivity in classroom teaching?

**Diversity Policy Initiatives**

Accommodating for student diversity in policy initiatives by U.S. administrators has been challenging but attainable. In a noted case study at the University of Massachusetts at Boston, the faculty won approval for a campus-wide initiative on diversity after a disturbing discovery by one history professor, who found that her students were of the belief that Africans had not made any contributions to civilization (Diamond, 1998). In giving the approval for the diversity initiative, the University of Massachusetts’ administrators mandated that diversity to be a major curriculum goal in its higher education. All faculties were required to present multicultural perspectives in all courses (e.g., literature, art, nursing, business, and economics). Diversity issues included gender, age, social class, race, ethnicity, and disability in the curriculum to help bridge gaps in understanding between students and faculty of diverse backgrounds. This all inclusive approach had a positive impact on curriculum transformation and, by extension, students’ readiness for working in today’s diverse workplace (Diamond, 1998). Similar success stories are well documented in the New Jersey Project of the 1980s that created an all inclusive college curriculum for the growing diversity in the student population (Friedman, Kolmar, Flint, & Rothenberg, 1996).

Growing student ethnic diversity undoubtedly would also influence diversity policy initiatives. The MU is on record for holding a number one ranking for African American students...
on two counts: (1) enrolling the largest number of African American students (17% of its total student population) among the “big five” Illinois national universities (Illinois State; Illinois-Urbana-Champaign; Illinois-Chicago; Northern Illinois; and Southern Illinois University Carbondale) (US News and World Report, 2007); and (2) attracting the largest number of undergraduate African American males among majority institutions as well as their successful completion of undergraduate degrees (SIUC 2003). Its breakdown for student ethnicity at the beginning of this study was as follows: White (Caucasian) – 14, 559 (69.3%); Black (African American) – 3,132 (14.9%); Hispanic – 653 (3.1%); Asian – 432 (2%); and other (includes international students from over 100 countries) – 2,227 (10.6%) (SIUC, 2007a; SIUC, 2003). A similar breakdown for its WED graduate program was as follows: Master’s: Black (African American) – 55 (25%); White (Caucasian) – 126 (58%); Hispanic – 8 (3%); Asian – 3 (1%); Foreign – 11 (5%); Unknown – 11 (5%) with a total of 214 students. For its PhD program: Black – 3 (5%); Whites – 41(75%); Foreign – 8 (14%); Unknown – 2 (3%) giving a total of 54 students (SIUC, 2007b).

In responding to its growing student ethnicity, the MU fully embarked on a key strategic policy imperative in 2003—“Southern @ 150: Building Excellence Through Commitment”—to position the University among the top 75 public research universities in the U.S. by 2019, its 150th anniversary. To this end, the University placed “diversity” as a core value in achieving its educational mission that included being known “for a faculty and a student body that reflects the human and ethnic diversity and intellectual pluralism of the world” (SIUC 2005, p. 6). In addition, its Affirmative Action policy (visible on campus bulletin boards) includes maintaining cultural and educational diversity in university curricula (SIUC, 2006), a laudable intent given its cultural milieu. A Black Resource Center was also established at the MU to provide academic and support services for its growing minority student population in keeping with its Southern @ 150 initiative. Campus-wide diversity seminars aimed at honing the cultural competence of faculty that provided them with teaching strategies or techniques and methods used in teaching delivery that promote learning in all students by accommodating their variant learning styles and cultural differences (SIUC, 2009b). Given its commitment to diversity, the current study would help to elicit from students any possible gaps in cultural sensitivity for accommodating ethnic diversity among students in WED classroom teaching delivery.

But, “diversity” policy initiatives appear to be ahead of practice for the MU at the time of conducting this study. Ironically, its campus wide Instructor-Course-Evaluation (ICE) was not modified, even four years after launching its new diversity initiative, to capture data by student ethnicity. Likewise, evaluation practices for its WED program overlooked student ethnicity/national origin or intellectual pluralism in measuring program effectiveness (SIUC, 2006; SIUC, 2007a). Consequently, with wide disparities in its student race/ethnicity numbers, using evaluation data for course improvements could result in the following for the MU: the aggregate majority responses (obviously from Caucasians), by default, would be used to effect program changes in favor of the majority group, undermining diversity as core value in accommodating for multiculturalism among the campus student population. A subsequent survey of the University’s international students, to include Caribbean students, revealed that they were mainly dissatisfied with the quality of service and education afforded to them (International Student and Scholars Office, 2006). Such dissatisfaction may also be driven by the fact that they pay almost two and half times that of U.S. students in tuition fees (SIUC, 2009c). Thus, international students are seen as a significant source of revenue and cultural currency for U.S. tertiary institutions (Choudaha & Chang, 2012; Institute of International Education, 2012).
Feedback from its campus-wide diversity workshops/symposia to increase faculty cultural competence and overall campus diversity responsiveness show a need for more inclusive curriculum and diverse faculty to adequately accommodate the University’s growing student diversity (The SIUC Office of the Associate Chancellor (Diversity), 2006; SIUC 2009b). Similarly, Buila (2009) at the MU observed that there was usually a notable absence of Caucasian educators at workshops on cultural competence. Further elaboration by Buila on the application of cultural competencies in the classroom revealed that “Colored” students (minority) question the legitimacy of Caucasian educators to address cultural diversity issues, while Caucasian students (majority) suspect “Colored” educators of having personal agendas in teaching about white supremacy and oppression. This apparent trust issue in faculty-student classroom interaction gives relevance to the current study that examined student perceptions by student groups (majority, minority, and international) on cultural insensitivity in classroom teaching.

Theoretical Rationale

Theories concerned with cultural diversity and used to analyze educational issues for culturally and internationally diverse students such as cultural sensitivity include ethnocentrism, critical education theory, melting pot theory, multicultural education and critical race theory. Walker-Tileston (2004) referred to ethnocentrism as ‘… the belief that one’s own ethnicity is superior to others’ (p. 70). This belief is one of the biggest barriers to culturally responsive teaching, especially for minority students like African Americans, Latinos, Native Americans, and Asians (Gay 2000). Mehra and Bishop (2007) and Yoso (2002) found ethnocentric evidence indicating dominant U.S. centric and Euro-American curricula in U.S. schools and colleges. The latter promoted a hierarchy of knowledge that placed western Caucasian culture as superior to that of culturally and internationally diverse students. Similar findings by Guiffrida (2005) revealed that ‘faculty have [sic] also been perceived by students of color as culturally insensitive when they fail to acknowledge or incorporate culturally diverse perspectives into their curricula’ (p. 18). Such dominance is likened to hegemony, which McLaren (2003) in critical education theory described as when “the dominant culture tries to ‘fix’ the meaning of signs, symbols, and representations to provide a ‘common’ worldview, disguising relations of power and privilege through the organs of mass media and state apparatus such as schools, government institutions, …” (p. 203). Dominant “white” representation can lead to the kinds of liminal positioning of Blacks pointed out by Crichlow (2005) in his research on race, identity, and representation in education. He asserted that diversity issues should not only focus on race and class but on any single term of identification, i.e. subject positioning. But given the sensitive nature of this study, diversity would be confined to three broad categories of students: majority (Caucasians), minority (Non-White), and international (Non-U.S.). Thus, the current study moves beyond race and class and addresses cultural insensitivity in classroom teaching towards three student groups.

Evidently, the melting-pot theory of the 1960s, based on the assumption that culturally diverse immigrants to the U.S. should assimilate into its dominant Western European culture (Walker-Tileston, 2004), is somewhat limited in addressing diversity in the 21st Century. Millet (2009) pointed out a growing shift from assimilation to multiculturalism in which the metaphor changes from “melting pot” to “salad bowl”. In effect, minority students (e.g., African Americans, Hispanics, Asians, American Indians, Middle Easterners, and Africans) maintain their cultural identity in transforming the U.S. into a truly multicultural mosaic and not blending into one melting pot. The latter adds cultural “currency” to U.S. campuses and requires U.S.
instructors to exercise cultural sensitivity in classroom practice. Still, a policy decision by the MU administrators to a mandatory change from the social security number (SSN) as the student identification (ID) number to a system generated DAWG Tag number (SIUC, 2009b) can be considered culturally appropriate or alarming depending on whether a melting pot or multicultural lens is used. But, a dog or any other animal, how ever used figuratively as a sporting mascot at the MU, is not held in such high esteem in other cultures (Kim, 1999); so it can be culturally insensitive to expect all students with intellect, mind, and soul to readily attach themselves to a Dawg Tag number (level of a dog). The administrator’s decision to prescribe a common identity that does not equitably represent its ethnically diverse student body is yet another example of the power of dominance as previously described by McLaren (2003).

At the heart of addressing cultural insensitivity in classroom teaching is the preparation of teachers. Multicultural education (ME) aimed to equip teachers with skills/strategies for assisting diverse groups to assimilate into multicultural classrooms, especially in the 1960s after the racial desegregation of U.S. public schools. Teachers were expected to avoid such pitfalls as cultural insensitivity and cultural bias in curriculum content. Such bias can take the form of white-dominated course content, where the power of privilege and dominance make such representations almost seem normal or natural for whites (Caucasians) and abnormal for non-whites (i.e., all other races) (Bartlett & Brayboy, 2005; Johnson, 2001). Yet, an evolution of ME from 1960 has seen a shift from an emphasis on multicultural curriculum content to instructor quality (Gay, 2004). In preparing future faculty candidates for diverse classrooms, Lane, Hertog, and Waldrath (2003) found that a graduate seminar on developing student teachers’ cultural sensitivity skills made them better quality teachers for culturally diverse students. Ladson-Billings and Gillborn (2004) and McKeachie and Svinicki (2006) also shared a similar view, emphasising that trainee teachers must be able to use and communicate culturally relevant content material to promote culturally diverse students’ in class participation. Such inroads into ME would make the campus climate more conducive to diversity. Minority students, to include “Internationals” like this study’s author from the Caribbean, would be more motivated to learn given equitable representation in curriculum content coupled with culturally sensitive instructors. International students will be better able to achieve far learning transfer of the skills and knowledge learnt in near learning transfer (Schunk, 2004) in the U.S. classroom setting given a diversified curriculum. Faculty and students would develop cross-cultural competencies and critical thinking skills in having to work with others outside of their dominant culture (Green, 2002; Nyquist 2002; Smith & Schonfeld, 2000). An examination of instructor cultural sensitivity in the current study would help to keep a pulse on instructor quality and whether students continue to enjoy the benefits of a multicultural classroom.

In contrast to the above theories, critical race theory (CRT) has been used to unmask and confront racism in its varied forms in the school curriculum. DeCuir and Dixon (2004) used CRT to unmask the pervasiveness of “Whiteness” as a standard of normalcy. Bartlett and Brayboy (2006) unveiled the increasing use of CRT in a socio-cultural context for analyzing the experiences of specific racial/ethnic groups in U.S. schooling. For example, Latino critical race theory (LatCrit) highlights the Latina/o and Chicana/o issues affecting this ethnic group such as immigration, language, and identity; Asian critical race theory (AsianCrit) emphasizes such issues as stereotyping and language affecting Asians; and TribalCrit focuses on educational issues “resulting not only from the contemporary, liminal positioning of American Indians but also from hundreds of years of abusive relationships between mainstream educational institutions and American Indian communities” (Bartlett & Brayboy, 2005, p. 367). Liminal positioning has
wider implications for eroding the national identity of the Native American to one of anti-intellectual, not giving him/her the same esteem as “Whites” or dominant majority group. In a similar view, Crichlow (2005) lamented the failure of multiculturalism in the U.S. in not recognising the authentic cultural identities of its diverse population. This misrepresentation Crichlow contested can be disempowering for some ethnic groups in education, defeating the purpose of it.

**Methodology**

This descriptive study employed a mixed methods design to examine and interpret WED graduate students’ perceptions of cultural insensitivity in classroom teaching. All graduate students with at least one year of continuous enrollment comprised the study participants, allowing for adequate exposure to the WED program’s curriculum content for answering survey items. A census survey was conducted (no sampling), affording the best opportunity to capture the under-represented culturally diverse groups (e.g., internationals students) in the WED program. The Within-Stage Mixed Method Model design facilitated concurrent collection of quantitative (closed-ended survey questions) and qualitative (open-ended survey questions) data (Johnson and Onwuegbuzie, 2004). Pragmatism as the overarching paradigm (Creswell, 2007), focusing on what works in reality, was used to guide the study’s design, collection and analysis of its census data. A total of 162 students met the criteria for participating in the study from which six students were deducted: one exemption (the researcher) and five students used in pilot testing and refining the study instrument that included one of the two Caribbean students in the WED program. The final total of the study population was 157 graduate students. A breakdown of the study population’s ethnic/racial diversity was as follows: 30 African Americans (19.1%), 11 international students (7%), 3 unknowns (1.9%), 5 Hispanics (3.18%), 1 Asian American (.64%), and 107 Caucasians (68%).

A self-reported WED Curriculum Responsiveness survey was developed from reviewing studies in the literature that measured constructs of interests such as curriculum inclusiveness and internationalization on a 5-point Likert scale; 5 being nearly always and 1 don’t know. An expert panel comprising one African American, Asian, and Hispanic faculty reviewed the draft survey for content validity. In addition, two pilot tests were conducted with representative groups to increase instrument validity and revisions were done in keeping with faculty reviews and pilot testing before administering the final survey as recommended by Best and Khan (2006). The MU’s Human Subjects Committee gave approval for conducting the study and permission for accessing student e-mails from the university’s student information system. The first administration of the e-mail survey contained a cover letter notifying participants of voluntary participation and assuring confidentiality in data collection. However, a very low response to the e-mail survey prompted its conversion to a paper survey by printing out the attachment sent with the e-mail survey. Permission from WED instructors was sought before distributing and collecting the paper surveys in classes. Of the total 157 students surveyed, one student (Hispanic) opted to withdraw, one e-mail was undeliverable, and one e-mail survey was returned blank. The overall response rate was 44% (69 out of 154), which is above the 35% acceptance response rate for survey research (Best & Khan, 2006). In controlling for non-response error, a comparison was done on geographic/ethnic origin demographics for respondents and non-respondents and no substantial differences were found.

Descriptive statistics were used to analyze the survey quantitative data for frequency distributions and measures of central tendencies for student demographics and graduate students’
perceptions of cultural insensitivity in WED teaching delivery. Non-parametric tests were used for the study’s census data as required when no sampling of the study population is done (Best & Khan, 2006). The median was used as it is not affected by extreme values and recommended as the better average to use for the study’s ordinal data (Alreck & Settle, 1995). Content analysis was used to analyse the open-ended survey responses on suggestions for improvements for the following question: *How can WED teaching strategies be improved to facilitate culturally and internationally diverse students?* Using the latter question as the object of the content analysis, emerging patterns and themes by student groups from these qualitative data were observed and a quantified summary of trends done (Berge, 2001; Stokes, 2003). Member-checking of the survey open-ended responses was done, which verified the accuracy of summary tables on these responses, thereby improving the validity and reliability of the study results. Cross-checking and explaining the quantitative survey data with this qualitative data (triangulation) help to increase the reliability and validity of the survey findings as confirmed by Best and Khan (2006) and Creswell (2007).

**Research Population**

Survey respondents totalled 69 participants (44% response rate) in all comprising 39 (56%) females and 30 (44%) males with a graduate status showing 41 (59%) master’s and 28 (41%) doctoral students. All respondents had one or more years of continuous enrollment in the MU’s WED graduate program. A further breakdown of 69 respondents by student groups showed the following: 11 (16%) international, 41 (59%) U.S. majority (mainly Caucasians), and 17 (25%) U.S. minority students responded to the survey from their population groups. The international students geographic origins were as follows: Asia, Africa, Europe, Middle East, Latin America, and the Caribbean. The U.S. minority student population group comprised 15 African Americans, one Asian American, and one “Other” or Unknown.

**Research Question and Survey**

The primary research study question was as follows: *To what extent do WED graduate students’ of diverse cultural and international backgrounds experience cultural insensitivity in classroom teaching?* Cultural insensitivity is taken to mean not showing respect for students’ cultural differences that included language, race, ethnicity, geographic location, values, customs, and religion. In answering the primary research question, students had to rank WED teaching delivery on a 5-point Likert scale; 5 being nearly always and 1 don’t know on six dimensions: equitable treatment, second language accommodation, ethnic stereotyping, cultural insensitivity, learning transfer, and cultural differences. Also, they were asked to respond to the survey open-ended question: *How can WED teaching strategies be improved to facilitate culturally and internationally diverse students?* The heightened awareness of the MU’s diversity thrust at the time of the study made it common knowledge that efforts to improve facilitation of the MU’s diverse student population was needed. Thus, the open-ended question was worded in keeping with the vibrant marketing of the MU’s diversity policy initiatives at that time and asked students for suggestions on improvements regarding teaching strategies for culturally and internationally diverse students. Table 1 (overleaf) contains results for survey items relating to cultural sensitivity in teaching delivery in WED, using a five-point verbal frequency scale: 5 – Nearly Always; 4 – Quite Often; 3 – Sometimes; 2 – Almost Never; and 1 – Don’t Know. The median (*Mdn*) was used as a single indicator to analyse student responses and reduce results bias as it is not affected by extreme values. Approximately 40 (97%) U.S. majority students responded to
cultural sensitivity items with one non-response. For the U.S. minority students, 17 (100%) responded to these items with no invalid responses. All 11 (100%) international students responded to these items.

As shown in Table 1, much divergence in responses appeared across students groups for the level of frequency with which cultural insensitivity occurred in verbal and non-verbal communication with students. Minority student groups found cultural insensitivity to occur sometimes ($Mdn = 3.0$), while U.S. majority students felt it almost never occurred ($Mdn = 2.0$), and internationals students found this to happen very often ($Mdn = 4.0$) in WED teaching delivery. Yet, international students latter response show some divergence to their “nearly always” ($5$) ranking on students being treated equitably regardless of ethnic/national/geographic origin as illustrated in Table 1 overleaf. Nevertheless, the results do suggest that cultural insensitive invariably occurs especially for international students, who pay almost three times the cost of American students in tuition fees as pointed out before. Similarly, all three groups differed in their views on allowances made for students who speak English as a second language during teaching: Majority-quite often ($Mdn = 4.0$); Minority-sometimes ($Mdn = 3.0$); and International-almost never ($Mdn = 2.0$). Overall, students’ were treated equitably regardless of ethnic/geographic origin, and ethnic stereotyping was avoided as shown in Table 1, which again showed much divergence with the international students “nearly always” ranking of students equitable treatment in WED teaching delivery. Some majority and minority students felt that potential for learning transfer to Non-U.S. settings and opportunities to share cultural differences almost never occurred ($Mdn = 2.0$) during teaching delivery.” However, international students found these to occur sometimes ($Mdn = 3.0$). Noticeably, a significant number of majority students checked “don’t know” for the survey item regarding “learning transfer. The latter result suggests that learning transfer to non-U.S. settings for this group was not an issue as they could not recognise whether or not a gap existed for such learning transfer. The variation in students’ perceptions across the three student groups suggest that deficits exist to varying degrees for cultural sensitivity in WED teaching delivery. Of the three student groups, the international students appear to have perceived a higher degree of deficit especially for cultural insensitivity occurring and accommodating for language differences which they ranked as “quite often” and “almost never” respectively.
Table 1

Graduate Students’ Perceptions of Culturally Responsive Teaching Delivery in WED (N = 69)

<table>
<thead>
<tr>
<th>Teaching Delivery Relating to Cultural Sensitivity</th>
<th>Group</th>
<th>n</th>
<th>Mdn</th>
<th>NA</th>
<th>QO</th>
<th>ST</th>
<th>AN</th>
<th>DK</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are treated equitably regardless of ethnic/national/geographic origin</td>
<td>MAJ</td>
<td>41</td>
<td>5.0</td>
<td>28</td>
<td>8</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
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<td></td>
<td>MIN</td>
<td>17</td>
<td>4.0</td>
<td>5</td>
<td>10</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>INT</td>
<td>11</td>
<td>5.0</td>
<td>6</td>
<td>4</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Allowances are made, as needed, for students who speak English as a second language</td>
<td>MAJ</td>
<td>41</td>
<td>4.0</td>
<td>10</td>
<td>12</td>
<td>9</td>
<td>2</td>
<td>8</td>
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<td></td>
<td>MIN</td>
<td>17</td>
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<tr>
<td></td>
<td>INT</td>
<td>11</td>
<td>2.0</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>4</td>
<td>5</td>
</tr>
<tr>
<td>Ethnic stereotyping of students is avoided</td>
<td>MAJ</td>
<td>40</td>
<td>5.0</td>
<td>23</td>
<td>9</td>
<td>3</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>MIN</td>
<td>17</td>
<td>4.0</td>
<td>4</td>
<td>5</td>
<td>5</td>
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<td>2</td>
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<tr>
<td></td>
<td>INT</td>
<td>11</td>
<td>4.0</td>
<td>4</td>
<td>4</td>
<td>2</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Cultural insensitivity occurs in verbal and non-verbal communication with students</td>
<td>MAJ</td>
<td>41</td>
<td>2.0</td>
<td>3</td>
<td>3</td>
<td>10</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>MIN</td>
<td>17</td>
<td>3.0</td>
<td>0</td>
<td>3</td>
<td>8</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td></td>
<td>INT</td>
<td>11</td>
<td>4.0</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Potential for WED learning transfer to Non-U.S. settings is limited</td>
<td>MAJ</td>
<td>41</td>
<td>2.0</td>
<td>1</td>
<td>5</td>
<td>11</td>
<td>4</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>MIN</td>
<td>17</td>
<td>2.0</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>4</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>INT</td>
<td>11</td>
<td>3.0</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td>Opportunities for students to share cultural differences are limited.</td>
<td>MAJ</td>
<td>41</td>
<td>2.0</td>
<td>2</td>
<td>3</td>
<td>13</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td>MIN</td>
<td>17</td>
<td>2.0</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>11</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>INT</td>
<td>11</td>
<td>3.0</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>4</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. MAJ = U.S. Majority, MIN = U.S. Minority, INT = International; NA = Nearly Always (5), QO = Quite Often (4), ST = Sometimes (3), AN = Almost Never (2), DK = Don’t Know (1)

The object of the content analysis for the student open-ended responses was the question: How can WED teaching strategies be improved to facilitate culturally and internationally diverse students? This broad question is asked against the background of a heightened awareness of MU’s diversity policy initiative for developing its faculty’s cultural competences in classroom practice of which cultural sensitivity is one. Responses to this question reflected four main themes as shown in Table 2: diversify teaching styles, curriculum inclusiveness, diversify faculty, and faculty diversity training. Overall, more responses came from the U.S. majority (21) than international students (15), and U.S. minority students (13) as shown in Table 2. A few majority and minority students felt no improvements were needed to WED teaching delivery for culturally and internationally diverse students. To this end, a majority student commented: “WED does a good job of this already. I don’t see any need for improvement, but that comes from “my” perspective which may be jaded/biased.” A minority student responding put it this way: “No changes needed. What WED has so far is working.” All international students found changes were needed. For the three students groups (majority, minority, and international), the first major improvement for diversifying teaching styles is in researching and planning for teaching
international students and inviting international guest speakers; more so among the U.S. majority and international students than the U.S. minority group. Of note, the international students’ suggestion to revisit class participation in addressing diverse learning styles appeared to have serious consequences on learning performance as evident in a student’s sample quote: “I think the idea of participation points should be revisited. It doesn’t work for all culture [sic] especially those from Africa and Asia.” This view was echoed somewhat by another U.S. majority student: “... The only problem I have noticed for them [i.e., international students,] is this is Workforce Ed and some have never worked hear [sic] so they are lost when talking about or [sic] ways.”

As shown in Table 2 overleaf, specific to the U.S. minority group in improving teaching strategies was the need to include more class discussion evident by this sample student response: “Engage student in more discussion in the class... by discussing relevant things in the world that could pertain to things in class.” This sentiment also resonated with the international students’ need for revisiting their participation in class sessions. One international student commented that “because there’re not so many international students staying in WED, they’re sometimes overlooked ...” The majority students specifically recognized, in this quote reflecting their overall view, that WED instructors need to “study class population backgrounds before starting a course.” A minority student identified with the challenge of changing teaching strategies in stating, “... Most have taught for years, are sit [sic] in their ways, and there is no incentive to try new of different strategies.” All three student groups further suggested that offering teaching externships (outside U.S.) would be another way of helping faculty to teach culturally – and internationally – diverse students as evident by this definitive statement from a majority student: “Have WED faculty teach in those countries during the summer.” These verbal responses to some extent show a need for much overall consideration for accommodating the cultural and international diversity of the students in WED teaching delivery.
**Table 2**

*Student Perceptions on Improving Teaching Strategies in a WED Program*

<table>
<thead>
<tr>
<th>Category and Theme</th>
<th># in Group Responding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diversify Teaching Styles</td>
<td>MAJ (n=20)</td>
</tr>
<tr>
<td>Research/plan teaching for international students</td>
<td>4 1 2</td>
</tr>
<tr>
<td>Invite more diverse/international guest speakers</td>
<td>2 1 2</td>
</tr>
<tr>
<td>Study students’ backgrounds</td>
<td>4 0 0</td>
</tr>
<tr>
<td>Include more class discussion</td>
<td>0 2 0</td>
</tr>
<tr>
<td>Revisit international student participation</td>
<td>0 0 2</td>
</tr>
<tr>
<td>Provide faculty teaching externships</td>
<td>2 0 0</td>
</tr>
<tr>
<td>Curriculum Inclusiveness</td>
<td></td>
</tr>
<tr>
<td>Offer International Focus in Courses</td>
<td>2 0 2</td>
</tr>
<tr>
<td>More Culturally Diverse Course Topics</td>
<td>2 1 2</td>
</tr>
<tr>
<td>Encourage International Research</td>
<td>1 2 1</td>
</tr>
<tr>
<td>Faculty Diversity Training</td>
<td></td>
</tr>
<tr>
<td>Prof. X (pseudo name) needs sensitivity training</td>
<td>2 0 0</td>
</tr>
<tr>
<td>Provide more diversity training for faculty</td>
<td>0 4 1</td>
</tr>
<tr>
<td>Diversify Faculty</td>
<td></td>
</tr>
<tr>
<td>Diversify Staff</td>
<td>2 1 0</td>
</tr>
<tr>
<td>Hire More International Staff</td>
<td>0 0 2</td>
</tr>
<tr>
<td>More Culturally Aware Faculty</td>
<td>0 1 1</td>
</tr>
</tbody>
</table>

Note. MAJ = U.S. Majority; MIN = U.S. Minority; and INT = International

Students gave multiple suggestions or not at all, so the number responding is less than 46 or more per student group.

The second major improvement for making WED teaching delivery more culturally responsive was – *curriculum inclusiveness* as shown in Table 2. Offering a more diversified curriculum was identified as a major need across all three groups (international, majority, and minority). An international student summed up the issue this way: “... the curriculum should be made more diverse ... world is becoming more globalized, it would not be a good idea in my opinion, to remain centered on nation/state level issues.” Both majority and international students found offering courses with an international focus was needed for making WED curriculum more inclusive; this sample quote from an international student reflected their collected view: “… teaching strategies can be improved by focusing on the international aspect of education...” Encouraging international research was also another improvement across the three student groups as echoed in this majority student’s view: “Assignments can be made instructing students to research work from international sources and share findings in class.”

The third major improvement: *faculty diversity training and diversify faculty* – echoed across all three groups. Two U.S. majority group lamented that one WED instructor’s need for sensitivity training, who despite students’ race, gender or nationality used slangs to identify with them and was abrasive to them. Students’ overall comments on faculty diversity training reflected the view that (a) “… The faculty must become more diverse with teaching styles and diversity inclusiveness”; and (b) one other quote which suggested that faculty should be trained in knowing how to “turn empathy into knowledge and understanding.” An international student
felt that: “... providing more diversity training to faculty ... will help them to know how to deal with a diverse student population.” One majority student’s insider view, in which MU is substituted for the actual name of the University, helps to shed more light on this issue: “... [MU] has a bad habit of keeping in-house grads to teach here after graduation. Unfortunately, as you know this can keep perspectives limited. While researching a division ... here ... a few years ago, I noticed that [there] were 27/31 teachers that were all graduates of [MU]...!” Unsurprisingly, all three student groups (majority, minority, and international) sounded a clarion call for diversifying faculty in the WED program. Their views all reflected that “employing international faculty” and “more diverse faculty” who are “at least more aware of cultural differences” would improve classroom practice in facilitating culturally and internationally diverse students.

Discussion
The key overarching research question asked was as follows: To what extent do WED graduate students’ of diverse cultural and international backgrounds experience cultural insensitivity in classroom teaching? Empirical evidence from study findings at that snapshot (2008-2009) in time suggested a reasonable cultural sensitivity gap existed in WED teaching delivery as cultural insensitivity occurred sometimes ($Mdn = 3$) and quite often ($Mdn = 4.0$) for U.S. minority and international students, respectively. Such cultural deficits in teaching impact negatively on students’ participation and performance in class activities as confirmed in the literature (Gay, 2000; Guiffrida, 2005). Students’ open-ended responses on improvements to WED teaching strategies in facilitating culturally and internationally graduate students reflected an overall shared position that diversification was needed in faculty, curriculum, teaching styles, and faculty preparation to include exposure to diversity training and external internships outside the U.S. Further, the continuous thread of “more” in their personal narratives (e.g., more classroom discussion, international staff, and diverse course topics) indicate an overall inadequacy in being culturally and internationally responsive to their learning needs.

While majority group respondents felt cultural insensitivity almost never occurred in WED teaching delivery ($Mdn = 2$), their suggestions for improvements resonated with the minority and international student groups who felt this occurred sometimes to very often respectively. The latter finding suggests that the majority group does not experience cultural insensitivity directly or may be bias in responding as indicated by one majority’s student’s comment: “WED does a good job of this already. I don’t see any need for improvement, but that comes from “my” perspective which may be jaded/biased.” Yet, students’ clarion call across the three groups (majority, minority, and international) for diversifying teaching styles brings balance and objectivity to the study results. The call for more faculty diversity training is consistent with the literature on preparing future faculty (Lane, Hertog, & Walldhart, 2003) and multicultural education in the shift from curricular content to instructor quality (Gay, 2004). The under representation of White faculty at the MU’s diversity workshops (Buila, 2009) validates the students’ collective position on wanting more faculty diversity training and possibly explains why “White” majority faculty are perceived as not being pedagogically equipped to facilitate students’ diverse cultural and international backgrounds. An example of this cultural competence deficit is represented in one international student’s comment: “I think the idea of participation points should be revisited. It doesn’t work for all culture [sic] especially those from Africa and Asia.” Making accommodation for the latter is addressed in multicultural education in preparing teachers for diverse classrooms (Gay, 2004).
Study findings regarding limited learning transfer to Non-U.S. settings suggest that MU’s diversity workshops/seminars (SIUC, 2009b) are not “hitting ground” in practice. Even four years after embarking on its diversity policy initiative in 2003, some majority and most international students (Mdn = 2) felt that learning transfer to Non-U.S. setting almost never occurred in WED teaching delivery, and happened sometimes (Mdn = 3) for minorities. The convergence in students’ common position that more inclusive curriculum content is needed for improving WED teaching delivery help to confirm the latter survey finding. Moreover, the literature supports the students’ view as Guffrida (2005) found evidence to suggest that minority students perceive White faculty ‘as culturally insensitive when they fail to acknowledge or incorporate culturally diverse perspectives into their curricula’ (18). The under representation of the minority and international student groups in WED curricular materials makes them almost invisible and can lead to taking a compromising position that “because there’re not so many international students staying in WED, they’re sometimes overlooked …”, as one international student pointed out. Crichlow (2005) helped in understanding the latter position by pointing that power is partly fuelled by dominance in numbers, so that the dominant majority faculty has the power to cater mostly to the majority students. But, promoting a Western European hierarchy of knowledge is detrimental to achieving MU’s educational remit that includes being known “for a faculty and a student body that reflects the human and ethnic diversity and intellectual pluralism of the world” (SIUC 2005, p. 6). Evidence of such detrimental consequences is found in this majority student’s position on the issue: “… The only problem I have noticed for them [i.e., international students,] is this is Workforce Ed and some have never worked hear [sic] so they are lost when talking about or [sic] ways.” The latter is also likened to hegemony as highlighted by McLaren (2003) in critical education theory. Such inequity can help to possibly explain international students’ dissatisfaction with the MU educational services noted in a previous survey (International Student and Scholars Office, 2006) to include Caribbean students.

Similarly, the call by the three student groups to diversify faculty for improving WED teaching delivery and, by extension, address the cultural insensitivity mostly international students experience is in keeping with the pragmatic lens used in this study. An insider view from a majority student describes the reality of the problem that warrants attention if the MU is to achieve its educational remit (MU is substituted for the actual name of the University): “… [MU] has a bad habit of keeping in-house grads to teach here after graduation. Unfortunately, as you know this can keep perspectives limited. While researching a division … here … a few years ago, I noticed that [there] were 27/31 teachers that were all graduates of [MU]…! The over representation of White faculty in WED is likened to “Whiteness” being used as a standard of normalcy as described by DeCuir and Dixon (2004) in critical race theory. Still, if White faculty is copious, reluctant and not mandated to attend diversity workshops for acquiring the cultural competencies (Buila, 2009), then one workable solution would be hire diverse faculty who could relate to particularly international students’ cultural backgrounds. The students’ shared position is that “employing international faculty” and “more diverse faculty” who are “at least more aware of cultural differences” would improve The continued under representation of diverse faculty in the WED program can lead to a future reduction of international students and a significant source of revenue (Institute of International Education, 2012) for the MU. Conversely, more internationally-diverse faculty could make teaching delivery more responsive in addressing the “invisibility” issues resulting from a U.S.-centric curriculum and its intellectual bondage. Students from developing countries like those in the Caribbean region, where U.S.
exchange rates vary, resulting in exorbitant international tuition costs, can get value for money in venturing into a U.S. higher education experience.

The study findings provide valuable insights for improving MU’s diversity policy initiatives in light of growing ethnic diversity on U.S. campus populations and the aggressive marketing by U.S. universities toward international students. Other institutional diversity policy decision makers can learn from the MU’s experience and the institutional politics therein. The MU should have targeted both faculty and students (majority, minority, and international) so that a mutual understanding of expectations for building more inclusive class and campus climates could be established. Waning attendance by White faculty at these diversity workshops suggest that incentives such as summer teaching externships in foreign countries could have been offered to encourage faculty to participate. Making faculty attendance mandatory was another option in order to reduce the risk of cultural insensitivities like predominantly host country curriculum that limit learning transfer and foster intellectual bondage for students from developing countries like the Caribbean. Pragmatically, the MU could have emphasized the importance of mastering such cultural competencies as cultural sensitivity to the retention of international students and by extension their lucrative tuition revenues. In addition, cultural competencies should have been evaluated on the instructor-course evaluation forms distributed to students at the end of the semester (SIUC, 2007a) to identify where improvements are needed.

This study’s findings were constrained by a few limitations that included the use of a self-reported WED Curriculum Responsiveness Survey prone to personal bias. Findings were restricted to mostly the Caucasians, African Americans, and international students in WED seated classes who participated in the study and cannot be generalized (no random sampling done) to other populations or programmes. However, workforce educators/policy makers in similar settings can relate to the results accordingly. Nevertheless, study findings do add to the scholarly literature on cultural sensitivity as a cultural competence for teachers of culturally and internationally diverse graduate students. For future research, this study should be replicated to include a larger dataset (online and seated classes) and other regions in the U.S. to address the limitations identified.

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Computer Self-Efficacy, Computer Competency, Commitment to Ethical Goodness and Community Bonding Factors Influencing Pre-Service Teachers’ Internet Self Efficacy in SouthWest, Nigeria

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So many studies exist on tertiary teachers training programme generally, but little research exists on Internet self-efficacy of pre-service teachers in Nigeria. This study, therefore, investigated the predicting effects of computer self-efficacy, computer competency, commitment to ethical goodness and community bonding on the Internet self-efficacy of pre-service teachers’ in SouthWest, Nigeria. A field-based approach was adopted to collect quantitative data through the use of a questionnaire from 1285 pre-service teachers that were randomly sampled in four universities in Nigeria. Multiple regression statistical analysis employed showed that the independent variables were good predictors (collectively) of pre-service teachers’ Internet self efficacy. These findings were limited to participants from four universities, as well as variables investigated. Thus, efforts should be intensified in the future to extend the study’s scope to universities in other regions in Nigeria. These findings provided evidence on the need for teachers’ training institutions to provide teaching laboratories powered by 21st century Information and Communication Technology equipments to empower pre service teachers to meet the dynamics of 21st century schools.

Keywords: Computer self-efficacy; Computer competency; Commitment to ethical goodness; Community bonding; Pre-service teachers'; Internet self efficacy; SouthWest Nigeria

Introduction
Internet self efficacy or the belief in one’s capabilities to organize and execute courses of internet actions required to produce given attainments is an integral factor in bridging the digital divide that separates versatile pre-service teachers using the internet from novices (Eastin & LaRose 2006). The use of internet and other ancillary devices is essential during the Bachelor of Education programme in universities in Nigeria. Like pre-service teachers in other developing nations of the world, pre-service teachers spent a great deal of time on the internet exploring diverse opportunities that can improve their learning outcomes. Brown (2012) explained that these youths demonstrated through words and actions a remarkable desire to ‘work hard’ at what they were doing with Information and Communication Technology (ICT). Scholars (Bandura, Barbaranelli, Caprara & Pastorelli 2006; Usher and & 2006) described that these beliefs and desires reflect what is considered ‘strong self-efficacy beliefs’, which are seen as vital precursor to learning and achievement, particularly in school.

McCreary, Ehrich and Lisanti (2000) pointed out that internet technologies offer numerous opportunities to foster student involvement in the classroom community during after-school
hours. Recent studies (Drucker 2001; Porter 2001; Vongchavalitkul, Singh, Neal, & Morris 2005;) found out that the internet is an important new technology that is used to enhance organizational effectiveness in various sectors, including business and education, and that Internet cannot replace human cognitive abilities, but has the power to shrink space and time. At another level, Bhaumik (2012) pointed out that the purpose, pedagogy and performance of education at primary, secondary and tertiary levels are quite different from each other, thus suggesting that the use of technology in general or that of Information and Communication Technology in particular should also be different. This scholar further situated his argument in the work of Punie, Zinnbauer and Cabrera (2006) that the use of Information and Communication Technology (ICT) for learning is most widespread in the tertiary education, the use and role of technology in higher education and in professional education are quite different. From the view points of these scholars, pre-service teachers’ training has been greatly influenced by usage of ICT, Internet inclusive. It may not be out of place to infer that the dexterity to use the Internet drove and enabled pre-service teachers’ training in the information age. Balanskat, Blamire, and Kefala (2006) confirmed in their review of studies on ICT impact on schools in Europe found out that all the studies reviewed had identified a range of important wider benefits of ICT on learning, including the positive impact of ICT on students (pre-service teachers) motivation and skills, independent and teamwork.

The aim of this study, therefore, is to investigate the Internet self efficacy of pre-service teachers with a view to ascertaining the degree of contribution of some variables (commitment to ethical goodness, community bonding and computer competency) to it. This is, however, threatened by dearth of literature on all the afore-stated variables as they relate to pre-service teachers in Nigeria.

**Literature Review**
The literature on Internet self efficacy construct is rich and broad, especially with notable contributions from Torkzadeh and Koufterous (1994), Philips and Madhavan (2008), Valkenburg and Peter (2008), Eastin and LaRose (2006), Davis and Har vested (2000), Trotter and Morgan (2008), Ige and Orungbemi (2013), Bandura (1977, 1982), and Bandura and Cervone (1983). Bandura (1997) defined ‘self efficacy’ as the belief in an individual’s capabilities to organize and execute the courses of action required to produce given attainments. Bhaumik (2012) analyzed that ‘complexity, knowledge barriers to initial internet adoption, comfort and satisfaction issues faced by new users may be construed as ‘self efficacy deficits’. This scholar further analyzed that people who have little confidence in their ability to use the Internet, who are dissatisfied with their Internet skills or who are uncomfortable using the Internet may be said to have weak ‘self-efficacy beliefs’. At the beginning of the 21st century, universities with pre-service teacher training programmes in developing countries emphasized pre-service teachers’ computer self-efficacy which focused on component skills (Compeau & Higgins, 1995) such as formatting disks, booting up the computer, and behaviours individuals can accomplish with such skills, such as using software to analyze, however, the realities of the teaching and mentoring tasks foist on pre-service teachers upon graduating, and during teaching practice programme by the ‘external shocks’ of the information age demand pre-service teachers’ beliefs to successfully perform (Eastin & LaRose, 2006) distinct set of behaviours required to establish, maintain, and utilize effectively the Internet over and above basic personal computer skills.

As early as 1985, researchers did not only acknowledge the importance of the role of the computers (which the internet emanated from) in the health care industry, but education (Jacko,
Sears, and Sorensen 1998). Milioni, Doudaki, and Demertzis (2014) reported that throughout the 1990s, discussions on the social effects of Internet use was framed predominantly in terms of the digital divide and its potential consequences. At present, the Internet is an important new technology that is used to enhance organizational effectiveness in various sectors, including business and education, as it offers several advantages in higher education, including access to information, creation of course materials, support for conversational learning, and aid in the conception of students as active agents in the learning process (Rudenstine 1996, Vongchaavalitkul, Singh, Neal & Morris 2005).

Evidences from literature suggested that learning organizations use the internet to a greater extent than non learning organizations, (Economic Intelligence Unit (EIU) and IBM 1996; Marchi 1999). Consequent on this, Internet tools such as e-mail, the World Wide Web, and Social Networking Websites are ‘must use’ for pre-service teachers in facilitating learning. Pre-service teachers need to enhance their Internet usage skills in order to meet the learning demands of teeming students who have been afforded unhindered Internet access with the application of third generation (3G) mobile communication, which has aided internet development around the world (Zhou 2011, 2014). In Nigeria, the younger generation which ‘students’ represent is more familiar with new technologies than their parents or grandparents to the point that they have been called ‘digital natives’ (Amosun and Ige 2009; Amosun, Ige, and Choo 2013; Ige 2008; Prensky 2001, Correa, Straubhaar, Chen and Spence 2013).

In this study, computer self-efficacy is one of the variables investigated. This construct emanated from educational psychology and has been applied severally to computer usage, teaching, marriage etc. Aremu (2004) quoting Bandura (1986) affirmed that self-efficacy is concerned with the people’s judgment of their capabilities to organize and execute courses of action required to attain designated type of performance. This has been applied to the field of computer usage and is referred to as computer self-efficacy. Hassan (2003) identified computer self-efficacy as an integral predictor of computer-related ability and computer usage. Dishaw, Strong, and Bandy (2003) defined computer self-efficacy as a person’s judgment of his/her ability to use a computer, and can influence an individual’s affect, persistence, motivation (Deng, Doll, & Truong, 2004), creativity (Tella & Ayeni, 2006), and for the purpose of this study pre-service teachers’ Internet self efficacy.

Research have shown that higher levels of computer self efficacy are associated with higher levels of self awareness and consequently an increased ability and willingness to learn computer-related activities (Gravill, Compeau, & Marcolin 2002, Phillips & Madhavan 2008), while Smith (2001) found out that high levels of computer self-efficacy are not necessarily indicative of actual ability with serious warning from the discovery of Phillips and Madhavan (2008) that high levels of computer self-efficacy can damage performance due to over estimation of self ability i.e. over confidence. These reviews provide reasonable premises on which the present study could be predicated and inferences drawn with a view to add to existing knowledge in the climes of internet efficacy with focus on pre-service teachers in Nigeria. Another variable examined in this study is computer literacy. The introduction of computers is considered to be third revolution in education (For example, see Pepe 1984). Amosun, Ige and Choo (2013) stated that the first revolution in education was the printing of books, while the second was the introduction of libraries. Similarly, Abimbade (1996) explained that computer is seen as one of the major inventions that have contributed immensely to the service of humanity. CL-USA (2011) defined computer literacy level as the varying understanding of concepts, terminologies and operation that relate to general computer use, which is essential knowledge needed to
function independently with a computer. In this study, the functionality includes the ability to solve and avoid problems, adapt to new situations, keep information organized, and communicate effectively with other computer literate people. In respect of pre-service teachers, the use of computers is ubiquitous to their internet self-efficacy, hence, the need to investigate this variable alongside others.

The other variables examined in this study are commitment to ethical goodness and community bonding. Commitment to ethical goodness and community bonding are relatively new constructs in literature. Narvaez, Bock, and Vaydich (2007) pioneered community bonding as construct of interest. Maclyntre (1984) in Tjeltveit (2003) argued that ‘the concept of the good life’ for human beings is prior to ‘the concept of virtue’. MacIntyre (1984) supported by Taylor (1989) and Tjeltveit (2003) pointed out that certain features of Western intellectual life have made it very difficult to talk about or even to recognize the understandings of goodness to which teachers are committed. Taylor (1988, 1989) argued that a commitment to some notion of the good is inescapable because in formulating and living out our identities, we always understand ourselves in relation to some ideal. Our notions of what is good form the basis for our evaluations of ourselves, and others. Tjeltveit (2003) stated that one of the great challenges facing any teacher trying to address questions about goodness, of course, is that behavioral scientists hold divergent ideas about human flourishing. What one person considers good, a second may not. Or, more commonly, the good that is most important or most central for one person is not for a second. House and House (2002) stated that ‘goodness’ is universal and not relative. These scholars philosophized that if ‘good’ and ‘evil’ are purely personal, or, at most, societal constructs, then what is ‘good’ for me might not be ‘good’ for you. What our society calls ‘evil’ might be ‘good’ in another society. These scholars concluded that, if nothing really is ethical, individuals might as well do as he/she is pleased without the hypocritical self-justification of interposing an appeal to a self constructed ethics between the wish and the action.

Community bonding, regardless of how it is conceptualized is synonymous to school bonding. The assessment of community bonding has continued to gain attention as schools struggle with poor academic achievement, truancy, delinquency and high student drop rates (Lippman & Rivers 2008; Pabian, & Vandebosch 2015; Whiteside-Mansell, Weber, Moore, Johnson, Williams, Ward, Robbins, & Phillips 2014). Though the findings of these scholars may be peculiar, however the situation is not different in Nigeria as researchers have focused student bonding to their school as a key factor in the success of schools to educate (Agu, Ada & Odimegwu, 2010; Perry, 2008; Reyes, Brackett, Rivers, White, & Salovey 2012). High levels of school bonding have been consistently associated with positive youth outcomes, including academic outcomes, such as increased academic motivation, self-efficacy, higher grade point averages (Goodenow, 1993; Oelsner, Lippold, & Greenberg 2011; Osterman 2000; Roeser, Eccles, & Sameroff 2000; Wentzel 1997, 1998) and low levels of problem behavior (e.g. substance use, risky sexual activity, truancy, bullying, fighting, stealing, and vandalism; Hawkins, Guo, Hill, Battin-Pearson & Abbott 2001; Lonczak, Abbott, Hawkins, Kosterman, & Catalano 2002; Simmons-Morton, Crump, Haynie & Saylor 1999; Battistich & Hom 1997; Roeser & Eccles 1998; McBride, Curry, Cheadly, Anderman, Wagner, Dieher et al 1995).

Research have shown that pre-service teachers have a strong psychological need to belong and form attachments (see Oelsner, Lippold and Greenberg 2011), in Nigeria, such attachments could be on the university campuses or Internet communities, which Szmigin and Repel (2004) opined that it allow and encourage conversations that are of value to all involved buyers, suppliers and other interested parties in that community, such that some form of
community bonding takes place. These scholars further asserted that communities are no longer constrained geographically in the twenty-first century. The Internet, television, telephone and particularly the mobile phone, all mean that communities can exist beyond boundaries of location or time. Despite these realities, relatively little has been written on the potential influence community bonding can have on pre-service teachers’ Internet self efficacy.

Given the background to this study, it befits the researcher to pool the variables reviewed in form of research questions. Thus, in this study, efforts were made to provide answers to these two research questions:

RQ1. What is the combined influence of computer self-efficacy, computer competency, commitment to ethical goodness on pre-service teachers’ Internet self-efficacy?

RQ2. What is the relative influence of computer self efficacy, computer competency, commitment to ethical goodness on pre-service teachers’ Internet self efficacy?

The objectives of this study is to investigate the combined and independent effects of computer self-efficacy, computer competency, commitment to ethical goodness and community bonding on Internet self-efficacy of pre-service teachers.

Definition of Terms
In this study, computer self-efficacy connotes pre-service teachers’ judgment of their capabilities to use a computer (Compeau & Higgins, 1995), which is based on an already formed sense of self-efficacy and represents its fundamental elements applied in the fields of use and mastery of computers (Paraskeva, Bouta, & Papagianni, 2006); computer competency connotes selected pre-service teachers’ ability at high, moderate and low levels to use microcomputers confidently for obtaining needed information, solving specific problems, and performing data processing tasks; commitment to ethical goodness connotes selected pre-service teachers’ ability to communicate trans-cultural good in networked communities; community bonding captures pre-service teachers’ attachment to networked communities, commitment to networked communities, and belief in the values of the networked communities. (Catalano and Hawkins 1996; Oelsner, Lippold and Greenberg 2010), and pre-service teachers Internet self efficacy is the belief in their capabilities to organize and execute courses of Internet actions required to produce given attainments, which is an integral factor in bridging the digital divide that separates versatile pre-service teachers using the Internet from novices (Eastin and LaRose 2006).

Methodology
Research Design
The study adopted a field survey approach in which the manifestation of the variables had occurred prior to the investigation. These variables were indeed, beyond the control of the researcher (Aremu, 2004).

Population and Sampling Process
The study surveyed 1285 pre-service teachers in four universities in South West, Nigeria. All participants were volunteers who were recruited for the study through convenience sampling. The participants’ University levels of courses ranged from the 100 to 400 levels.

Instrumentation
The instrument was in two parts. Part 1 elicited responses on the demographic information of the respondents. These include name, age, sex and school. Part 2 of the instrument had five sections.
Section A contained a fourteen-item statement on Computer Self-Efficacy. An $\alpha$-reliability coefficient of 0.75 was obtained using split-half method. Two examples of statements in the section are: *choosing file to view on a monitor screen; learning skills to use in a computer program.*

Section B of the instrument was on Computer Literacy. It has 10 objective test items with options A-D which include only one correct option. Its KR-20 coefficient was 0.78. The following are examples of questions in the section: which program allows you to format a diskette? (a) My computer (b) online help (c) paint brush (d) internet; which key is used when selecting a group file? (a) ALT (b) CTRL (c) ESC (d) TAB

Section C was on Commitment to Ethical Goodness. The section contained a fifteen-item statement. In this study, an estimated $\alpha$ co-efficient value of 0.83 was recorded using Cronbach Alpha. Two examples of statements in the section are: *Being a good person at school is important to me; it doesn’t matter whether you are good or bad.*

Section D was on Community bonding. The section contained fourteen items adopted from Narvaez (2007) Community Bonding Scale. An estimated co-efficient of 0.58 was obtained using Cronbach Alpha. The following are two examples in the section: *People in my country care about me; I feel close to people of my sex.*

While Section E had ten items on Internet self-efficacy which is the study’s dependent variable. The section had a 0.82 $\alpha$ co-efficient using Cronbach Alpha. The following are examples of items in the section: I can always manage to solve difficult problems if I try hard enough on the Internet; if I am in trouble, I can usually think of a solution when using the Internet.

Data Analysis
The predicting effect of the predictors on the dependent (Internet self-efficacy) as well as the relative contributions of the predictors to the criterion (Internet self-efficacy) were investigated using multiple regression, standardized $\beta$s ($\beta$) and t-test statistics. All analyses were determined at a significance level of 0.05.

Results
Table 1 shows the results of the multiple regression and analysis of variance conducted to answer the first research question. The regression analysis had $R^2$ of 0.015 and adjusted $R^2$ of 0.012, which is statistically translated to mean 1.2 percent contribution of the total variance to internet self efficacy of the participants. The analysis of variance on the combined effect of the predictors (computer self-efficacy, computer literacy, commitment to ethical goodness and community bonding) yielded F of 4.899 at 0.01 significant level.

Table 1

<table>
<thead>
<tr>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>880.055</td>
<td>4</td>
<td>220.014</td>
<td>4.899</td>
<td>.001</td>
</tr>
<tr>
<td>Residual</td>
<td>57487.045</td>
<td>1280</td>
<td>44.912</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>58367.100</td>
<td>1284</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: $R=0.123; R^2=0.015; Adjusted R^2=0.012; SE=6.702
Table 2 also shows the results of the relative contribution of the predictors to the internet self-efficacy of pre-service teachers. The predicting statistical values were different for all variables. The standardized $\beta$s and t-test of the predictors are as follows: Computer literacy had no significant relative influence ($\beta = -0.007, t = -0.244, p > 0.05$). This suggests that a pre-service teacher may not necessarily be computer literate to believe in his/her capabilities to organize and execute the courses of action required to produce given attainments on the Internet.

Computer self-efficacy had a significant relative influence ($\beta = 0.127, t = 4.321, p < 0.05$) on pre-service teachers’ Internet self-efficacy. This suggests that the positive judgment of a pre-service teachers’ of his/her ability to use a computer, the more the pre-service teacher’s belief in his/her capabilities to organize and execute the courses of action required to produce given attainments using the Internet.

Commitment to ethical goodness had no significant relative influence ($\beta = 0.004, t = 0.143, p > .05$) on pre-service teachers’ internet self-efficacy. This suggests that online ethical or in-ethical behaviours have no direct influence on pre-service teachers’ Internet efficacy.

Community bonding had no significant influence ($\beta = 0.020, t = 0.654, p > .05$) on pre-service teachers’ Internet self-efficacy. This suggests that attachment and non attachment of pre-service teacher commitment to the networked communities, and belief or disbelief in the values of the networked do not affect their capabilities to organize and execute courses of internet actions required to produce given attainments.

### Table 2

**Relative Contribution of the Predictors on Internet Self-Efficacy**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized B</th>
<th>Std. Error</th>
<th>Standardized Co eff.</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>20.927</td>
<td>1.669</td>
<td>12.539</td>
<td>.000</td>
<td></td>
</tr>
<tr>
<td>Computer literacy</td>
<td>-.021</td>
<td>.088</td>
<td>-.244</td>
<td>.807</td>
<td></td>
</tr>
<tr>
<td>Commitment to Ethical goodness</td>
<td>.003</td>
<td>.018</td>
<td>.143</td>
<td>.886</td>
<td></td>
</tr>
<tr>
<td>Community Bonding</td>
<td>.014</td>
<td>.022</td>
<td>.654</td>
<td>.513</td>
<td></td>
</tr>
<tr>
<td>Computer self-efficacy</td>
<td>.082</td>
<td>.019</td>
<td>.4321</td>
<td>.000</td>
<td></td>
</tr>
</tbody>
</table>

### Discussion

Previous studies have examined Internet self-efficacy, internet usage and internet stress as unconstructs. However, evidence from the search I made for relevant literature using the Internet shows that the current study would be the first that would probe the significant effect of computer self-efficacy, computer literacy, commitment to ethical goodness, and communities bonding on pre-service teachers’ internet self-efficacy in Nigeria. This, therefore, places on the study dire limitations in comparing the present funding with some established studies locally or internationally. Despite this, the researcher made an effort to infer from the findings of this study and compare same-related independent studies.

From the first research question, it was discovered that the independent variables (computer self-efficacy computer literacy, commitment to ethical goodness and community bonding) have determinate effects on the Internet self-efficacy of pre-service teachers consequent on this finding, it could be inferred that a ‘21st century teacher’ should have a confluence of these factors powering his/her teaching-learning abilities in the information age. This finding confirms the
proposal of Tsai and Tsai (2003), and Oliver and Shapiro (1993) that learners with high Internet efficacy expectations may have a greater chance of success in Internet-related tasks.

The second research question investigated the independent effects of the four predictors on the Internet self-efficacy of the selected pre-service teachers. Findings of this study showed that the one of the four predictors had significant contribution to the Internet self-efficacy of the selected pre-service teachers, while the remaining three predictors did not have significant contribution to pre-service teachers Internet self-efficacy. Computer self-efficacy had a contributing value of $t = 4.321$ to the Internet self-efficacy of the pre-service teachers sampled in this study. This contradicts the findings of Abimbade and Adedodoja (2013) who found that the combination of teaching subject, department and gender have insignificant influence on pre-service teachers Internet self-efficacy. The findings of this study show that the factors influencing pre-service teachers are independent of commitment to ethical goodness, computer literacy, and community bonding with the exception of computer self-efficacy. The fundamental inference from this finding is that computer self-efficacy could independently predict pre-service teachers Internet self-efficacy.

**Implications for Teacher Education and Limitations**

This study has implications for teacher education, especially given the importance of the teaching profession facilitating the process through which every child take their full and equal share of citizenship, shape their destinies, and become master of their own fate (Department For Education, 2010). Teachers, therefore, need to develop themselves to meet the dynamics of the Internet age. This study has shown that pre-service teachers Internet self-efficacy could be influenced collectively by a number of factors, this implies that teacher-training institutions should strive to provide teaching laboratories powered by 21st century Information and Communication Technologies equipment to empower pre-service teachers to meet the dynamics of 21st century schools. Teachers now use mobile phones as support and tutorial tools in teaching (see Adedoja & Abimbola, 2013) to augment face-to-face teaching. The future of schools across the world rests on re-service teachers in the different teacher-training institutions scattered across the globe.

As good and challenging as these implications are, the study is however, not without some limitations. The sample of 1285 pre-service teachers was delimited only to Southwest Nigeria. This was a serious limitation to the study generalizing the findings of this study to other regions in Nigeria should be done with serious caution. Despite these limitations, the study has significantly contributed to the field knowledge in teacher education.
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Guide for the
Community Bonding Scale

Measuring a Protective Factor for
At-risk Behaviours and Attitudes

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The Community Bonding Scale measures the sense of connectedness or bonding to social institutions beyond the family.

**Rationale**
There has been considerable research about the importance of relationships in protecting youth from risky behaviors. For example, good relationships with family and friends can protect adolescents from drug use (Masten, 2003). Bonding to school not only increases school engagement and commitment to learning among students (Goodenow, 1993), but growth in achievement (Libbey, 2004) and healthy development generally (Catalano et al., 2004). Sense of bonding beyond the family may play a protective role in the health decisions of adolescents and young adults.

**Community Bonding Scale Development**
A pool of 20 items was generated based on theory. A principal components factor analysis was performed on the Community Bonding Scale. Both the scree criterion and the parallel analysis method (Lautenschlager, 1989) suggested: 1 factor based on 14 items, accounting for 53% of the variance (alpha= .93).

**Relation to School Variables**
In the Minnesota Community Voices and Character Education project, Narvaez, Bock, Endicott and Lies (2004) tested experimental and control schools with measures of school climate and the CBS. In a subsequent analysis, a MANOVA was conducted with 3 School Groups (control, high implementing of school program, low implementing) with climate as covariate and several dependent variables. For Climate (covariate): Wilk’s lambda= .68, F (5,374) =35.75, p<.001, η²=.32. For School Group (factor): Wilk’s lambda= .89, F (10,748) =4.35, p<.001, η²=.06. The univariate analysis for Community Bonding was significant, F (1, 378) =113.42, p<.001, η²=.23.

**Relation of CBS to at risk behaviors and attitudes**
Narvaez, Gardner & Mitchell (2001) reported on risk behaviors in 38 community college students and 84 10th grade students. The CBS was negatively correlated with three at-risk variables: attitude towards peer tobacco use (r =.24, p < .005), interest in using tobacco (r =.24, p < .006), current use of tobacco(r =.20, p < .025).

CBS was positively correlated with a theoretically related measure, Hopefulness, a measure of sense of security within the context of family and outlook (.58, p < .001).

Narvaez et al (2001) also had participants complete the Defining Issues Test (DIT), a measure of moral judgment development. To compare CBS with the effects of moral judgment on risk behavior, hierarchical regression was performed for each of three dependent variables, attitude towards peer smoking, interest in using tobacco, current use of tobacco. Stepwise, age was entered first, gender was entered next, then the DIT Postconventional score was added, finally Community Bonding Scale score was added. Scores on the Community Bonding Scale accounted for significant variance over demographic variables (age, gender) and moral judgment development (DIT P-score), all p < .02. Community Bonding scores added significantly to R-square change over and above other significant effects. Scores on the Community Bonding Scale predicted to at-risk attitudes and behavior whereas moral judgment did not.
Community Bonding Scale
(5-point Likert-type scale: Never to Always)

ITEMS

1. My community needs me
2. I feel close to people in my school.
3. I feel close to people in my neighborhood.
4. I feel close to people in my city.
5. I feel close to people in my state.
6. I feel close to people in my country.
7. I feel close to people of my sex.
8. I feel close to my age group.
9. All kinds of people care about me.
10. People in my school care about me.
11. People in my neighborhood care about me.
12. People in my city care about me.
13. People in my state care about me.
14. People in my country care about me.

SCORING: Add to a total score. Use the mean.

References
OTHER TOOLS FOR Researchers, Educators and Parents

Most of these you can download from:
http://www.nd.edu/~dnarvaez/ Or from http://cee.nd.edu

TOOLS FOR TEACHERS: ETHICAL SKILL INSTRUCTION

Free from cee.nd.edu/curriculum

Updated versions for purchase (each $10 or all four for $30):
Integrative Ethical Education: Guide (Narvaez)

TOOLS FOR RESEARCH AND ASSESSMENT
Citizenship Scale for Elementary and Secondary School Students: Guide. Laboratory for Ethical Development and Education, University of Notre Dame
Ethical Goodness Scale for Elementary and Secondary School Students: Guide. (Narvaez, Bock & Vaydich) Laboratory for Ethical Development and Education, University of Notre Dame
Community Bonding Scale: Guide. (Narvaez) University of Notre Dame: Center for Ethical Education.
Attitudes towards Human Rights Inventory: Guide. (Narvaez, Thoma, Getz) University of Notre Dame: Center for Ethical Education.
Positivity Scale: Guide. (Narvaez) University of Notre Dame: Center for Ethical Education.
Moral Theme Inventory (MTI): Guide. (Narvaez & Bock) South Bend, IN: Notre Dame University.
Assessing Ethical Skills: Guide (Narvaez)
Checklist for an Ethical Classroom: Guide (Narvaez)
Checklist for an Achieving and Ethical Classroom: Guide (Narvaez)
Tuning into Ethical Behavior: Guide (Narvaez)
Multicultural Experiences Questionnaire (MEQ) (Narvaez, Endicott, & Hill)
Rating Ethical Content System (RECS) for children’s media (Narvaez)

TOOLS FOR PARENTS
Tuning into Ethical Behavior: Guide (Narvaez)
Nurturing a Peaceable Child (Warren, Vaydich & Narvaez)
Needs Analysis: Undergraduates’ Evaluation of a University-wide English Language Course

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Needs analysis in language teaching aims not only to identify the needs and wants of language users, but it also aims to assess the outcome of courses. This article reports on a study which used needs analysis to investigate undergraduates’ perceptions of their language needs and their progress on a university-wide Use of English course. The study reported in this article surveyed two hundred and four (204) first-year undergraduates to find out how they rated the importance of different language skills across six faculties and how they rated the effect of the course on the development of their academic language skills. Results from this study revealed a mismatch between undergraduates’ perception of their development in the language course and their actual development. This study suggests that needs analysis is a useful tool for gaining insights into issues related to academic language development.

Key words: Needs analysis; language skills; evaluation; undergraduates

Introduction

Undergraduates in many Caribbean universities are required to take Use of English or English for Academic Purpose (EAP) courses in their first year of study. This requirement exists although undergraduates would have been exposed to English Language as a subject in secondary schools, and they would have had to obtain passing grades (1 – 3) in the Caribbean Secondary Education Certificate (CSEC) English Language (English ‘A’) examination to qualify for entry into the university. Many of these EAP courses emerged out of the need to develop language skills which were believed to be essential for university students (Winford, 1973), and the need to address inadequate development in written language proficiency (Dyche, 1996; McLaren & Webber, 2009; Ramsay, 2011) in light of persistent complaints from faculty about undergraduates’ poor academic language skills (McLaren & Webber, 2009). However, while faculties have complained consistently about undergraduates’ poor academic language skills, not many studies in this context have sought to evaluate the outcome of language courses which are used in many instances (Simmons-McDonald, 2004).

One study, Dyche (1996), sought to evaluate whether students’ level of written English was related to their academic success. She investigated the relationship between first-year undergraduates’ level of writing proficiency in English and their academic success (end of first-year results in all subjects and in individual subject areas) across two years (1988 and 1999). Dyche (1996) drew undergraduates from two faculties (Natural Sciences and Arts and General Studies) and compared the academic performance of three groups. One group had passed a proficiency essay and grammar test and was exempted from a year-long Fundamentals of English course. The second group had failed the proficiency test and was required to complete the
Fundamentals of English course. The third group had failed both the proficiency test and the Fundamentals of English course. Dyche (1996) found that undergraduates who had failed both the proficiency test and the Fundamentals of English course had the lowest percentage of passes across the faculties.

Dyche’s (1996) study highlighted important issues in developing written English proficiency in a Caribbean setting. These issues include the relationship between the discipline-specific role given to writing and the nature of first-year undergraduates’ evaluations. For example, she found that while some faculties expressed concern about undergraduates’ low level of written English proficiency, even in cases where undergraduates’ were required to write essays in evaluations, content and analytical ability determined failure. Undergraduates were not penalised for poor English grammar and weak expressions. Notwithstanding these issues, Dyche’s (1996) study aimed to determine whether undergraduates’ academic performance in content courses yielded useful information about the impact of their written English proficiency. What English language skills undergraduates perceive that they need to be successful in their academic studies appears not to have been addressed in the research literature.

Significance of the study
Given the importance of developing academic language skills in this context, there is need for more empirical studies to shed light on the usefulness of English courses which are designed to develop general academic language skills. If course instructors are to provide adequate support for developing academic language skills, then they need data which can help them to understand the issues related to undergraduates’ academic language development. This present study attempts to provide this kind of information. This type of study has the potential to fill a gap in Caribbean research and also provide information that is critical to course instructors.

This study’s focus on the outcome of a Use of English course suggested that needs analysis was the most appropriate way for course instructors to gain insights into undergraduates’ perceptions of the effects of the course on the development of their academic language skills. This study analysed undergraduates’ self reports to find out what language skills undergraduates considered to be important for success in their faculties and how they perceived the Use of English course to contribute to the development of academic language skills. Knowledge of learner’s language needs and the relationship between language courses and other academic courses can be potentially useful to course instructors who seek to design effective EAP courses (Hyland, 2006; Hinkel, 2006).

Theoretical Framework
Needs analysis in language teaching
Needs analysis has long been considered an important feature of language teaching and learning because it plays a critical role in course design and evaluation (Belcher, 2006; Munby, 1978). While needs analysis draws on an eclectic range of theories, including genre and critical theories (Hyland, 2008) to develop and assess the outcomes of courses (Basturkmen, 2010; Dudley-Evans & St John, 1998), needs analysis should not be regarded as a short-term activity. According to Hyland (2006, p. 74), it is not a “done once then forgotten activity”; it is a dynamic reactive process of questioning and revising that is “behind every successful EAP course”.

Though conducting needs analysis might be considered time consuming, its focus on situated teaching and learning contexts through systematic data collection and analysis (Basturkmen, 2010; Hyland, 2006) could provide insights into learners’ struggle to develop
academic language skills in teaching and learning contexts. For example, needs analysis can provide better understanding of potential mismatches between language courses and learners’ needs and also between language courses and other content courses (Bovill et al., 2011; Gimenez, 2008). In terms of course development, findings from needs analysis are likely to provide opportunities for instructors to access knowledge about the relative importance of different features of language courses (Basturkmen, 1998; Belcher, 2006).

Needs analysis in university settings

In university settings, the goals for aligning needs analysis research with language teaching do not only include building empirically validated data into course programs (Oanh, 2007); very importantly, they also include balancing top-down approaches with bottom-up approaches to curriculum decisions (Basturkmen, 1998; Leki & Carson, 1994). For example, Basturkmen (1998) conducted a needs analysis project with engineering undergraduates at a University in Kuwait to provide information concerning the use of English by students. From qualitative and quantitative methodology and data from both faculty and undergraduates, Basturkmen (1998) found similarities and differences in a number of areas. Both faculty and undergraduates gave the following order of priority for language tasks: reading textbooks, writing up lab reports/lab assignments and following lectures. However, faculty perceived both reading and listening to be almost equally important while undergraduates considered listening to be far more important than reading. In addition, faculty perceived undergraduates to have inadequate language skills while only few students perceived their language skills to be inadequate in any other area except speaking (Basturkmen, 1998). Information collected from the users in Basturkmen’s (1998) study was useful to determine curriculum reorientation and redefine the roles for the English Language Unit at the top level.

Combining such bottom-up approaches with top-down approaches in curriculum decisions is important because undergraduates’ perceptions of language needs can influence how receptive they are to learning (Horwitz, 1987; Leki & Carson, 1994). Dyche (1996) suggested that if students perceive that there is a lack of focus on weak expressions, then they might not be motivated to improve their writing skills. In addition, analysis of undergraduates’ perceptions of language needs can also expose gaps between students and instructors’ understanding of what needs to be learnt. These gaps are likely to be potential sites for language learning difficulties (Lea & Street, 1998).

Research on undergraduates’ perceptions of language courses

To determine how well courses prepare undergraduates to develop academic language proficiency, research studies have focused on gathering data from undergraduates who are engaged in language courses in different language learning settings and across different disciplines (Bacha & Bahous, 2008; Basturkmen, 1998; Chan, 2001; Chostelidou, 2010; Elsami, 2010). In seminal studies, Christison and Krahne (1986) used structured interviews to gather data from 80 second language (L2) undergraduates. These undergraduates who had completed language intensive courses across five universities reported that listening and reading were the most important skills in their academic studies. Undergraduates considered writing in academic tasks to be a less important skill.

In another study, Leki and Carson (1994) surveyed ESL undergraduates enrolled in university-level content courses at a university in the United States. They investigated seventy-seven (77) undergraduates’ perceptions of the relationship between instructions they received in
their ESL writing classes and actual writing tasks that they were required to perform in courses across their disciplines. Leki and Carson’s study (1994) indicated that undergraduates credited areas such as planning, outlining and drafting and those related to reading, for example, knowing the material, selecting, summarizing and synthesizing relevant and important details, and managing sources for success in developing writing proficiency. The most frequently expressed specific needs from the ESL writing course were vocabulary and grammar, but similar to Dyche’s (1996) study, these specific areas of need appeared not to have adversely affected undergraduates’ grades (Leki & Carson, 1994).

Later needs analysis studies such as Chan (2001) used a questionnaire survey to investigate, among others, undergraduates’ perception of language needs in all the departments at a university in Hong Kong. Undergraduates identified reading and speaking at seminars and meetings to be very important for academic study. Taken together, these studies which have examined undergraduates’ perception of their needs through their evaluation of courses have provided relevant information for course instructors. However, these kinds of studies which indicated areas of needs for general language skills and provided information for improving courses appear to be non-existent in Caribbean universities where undergraduates are exposed to EAP courses in their first year. This study adds another context to the existing literature.

The study

The purpose of this study was to investigate undergraduates’ perceptions of English language needs across faculties at a university in Guyana. Language needs in this study referred to language skills which undergraduates consider to be necessary for their success in academic study. The study also investigated undergraduates’ perceptions of the usefulness of the Use of English course in developing their academic language skills. Many faculties have complained that their students’ English language skills are weak, and the Use of English courses appear not to be helping students to develop their academic English language skills. Therefore, this study sought to access information which can prove useful to the Use of English course instructors. The study was guided by the following research questions:

1. What are undergraduates’ perceptions of their language needs in their faculties?
2. How do the undergraduates rate the usefulness of the course in developing academic language skills?

The Language course

Structure

The Use of English course (ENG 115) is one of two English for General Academic Purposes (EGAP) courses offered formally through the Department of Language and Cultural Studies. It is conducted in Semester 1, and it is a compulsory course for mainly first-year undergraduates across faculties in the university. This fifteen-week course comprises four (4) credit hours, divided into two (2) hours of lectures and two (2) hours of tutorials per week. Lectures are delivered by a main lecturer to very large groups of undergraduates, over two hundred (200), in one two-hour session. Tutorials are done by individual lecturers with smaller groups, approximately forty undergraduates. In this course, 50% of the total marks are awarded for coursework assessments and 50% for final examinations. Coursework assessments consist of in-class tests. These tests include reading comprehension and essay writing. For the academic year 2012 – 2013, the average course grade in the writing section of the exam was D. The average
course grade in the comprehension section was also D, one grade away from the failing grade F on a grading scheme as follows: A:75 – 100; B:65 – 74; C:55 – 64; D:45 – 54; F:0 – 44.

**Methodology**

**Design**

This study used a descriptive cross-sectional survey design. According to Gall, Gall and Borg (2007), descriptive research can produce statistical information about aspects of education that are of interest to policy makers and educators. Our focus on providing course instructors with insights into language development issues suggested that a cross-sectional survey design would be an appropriate way to investigate language needs.

**Instrument**

Questionnaires were administered to mainly first-year undergraduates at the university. The questionnaires are divided into two sections. Section 1 consisted of two (2) questions which were designed to elicit background information about the undergraduates in two key areas: (1) faculty in which they were registered and (2) their English language experience prior to attending university. In a case where undergraduates were not given a diagnostic assessment upon entry, combining dimensions of prior language experience and faculty seemed important to cater for a group that was not homogenous in all respects. Section 2 consisted of five (5) questions, which sought to provide answers for research questions 1 & 2, undergraduates’ perceptions of language needs across faculties and the effects of the Use of English course on their English language skills. We believed that framing undergraduates’ language needs and the effects of the course on their English language skills in the context of content courses in their faculties could provide data which is important for differentiating needs.

**Sample and Population**

Participants in this study were a purposive sample of two hundred and four (204) undergraduates drawn from two different campuses (Turkeyen and Berbice) and across six (6) faculties: Social Sciences (SS) (34), Natural Sciences (NS) (34), School of Education and Humanities (SEH) (34), Technology (TEC) (34), Health Sciences (HS) (34) and Agriculture and Forestry (AGF) (34). The highest number of questionnaires which was fully completed by one faculty was thirty four (34). This number determined how many samples were selected from each faculty. Purposive sampling was used to allow comparisons to be made across faculties. Apart from faculty differences in undergraduate groups, other differences existed. One hundred and eighty (180) undergraduates were in transition from secondary schools, with passing Grades (1 – 3) in Caribbean Secondary Education Certificate (CSEC) English ‘A’ exam. Twelve (12) had Caribbean Advanced Proficiency Examination (CAPE) certificates, and eight (8) were undergraduates who did not pass CSEC English ‘A’ but had passed the university’s English Qualifying Exam (EQE). Four (4) were undergraduates who had majored in English Language at the Teacher’s Training College.

**Ethical considerations**

Undergraduates were informed of the nature of the research and how the information collected in the study would be used. They were assured that questionnaire responses would be anonymous and participation or non-participation would not affect their course grades.
**Procedure**
The questionnaires used in this study to gather undergraduates’ perceptions of their English language needs were adapted from Basturkmen (1998) and Bacha and Bahous (2008). It was believed that questionnaire items similar to those used in these contexts could provide information useful to investigating undergraduates learning English for academic studies in this particular context. Questionnaire items also drew on the content of the course outline to provide answers for research question 2, the usefulness of the course.

**Pilot study**
Questionnaires were first piloted on a group of twenty undergraduates who had completed the same language course across different faculties during the previous academic year. Following this pilot study, the language in some areas of the questionnaires were revised, and questionnaires were directly administered to undergraduates (2012 – 2013). Questionnaires were administered to undergraduates who had attended the course, made more than 75% attendance and were eligible to write the final examinations. Because we wanted a high response rate, questionnaires were administered after undergraduates had completed the *Use of English* course, and before they had written the final examinations. One faculty (Health Sciences) could not be accessed before final examinations, so undergraduates in this faculty who had written the final exams were provided with questionnaires just after the final examinations. Because we wanted a high response rate, questionnaires were administered and collected by lecturers in the Department of Language and Cultural Studies. Participants were required to complete the questionnaires using the traditional paper and pencil.

**Data Analysis**
Data for this study was analysed using descriptive statistics in the SPSS statistical package Version 19.

**Results**
The results are presented according to research questions.

*Research Question 1: What are undergraduates’ perceptions of their language needs in their faculties?*
To answer this research question, undergraduates were required to indicate which of the four English language skills (reading, listening, speaking and writing) they found to be most important for their success in other courses in their faculties. They were also required to indicate which items under each skill were most important for their other courses. The results for this question are displayed in Tables 1 – 5.
Table 1

**Skills most important for undergraduates’ success in other courses**

<table>
<thead>
<tr>
<th>Skills</th>
<th>Faculties</th>
<th>AGF (n=34)</th>
<th>SEH (n=34)</th>
<th>HS (n=34)</th>
<th>NS (n=34)</th>
<th>SS (n=34)</th>
<th>TEC (n=34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>47%</td>
<td>53%</td>
<td>74%</td>
<td>35%</td>
<td>94%</td>
<td>59%</td>
<td></td>
</tr>
<tr>
<td>Listening</td>
<td>44%</td>
<td>38%</td>
<td>35%</td>
<td>38%</td>
<td>73%</td>
<td>47%</td>
<td></td>
</tr>
<tr>
<td>Speaking</td>
<td>35%</td>
<td>26%</td>
<td>24%</td>
<td>12%</td>
<td>56%</td>
<td>29%</td>
<td></td>
</tr>
<tr>
<td>Writing</td>
<td>21%</td>
<td>57%</td>
<td>38%</td>
<td>41%</td>
<td>76%</td>
<td>41%</td>
<td></td>
</tr>
</tbody>
</table>

Overall, as is evident in Table 1, most of the faculties rated reading as the skill most important to their success in other courses. More than half of the undergraduates in Health Sciences (HS) (74%), Social Sciences (SS) (94%) and Technology (TEC) (59%) gave the highest rating to reading. Just under half of the students in Agriculture and Forestry (AGF) (47%) gave the highest rating to reading. In contrast, writing was rated as the most important by two faculties: School of Education and Humanities (SEH) (57%) and Natural Sciences (NS) (41%).

Table 2

**Items (under reading skill) most important for undergraduates other courses**

<table>
<thead>
<tr>
<th>Reading</th>
<th>Faculties</th>
<th>AGF (n=34)</th>
<th>SEH (n=34)</th>
<th>HS (n=34)</th>
<th>NS (n=34)</th>
<th>SS (n=34)</th>
<th>TEC (n=34)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Textbooks</td>
<td>73%</td>
<td>79%</td>
<td>76%</td>
<td>74%</td>
<td>100%</td>
<td>71%</td>
<td></td>
</tr>
<tr>
<td>Articles in journals</td>
<td>26%</td>
<td>50%</td>
<td>35%</td>
<td>18%</td>
<td>41%</td>
<td>21%</td>
<td></td>
</tr>
<tr>
<td>Manuals</td>
<td>29%</td>
<td>38%</td>
<td>35%</td>
<td>15%</td>
<td>38%</td>
<td>32%</td>
<td></td>
</tr>
<tr>
<td>Course handout</td>
<td>67%</td>
<td>47%</td>
<td>47%</td>
<td>74%</td>
<td>100%</td>
<td>79%</td>
<td></td>
</tr>
<tr>
<td>Instructions for assignments or projects</td>
<td>94%</td>
<td>68%</td>
<td>59%</td>
<td>56%</td>
<td>97%</td>
<td>68%</td>
<td></td>
</tr>
<tr>
<td>Instructions for labs</td>
<td>76.4%</td>
<td>38%</td>
<td>71%</td>
<td>59%</td>
<td>76%</td>
<td>41%</td>
<td></td>
</tr>
<tr>
<td>Study notes</td>
<td>50%</td>
<td>45%</td>
<td>57%</td>
<td>62%</td>
<td>48%</td>
<td>62.5%</td>
<td></td>
</tr>
</tbody>
</table>

As Table 2 indicates, most of the faculties rated reading textbooks as most important for their other courses. Approximately three quarters of the undergraduates in School of Education and Humanities (79%), Health Sciences (76%) and Natural Sciences (74%) identified reading textbooks as the most important while the entire sample (100%) from Social Science rated reading textbooks as the most important component under the Reading Skills. Course handouts were rated equally as important as textbooks by Natural Sciences (74%) and Social Sciences (100%). Instructions for assignments or projects were identified as most important by most of the undergraduates in the faculty of Agriculture and Forestry (94%).
Table 3

*Items (under writing skill) most important for undergraduates other courses*

<table>
<thead>
<tr>
<th>Writing</th>
<th>Faculties</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AGF</td>
<td>SEH</td>
<td>HS</td>
<td>NS</td>
<td>SS</td>
</tr>
<tr>
<td></td>
<td>n=34</td>
<td>n=34</td>
<td>n=34</td>
<td>n=34</td>
<td>n=34</td>
</tr>
<tr>
<td>Lab reports</td>
<td>53%</td>
<td>44%</td>
<td>62%</td>
<td>62%</td>
<td>50%</td>
</tr>
<tr>
<td>Assignment</td>
<td>62%</td>
<td>41%</td>
<td>30%</td>
<td>47%</td>
<td>100%</td>
</tr>
<tr>
<td>Field trip reports</td>
<td>53%</td>
<td>47%</td>
<td>35%</td>
<td>50%</td>
<td>44%</td>
</tr>
<tr>
<td>Essays</td>
<td>50%</td>
<td>79%</td>
<td>65%</td>
<td>59%</td>
<td>100%</td>
</tr>
<tr>
<td>Critical reviews</td>
<td>26%</td>
<td>56%</td>
<td>59%</td>
<td>53%</td>
<td>71%</td>
</tr>
<tr>
<td>Project reports</td>
<td>59%</td>
<td>67%</td>
<td>32%</td>
<td>56%</td>
<td>79%</td>
</tr>
<tr>
<td>Notes in lecture</td>
<td>74%</td>
<td>70%</td>
<td>50%</td>
<td>56%</td>
<td>100%</td>
</tr>
</tbody>
</table>

Table 3 shows that there were diverse writing needs in the different faculties. More than half of the undergraduates in School of Education and Humanities (79%), Health Sciences (65%) and all of the undergraduates in Social Sciences (100%) identified writing essays as most important for other courses. All of the undergraduates in Social Sciences (100%) also identified assignment and notes in lecture as equally important as essays. Close to three quarters of the undergraduates in Faculty of Agriculture and Forestry (74%) rated notes in lecture as most important while over half of the undergraduates in Technology (65%) rated project reports and Natural Sciences (62%) rated lab reports as most important.

Table 4

*Items (under speaking skill) most important for undergraduates other courses*

<table>
<thead>
<tr>
<th>Speaking</th>
<th>Faculties</th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AGF</td>
<td>SEH</td>
<td>HS</td>
<td>NS</td>
<td>SS</td>
</tr>
<tr>
<td></td>
<td>n=34</td>
<td>n=34</td>
<td>n=34</td>
<td>n=34</td>
<td>n=34</td>
</tr>
<tr>
<td>Discussion</td>
<td>67%</td>
<td>59%</td>
<td>47%</td>
<td>47%</td>
<td>94%</td>
</tr>
<tr>
<td>Ask questions</td>
<td>56%</td>
<td>56%</td>
<td>47%</td>
<td>44%</td>
<td>76%</td>
</tr>
<tr>
<td>Oral presentation</td>
<td>59%</td>
<td>71%</td>
<td>85%</td>
<td>50%</td>
<td>76%</td>
</tr>
<tr>
<td>Answer questions</td>
<td>47%</td>
<td>50%</td>
<td>55%</td>
<td>44%</td>
<td>76%</td>
</tr>
</tbody>
</table>

Table 4 indicates that faculties were divided in their rating of items (under speaking skill) as most important for courses. Agriculture and Forestry (67%), Social Sciences (94%) and Technology (71%) identified discussion as most important for other courses. School of Education and Humanities (56%), Health Sciences (85%) and Natural Sciences (50%) rated oral presentation as most important.
Table 5

**Items (under listening skill) most important for other courses**

<table>
<thead>
<tr>
<th>Listening</th>
<th>Faculties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AGF</td>
</tr>
<tr>
<td>n=34</td>
<td>n=34</td>
</tr>
<tr>
<td>Lectures</td>
<td>74%</td>
</tr>
<tr>
<td>Presentation</td>
<td>53%</td>
</tr>
<tr>
<td>General instructions</td>
<td>56%</td>
</tr>
<tr>
<td>Instruction for assignments</td>
<td>65%</td>
</tr>
<tr>
<td>Participate in discussion</td>
<td>59%</td>
</tr>
<tr>
<td>Ask questions in class</td>
<td>59%</td>
</tr>
</tbody>
</table>

Table 5 shows that faculties were homogenous in their rating of items (under listening skill) most important for courses. Most of the undergraduates in all the faculties rated listening to lectures as most important for courses. Also, Social Sciences (100%) rated listening to general instructions and instructions for assignment as equally important as listening to lectures.

**Research Question 2: How do undergraduates rate the usefulness of the course in developing language skills?**

To answer this research question, undergraduates were required to (1) rate the usefulness of the course in developing specific language skills, (2) state their agreement with statements on the overall effects of the course on their English language skills and (3) determine areas of the course which developed these skills.

Table 6

**Usefulness of the course in developing specific language skills**

<table>
<thead>
<tr>
<th>Language Skills</th>
<th>Very Good</th>
<th>Good</th>
<th>Satisfactory</th>
<th>Unsatisfactory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>70%</td>
<td>37%</td>
<td>3%</td>
<td>0%</td>
</tr>
<tr>
<td>Writing</td>
<td>44%</td>
<td>46%</td>
<td>9%</td>
<td>3%</td>
</tr>
<tr>
<td>Speaking</td>
<td>36%</td>
<td>62%</td>
<td>6%</td>
<td>5%</td>
</tr>
<tr>
<td>Listening</td>
<td>54%</td>
<td>42%</td>
<td>4%</td>
<td>3%</td>
</tr>
<tr>
<td>English Grammar</td>
<td>42%</td>
<td>55%</td>
<td>6%</td>
<td>7%</td>
</tr>
<tr>
<td>Vocabulary</td>
<td>38%</td>
<td>59%</td>
<td>7%</td>
<td>6%</td>
</tr>
</tbody>
</table>

Table 6 indicates the results of undergraduates’ rating of the usefulness of the course in developing specific language skills. Undergraduates’ perception of this effect of the course was more positive for reading than it was for any other language skill. More than half of the undergraduates (70%) reported very good effects of the course on reading abilities. This area was closely followed by listening (54%). For good effects, Speaking (62%), Vocabulary (59%) and English Grammar (55%) were rated higher than writing (46%).
To easily identify areas for consideration in course development, in Tables 7 and 8, directional responses on either sides of the mid-points of the scales in the questionnaires are combined into single categories, agree and disagree, and very important and not very important respectively.

Table 7

<table>
<thead>
<tr>
<th>Statements</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective writer</td>
<td>80%</td>
<td>8%</td>
<td>12%</td>
</tr>
<tr>
<td>Effective reader</td>
<td>45%</td>
<td>3%</td>
<td>52%</td>
</tr>
<tr>
<td>Effective listener</td>
<td>42%</td>
<td>1%</td>
<td>57%</td>
</tr>
<tr>
<td>Effective speaker</td>
<td>42%</td>
<td>2%</td>
<td>56%</td>
</tr>
<tr>
<td>Confused</td>
<td>31%</td>
<td>30%</td>
<td>39%</td>
</tr>
</tbody>
</table>

Table 7 reveals undergraduates’ agreement or disagreement with statements on the overall effects of the course on their English language skills. Most undergraduates (80%) agreed that the course had made them effective writers. This rating was followed by effective reader (45%), and effective listeners and speakers (42%) respectively. Further, 39% of the undergraduates disclosed that the course did not confuse them.

Table 8

<table>
<thead>
<tr>
<th>Areas of Course</th>
<th>Most Important</th>
<th>Important</th>
<th>Not very important</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guyanese linguistic context</td>
<td>51%</td>
<td>11%</td>
<td>38%</td>
</tr>
<tr>
<td>Reading comprehension</td>
<td>62%</td>
<td>22%</td>
<td>16%</td>
</tr>
<tr>
<td>Organising essays</td>
<td>77%</td>
<td>10%</td>
<td>13%</td>
</tr>
<tr>
<td>Using primary and secondary sources</td>
<td>66%</td>
<td>8%</td>
<td>26%</td>
</tr>
<tr>
<td>Grammar</td>
<td>75%</td>
<td>9%</td>
<td>16%</td>
</tr>
<tr>
<td>Editing, proofreading and redrafting</td>
<td>63%</td>
<td>10%</td>
<td>27%</td>
</tr>
</tbody>
</table>

Table 8 indicates areas of the course which undergraduates perceived to develop their English language skills. Most undergraduates (77%) rated organizing essays as most important. This rating was closely followed by Grammar (75%). Undergraduates responded similarly to Reading Comprehension (62%) and Editing, proofreading and redrafting (63%) as the most important areas of the course that were useful to developing their language skills. While two thirds of the undergraduates (66%) indicated that using primary and secondary sources was most important for them to develop their language skills, just about half of them (51%) rated Guyanese linguistic context to be most important.

**Discussion**

This study investigated undergraduates’ perceptions of their academic English language needs. It also determined their perceptions of the effects of the course in developing specific and general language skills. Generally, the study indicated that undergraduates’ language needs vary
according to faculties, and while the present focus of the *Use of English* course accommodates to some of the perceived needs, there are some gaps in the course.

Consistent with the findings reported in studies conducted by Leki and Carson (1994) and in part Christison and Krahne (1986), undergraduates in this study identified reading and writing as the skills most important to their success in their content courses. However, faculties were divided on the relative importance of these two skills for success in content courses. Four faculties gave higher ratings to reading. Similar to Basturkmen (1998) reading textbooks was considered most important by most faculties. Two faculties gave higher ratings to writing essays and lab reports. One possible explanation for this difference in the importance of skills could be the types of evaluations which the faculties use. Possibly, most faculties use evaluations which require extensive reading to provide short answers and responses to multiple choice items while the other faculties use evaluations which require much more writing such as producing extended essays and reports. This finding is important, as Dyche (1996) pointed out that if faculties use evaluations which place little emphasis on writing, then undergraduates might not be motivated to improve their writing proficiency.

In addition, this study indicates a positive finding for organizing essays and grammar in the *Use of English Course*. Most undergraduates indicated that organizing essays and grammar was most useful to developing their language skills. Again, this finding supports in part those of Leki and Carson’s (1994) study in which L2 undergraduates across universities credited organizing essays as extremely useful to developing their writing proficiency. However, in the first semester of undergraduates’ studies, there is a range of writing tasks, including field trips, lab and project reports, and content assignments. The exclusive focus of the course on one writing task, the essay, which is perceived to be important in the Humanities and Health Sciences, appears not to be aligned with the writing needs of undergraduates in the other faculties who identified lab reports, project reports and content assignments as the most important tasks in their faculties. This is a possible reason for over half of the undergraduates rating the specific development of writing skills lower than other skills such as reading and listening. Thus, there appears to be a gap between some of the first-year undergraduates’ writing requirement and the content of the *Use of English* course. Bridging this gap is important; as Dyche (1996) indicated, gaps between the discipline-specific roles given to writing and what undergraduates are formally taught in language courses could also be possible factors that demotivate students to improve their writing proficiency. Information about the communication demands of different faculties which is accessed from the faculties could provide further support for this claim.

In addition, this study found that under the skill of speaking, undergraduates in most of the faculties rated oral presentation and discussion as most important to their other courses. These results are consistent with those found by Chan (2001) for undergraduates in an EFL context. Undergraduates identified speaking at seminars and meetings to be very important for academic study. Thus, this study indicates a gap between the course content and the language needs of the faculties in this area. While undergraduates frequently engage in discussions and oral presentations in their content courses, oral language skills are not formally targeted in the *Use of English* course. In view of undergraduates’ perception of the importance of oral presentations and discussions, teacher-fronted lecturing mode of course delivery may need to be reduced to provide undergraduates with more opportunities to make oral presentations and participate in more interactive sessions. Also, oral presentations may need to be explicitly taught to make the course more relevant to undergraduates’ needs.
This study also found that there is a correspondence between undergraduates’ self-assessment of the specific language skill most developed by the course and the skill considered most important for their success in their faculties. Most of the undergraduates indicated that the specific language ability most developed by the course was reading, which was also considered most important for their success in other courses by four faculties. This response is not surprising given that a major section of the course focuses on reading comprehension. For the course to develop other language skills such as writing, much more attention needs to be focused on the course content – possibly including other writing tasks besides essays.

Similar to Basturkmen’s study (1998), this study also found that there appears to be a mismatch between undergraduates’ self-assessment of the general language skill developed by the course and anecdotes from their lecturers as well as their course grades for the writing section. The undergraduates perceived that, overall, the course made them more effective writers than readers, speakers or listeners. However, anecdotal evidence from lecturers across faculties indicates that the level of undergraduates’ writing proficiency is inadequate. Also, the average course grade for the writing section of the paper was D (45 – 54), one grade away from a fail grade (F). Thus, this study indicates a gap between undergraduates and instructors’ understanding of what is good writing. As Lea and Street (1998) have indicated, these gaps are likely to be potential sites for language learning difficulties.

Reasons for undergraduates’ positive perception of the overall impact of the course on their writing skills could be due in part to special emphasis given to this ability in tests in the course, and that often many undergraduates who would have failed the writing section are able to pass the course overall when their comprehension scores and writing scores are combined. Another possible reason for undergraduates having difficulties with objectively assessing their own writing could be their inability to distinguish poor writing from effective writing because of unfamiliarity with both non-standard and standard forms of English in both written and spoken modes (Ramsay, 2011). This study thus suggests that opportunities should be provided in the course for undergraduates to be explicitly made aware of difference between effective writing and poor writing in academic contexts.

**Implications**

The findings of this study could have implications for course instructors. First, course instructors should be aware that different faculties may require different types of language support. Thus, they should identify from the various faculties which language skills are relevant to them in the first year of undergraduate study. This kind of inquiry would allow courses to be made more relevant to undergraduates’ needs (Long, 2005).

Second, it is important for the Language Department to recognize that the traditional language support provided in English for General Academic Purpose courses might not be relevant to the language tasks which are in use in some faculties. Thus, they need to work collaboratively with other faculties to identify how best undergraduates can be initiated into the academic community and meet the language demands of academic study in their respective faculties (Bacha & Bahous, 2008; McLaren & Webber, 2009).

**Conclusion**

In university settings, researchers have recognized the importance of needs analysis to continually refine courses and make them relevant to the language needs of undergraduate populations and disciplinary fields (Belcher, 2006; Gimenez, 2008). This study focused very
generally on language skills and text types, and the quantitative findings alone do not provide conclusive evidence to suggest what specifically should be changed in the language course, but they indicate how course instructors can use needs analysis to assess the outcomes of their courses (Basturkmen, 2010; Dudley-Evans & St John, 1998) and identify various forms of academic language support that undergraduates might require.

Future studies that seek to use current needs analysis in this context should combine both quantitative and qualitative data to provide a more comprehensive picture of undergraduates’ language needs. Also, because needs is complex and multifaceted (Elsami, 2010), and undergraduates’ perception of what they need might not necessarily be what their instructors or their faculties require, it is important for future studies to include faculty perceptions of undergraduates’ language needs. Comparisons of language needs identified by faculty with those identified by undergraduates might lead to a more comprehensive understanding of needs.

References


Principal Leadership Style and Teacher Stress among a Sample of Secondary School Teachers in Barbados

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This paper which represented part of a larger principal leadership study examined the relationship between principal leadership style (which was operationalized in terms of the principal functions as follows: planning, decision making, communicating, organizing and coordinating, delegating, evaluating, and social and professional support. The dependent variable was teacher stress. A cohort of ninety (90) teachers and eleven (11) principals were selected from eleven (11) secondary schools in Barbados, using purposive sampling. The study found significant negative correlations between the dependent variable of teacher stress and principal leadership style. Additionally, the study found that younger and inexperienced teachers reported higher levels of stress than their older and more experienced counterparts on several of the variables. There was also a significant difference in the stress scores reported by newer secondary school teachers and older secondary school teachers. The present research findings suggest that there is a need to develop differentiated stress management systems to address the different levels of stress that are being experienced by older and newer secondary school teachers. Based on the negative correlation between principal leadership style and teacher stress, it is recommended that principals re-examine how they lead their schools and seek wherever possible to identify what aspects of their leadership could be contributing to teacher stress and institute corrective measures in the areas where such action is warranted.

Key words: principal leadership style; teacher stress; teacher perceptions; experienced teachers

Introduction

The educational environment has become increasingly more complex. Principals are now being held to higher standards of accountability as taxpayers in various constituencies demand to be informed of the way in which their educational tax dollars are being spent. There is also the concomitant increase in the instances of deviant behaviour, the number of cases of litigation brought by parents, on behalf of their children whom they perceive to have been defrauded of some basic right, and the increased levels of teacher absenteeism and unpunctuality. To say that schools have now become increasingly stressful environments, for teachers and principals alike, would be an understatement. According to the 28th annual Metlife Survey of the American Teacher, released in March 2012, 51% of teachers report teaching under great stress several days a week and increase of 15 percentage points over the 36% of teachers that reported that level in 1985. Teachers, it appears are attributing more and more significance to the leadership styles of principals. Further, researchers like Nosheena (2010) have confirmed that there is a relationship between principal leadership style and teacher occupational stress i.e. teachers had

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ISSN 1727-5512
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http://www.cavehill.uwi.edu/fhe/hum/publications/EducationCERJ.htm
more stress when principals adopted autocratic leadership styles and less stress when principals adopted democratic leadership styles. Other researchers have examined teachers stress with reference to transformational leadership styles and found that transformational leadership style moderates the level of stress and satisfaction experienced by teachers (Moore, 2012). This paper; however, defines principal leadership in terms of task roles and what he/she does on a day to day basis, with specific reference to planning, delegating, supporting, coordinating, among other duties. The question that is being asked therefore, and is worthy of interrogation, is whether or not there is indeed a relationship between principal leadership and teacher stress as suggested in the literature, or are there other factors beyond principal leadership that are culpable. This paper is intended to bring another angle to the debate and provide an empirical basis for engaging the discourse on the relationship between principal leadership and teacher stress in Barbados.

**Theoretical Framework**

**Symbolic Interactionism**

The sociological theory of symbolic interactionism as articulated by Blumer (1969) has been chosen for this study. This theory suggests that individuals act according to the interpretations of the meanings of their world. Or put another way, the social interaction of human beings is predicated on their perceptions of the world and the meanings that they ascribe to the actions and behaviours of others. This theory is particularly useful for this paper, since it aims to understand the relationship between teachers and principals, human beings whose roles unfold in an arena of constant interaction and perceptual understandings and misunderstandings as well. Taken further, the theory notes that people behave based on what they believe and not what is necessarily objective truth. In the context of school leadership, and principal leadership specifically, the actions of the principal as he seeks to lead and the actions the teachers as they follow, are open to constant interpretation, misinterpretation and perceptual distortion. In a sense teachers and principals are constantly managing perceptions as they negotiate their myriad responsibilities within the school context.

On the whole, symbolic interactionism examines perceptions and meanings that people construct in their social settings. In concert with the perspective of Blumer (1969) and Mead (1934), this study was designed to investigate the meanings teachers and principals constructed from their interaction with each other in the context of the teaching, learning and administrative environment. The purpose was to get an idea of the level of congruence or disparity that existed between teachers’ perceptions of the principals’ leadership style and the principals’ own perceptions of their leadership style and the impact these perceptions had on teacher stress.

**Objectives**

This survey research design study examined the nature of the relationship between principal leadership and teacher stress. The research questions are as follows:

1. Is there a relationship between principals’ leadership style and teacher stress?
2. a. Is there a relationship between principals’ leadership style and teacher stress by gender?
   b. Is there a relationship between principals’ leadership style and teacher stress by school roll?
c Is there a relationship between principals’ leadership style and teacher stress by teaching experience?
3 Is there a statistically significant difference in the level of stress reported by male and female teachers?
4 Is there a statistically significant difference in the level of stress reported by newer secondary school teachers and older secondary school teachers?
5 What are the combined and relative effects of evaluating, support, planning, decision making, communicating, organizing, and delegating on teacher stress?

Relevant Literature

Teacher Stress
Kyriacou (1998) defined teacher stress as a response syndrome of negative effects such as anger or depression, usually accompanied by potentially pathogenic physiological changes, such as increased heart rate. This stress results from aspects of the teacher’s job and is mediated by the perception that the demands made upon the teacher constitute a threat to his self-esteem or well-being and by coping mechanisms activated to reduce the perceived threat, (Kyriacou, 1998). On the other hand, Robbins (2000) suggested that stress has positive and negative components. For this researcher, stress can be divided into three categories, physiological, psychological, and behavioural. Low to moderate levels of stress can improve the quality of work, while if the level of stress is too high or too low, it could lower worker morale and adversely impact job performance (Robbins, 2000). Significantly, according to the literature, the response syndrome identified by Kyriacou (1998) is not uncommon, and it appears to be universal across cultures (Harney, 2008).

Principal Leadership and Teacher Stress
Blasé (1986) suggests that the relationship between a principal’s leadership style and the level of teacher stress and satisfaction indicates that teachers’ performances are influenced by their perceptions of principals’ behaviour. Similarly, Jackson, Schwab, and Schuler (1986) assert that teacher stress and burnout are found to be significantly related to principals’ lack of participatory management, lack of sensitivity to school and teacher-related problems, and lack of support for teachers. In accord with the foregoing view are Calabrese (1987) and Blasé and Kirby (1992) who point out that the principal plays key roles in teacher burnout and stress, both as a major source of support and the main source of stress. Their research indicates that teachers often cite stress as a reason for leaving the teaching profession, and part of that stress is caused by negative relationships with their building principals.

Kyriacou (1987) lists relationships with colleagues, conditions of work, pupil misconduct, salary, and status and role conflict as major sources of stress but cautions that other factors have been found to be significant as well.

The results from Pullis (1992) who sampled 244 teachers to determine how occupational stress affected their lives are worthy of note. The major sources of occupational stress identified by these teachers in order of importance were: inadequate discipline policies of the school, attitudes and behaviour of administrators, evaluations by administrators, attitudes and behaviour of other teachers, work overload, poor career opportunities, low status of the teaching profession, and lack of recognition for good teaching, loud, noisy students, and dealing with parents. What is also noteworthy is that when asked what schools might do to help relieve teacher stress, the most frequently mentioned strategies in order of importance were: allowing time for teachers
to collaborate, providing more workshops/in-service and advanced courses, providing more verbal praise/reinforcement/respect for the job, providing more support, providing more paraprofessional/support staff/clerical assistance, providing more educational opportunities to learn about students with behavioural disorders, building better communication and decision-making involvement with administrators. What is also significant in the foregoing is that the role of the principal is being highlighted, if not directly, certainly in an indirect way.

Krause (1993) cited in Carter (1994), in a study of 42 special education teachers from Virginia, who decided not to return for their teaching positions for the 1991-92 school year indicated that stress was one of the leading factors in their decision to leave the profession. Other leading factors which contributed to the early exodus of teachers from the profession, as listed by the teachers, were stress-related as well, including lack of resources, lack of time, excessive meetings, large class sizes, lack of assistance, lack of support, and hostile parents.

Research by Richardson (1997) who investigated the sources of stress in elementary school teachers in the Caribbean pointed to significant differences in teacher stress as it related to the measures of Organisational Management and Supervisory Support. The study surveyed a sample of 645 teachers, 310 males and 335 females from 8 Caribbean territories. Analysis of the differences in means using the Scheffe method of multiple comparisons showed that in the case of organisational management, teachers in St. Vincent (M = 2.78) and Barbados (M = 2.64) experience higher levels of stress than teachers in Montserrat (M = 2.01) and Dominica (M = 2.01). With respect to Supervisor Support, teachers from Antigua (M = 2.53), Barbados (M = 2.41), St Vincent (M = 2.38) and St. Kitts (M = 2.26) experienced higher levels of stress than teachers from Dominica (M = 1.69), (Richardson, 1997). The findings pointed to implications for principal leadership according to Richardson (1997) indicated a need for principals and elementary school teachers to be exposed to organised stress management programmes, and overall training in the area of educational management and school supervision.

According to Harris (1999) stress experienced by teachers can be traced to administrators. In a study conducted related to the relationship between principals’ leadership styles and teacher stress, the findings indicated that in the school with the lowest teacher stress, the principal communicated a clear vision for the school and had a close, personal relationship with the staff.

Leadership style also emerged as a significant organisational factor. Harris (1999) assessed teacher stress and leadership style in three American primary schools, using the Wilson Stress Profile for teachers. The principal in each school was classified differently, and teachers had significantly lower stress in schools where the principal was classified as high in both task and relationship focus- this style being associated with both strategic vision and a close personal relationship with staff. The findings further showed that at the school with the lowest teacher stress, the principal communicated a clear vision for the school and had a personal relationship with the staff.

While Black (2003) indicated that principals who offered their strong social support provided a buffer that helps reduce teacher’s job related tension. The International Stress Management Association, based in Waltham Cross, England, reports similar conclusions in its publication, Stress News. Studies in the United States, England, Germany, and Canada indicate that principals are a key factor in heightening or lowering teacher stress. Principals who offer their staff strong social support provide a buffer that helps reduce teacher’s job related tension, Black (2003).

More recent research by Yusof (2011) which investigated principal leadership and
teachers’ stress level in Malaysian primary schools, found that there was a significant relationship between the style of the headmaster’s leadership (structural dimension) and the teacher’s stress level ($r = 0.433$ and $p = 0.000$). The relationship was at a high level which meant the higher the style of the headmaster’s leadership (structural dimension), the higher the teacher’s stress level (Yusof, 2011).

**Demographic Variables and Teacher Stress**

Gonzalez (1997) found that teachers in urban secondary schools found that students’ lack of discipline and motivation were a primary source of teacher stress and a significant predictor of burnout. In a comparable study of urban middle school teachers, three conditions of work were identified as significant predictors of stress: higher levels of emotional exhaustion, depersonalised school climate and lower levels of perceived accomplishment. These results were true for both male and female teachers, Konert (1997).

Abel and Sewell (1999) in comparing stress on rural and urban teachers found that rural teachers perceived too much parental contact as a source of stress, while urban teachers regarded the lack of parental involvement as stressful. The major difference between the groups was that rural teachers felt greater stress from time demands and the conditions of work, while urban teachers attributed greater stress to student discipline and behaviour problems. Haberman (2002) contends that the Abel and Sewell (1999) study is important because it supports previous literature on teacher stress in rural versus urban schools. The study concludes that urban teachers have greater stress and that there is a clear relationship between teachers’ stress and burnout as a result of having difficult classes, problem students, poor class climate, poor working conditions, shortage of resources, lack of recognition and inordinate demands on teachers’ time, leading to burnout (Abel & Sewell, 1999).

Lewis (1999) whose research indicates that overall maintaining discipline emerged as a major stressor, with those affected being teachers who placed particular emphasis on pupil empowerment.

Gender has also been implicated in the stress debate. In general, female teachers have reported higher levels of stress than their male counterparts (Brewer & MecMahan, 2004); while Duyilemi (1992) found that the age of the teacher was negatively correlated to with the level of occupational stress. Later research by Hanif, Tariq and Nadeem (2011) underscored the influence of biographical variables on teacher stress. Step-wise multiple regression analysis was performed to see which personal and job related variables predicted levels of stress and job performance among teachers. The results revealed that school system, gender, job experience, number of family members, and the number of students were the five most significant predictors (Hanif et al., 2011).

From the discourse thus far it is reasonable to suggest that there is a need for further research in the area of principal leadership and teacher stress. It is for this reason therefore that this study has been commissioned.

**Methodology**

**Sample and Procedure**

The sample used in the study was drawn from a population of twenty-three (23) secondary schools in Barbados, located in rural, urban, and sub-urban areas. The schools are divided into two categories, newer secondary and older secondary. The former, are usually recipients of students whose academic ability range from lower to middle and usually have larger student
populations. The latter, are recipients of students from the upper and top academic streams and usually have smaller student populations. To ensure that the sample was representative the researcher employed the purposive sampling methodology. The final sample included schools from the rural, urban and suburban areas as well as schools with low, medium and high levels of student academic ability (as determined by the Barbados Secondary Common Entrance Exam). From the schools selected the researcher used a random sample methodology to select a representative sample of junior and senior teachers from each school. This final cohort included one hundred (100) teachers and eleven (11) principals.

Instrumentation
A questionnaire which measured the independent variable, principal leadership style, and the dependent variable, teacher stress, was administered. The principal leadership style variable was measured using seven sub-scales as follows: planning (18 items), decision making (24 items), communicating (19 items), organising and coordinating (20 items), delegating (12 items), evaluating (14 items), and social and professional support (15 items). These sub-scales were taken from a questionnaire produced by Jones (1988) in a study entitled “Principal Leadership Style its Expression on Teacher Satisfaction”. The average item score for the leadership style sub-scales was found to be highly reliable ($\alpha = .94$) (Marshall, 2014).

The teacher stress variable was measured using questionnaire items from a study done by Tuck (1999), which was developed from one used in earlier studies done by Laughlin (1984), Manthei & Soloman (1988), and Manthei et al (1996). This variable was measured using eight (8) items with a five-point Likert scale (scored from 1 = no stress to 5 = extreme stress). Respondents were asked to assess stress as it relates to things like disruptive behaviour, salary not keeping up with cost of living, substituting for absent teachers and attitudes and behaviour of chief administrators. The questionnaire was distributed to a sample of twenty teachers and two principals in the target population of the study. These persons were asked to comment on the clarity and appropriateness of the items, and to highlight any evidence of ambiguity. At the end of the exercise, some minor changes were made. The revised questionnaire was found to be highly reliable. The Cronbach’s alpha was satisfactory ($\alpha = 0.91$) for the principal leadership scales. The Cronbach’s alpha was satisfactory ($\alpha = 0.94$) for the teacher stress scale.

Procedure
Over a two-week period the questionnaires were administered to a group consisting of eleven (11) principals and one hundred (100) teachers from public secondary schools in Barbados. Respondents were given one week to complete the questionnaires. There was a 100% completion rate for the principals’ questionnaires and a 90% completion rate for the teachers’ questionnaires.

Data Analysis
Research questions 1, 2a, 2b, and 2c were analysed using Pearson’s Product Moment Correlation, research questions 3 and 4 were analysed using the Independent Samples ‘t’ test, and research question 5 was analysed using ANOVA and regression analysis.
Results and Discussion

Research Question 1: Is there a significant relationship between principal leadership style and teacher stress?

The Pearson’s Product Moment Correlation was conducted to answer this question. The results indicated that teacher stress was significantly negatively correlated with planning \((r = -0.363, p<0.01)\), decision making \((r = -0.289, p<0.01)\), communicating \((r = -0.387, p<0.01)\), organising \((r = -0.401, p<0.01)\), support \((r = -0.137, p<0.01)\), evaluating \((r = -0.353, p<0.01)\) and delegating \((r = -0.279, p<0.01)\). See Table 1 below. A negative correlation indicates that the variables mean scores are moving in the opposite direction. In the context of this research this means that the higher the teachers’ stress scores the lower the principals’ leadership scores and the lower the teachers’ stress scores, the higher the principals’ leadership scores. Such findings underscore the point that while teaching and indeed any other profession, has its share of attendant stress, principal leadership can be a mediating influence on the level of stress experienced by teachers. These findings are consistent with findings of researchers such as (Jackson, Schwab & Schuler; Harris, 1999; Yusof, 2011) who also found a relationship between principal leadership and teacher stress.

The implication therefore is that principals must be encouraged to pay more attention how they perform their roles as leaders, cognizant of the fact that how they lead can influence the level of stress experienced by teachers. Further, if one accepts that stress is a factor associated with teaching, then it would be critical that systems of stress management should be included in the in-service training programs for teachers and principals.

Table 1

<table>
<thead>
<tr>
<th></th>
<th>1 Planning</th>
<th>2 Decision Making</th>
<th>3 Communicating</th>
<th>4 Organising</th>
<th>5 Support</th>
<th>6 Evaluating</th>
<th>7 Delegating</th>
<th>8 Stress</th>
</tr>
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<tr>
<td>1 Planning</td>
<td>1</td>
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<td></td>
<td></td>
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<td></td>
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<td>.444**</td>
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<td>.617**</td>
<td>.669**</td>
<td>.419**</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>7 Delegating</td>
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<td>.405**</td>
<td>.426**</td>
<td>.462**</td>
<td>.205**</td>
<td>.608**</td>
<td></td>
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<td>8 Stress</td>
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<td>-.137**</td>
<td>-.353**</td>
<td>-.279**</td>
<td></td>
</tr>
</tbody>
</table>

Note. ** Correlation is significant at the 0.01 level (2-tailed)

Research Question 2a: Is there a significant relationship between principal leadership style and teacher stress by gender?

The Pearson’s Product Moment Correlation was conducted and the results indicated that for the female teachers stress was more strongly correlated with planning \((r = -0.385, p<0.01)\), decision making \((r = -0.263, p<0.01)\), communicating \((r = -0.393, p<0.01)\), evaluating \((r = -0.425, p<0.01)\) and delegating \((r = -0.366, p<0.01)\). While for the male teachers stress was more strongly correlated with organising \((r = -0.410, p<0.01)\) This suggested that female teachers were more affected than male teachers by these aspects of the perceived principal leadership style. (Refer to Table 2 below).

The findings as it relates to perceived principal leadership style and stress, with reference
to gender seem to confirm that men and women are differently affected by principal leadership. For the female teachers the variables that received higher correlation scores were planning, communicating, evaluating and delegating. While for the male teachers the variable were organising. Notably, the variables on which the female teachers scored differently were in the transformational area or the aspect of leadership that calls for interaction, so one can see why communication problems would be especially stressful for female teachers who tend to place higher value on relationships. For the male teachers the variable on which the scores were different was in the transactional area. A reasonable argument could be that men tend to be concerned with getting the job done and a critical part of that is effective organisation, therefore once again one can see why leadership that does not promote good organisation would be a source of stress for men.

These findings suggest that leadership creates different levels of stress for male and female teachers. A point argued by Jarvis (1999) and supported by Dussalt, Deaudelin, Royer and Loiselle (1999). These findings are also instructive for intervention strategies necessary for dealing with stress in the teaching environment. If the evidence indicates that there are differentiated levels of stress along the lines of gender then the intervention stress reliever programmes should be similarly differentiated.

Table 2

<table>
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<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
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<th>6</th>
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<td>.886**</td>
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<td>.188</td>
<td>-.344*</td>
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<td>.901**</td>
<td>.617**</td>
<td>.566**</td>
<td>.246</td>
<td>-.324</td>
</tr>
<tr>
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<td>.888**</td>
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<td>.953**</td>
<td>.673**</td>
<td>.531**</td>
<td>.273</td>
<td>-.385*</td>
</tr>
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<td>.861**</td>
<td>.846**</td>
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<td>.611**</td>
<td>.342*</td>
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<td>-.397**</td>
<td>-.013</td>
<td>-.425**</td>
<td>.366**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note.** Correlation is significant at the 0.01 level (2-tailed).
(Male Teachers N=34, Female Teachers N=56) Males above the diagonal, Females below the diagonal

**Research Question 2b: Is there a significant relationship between principal leadership style and teacher stress by school roll?**

The Pearson’s Product Moment Correlation was conducted and the results indicated that the under 1000 group showed higher correlations than the over 1000 group on the following variables: delegating (r=.364, p<0.05), evaluating (r=.450, p<0.01), organising (r=.484, p<0.01), communicating (r=.455, p<0.01) and planning (r=.397, p<0.01). See Table 3 overleaf.

This finding was interesting, one would have expected that a larger school roll would have translated into greater levels of stress for the teachers, but the reverse occurred. What this indicates therefore is that the way in which the principals lead their schools can be even more significant for teachers, in determining their levels of stress, than the number of students on the school roll. This suggestion finds support in the findings of Darmody and Smyth (2011) in a study of job satisfaction and occupational stress among primary school teachers and principals in Ireland. According to the findings of that study, teacher stress was not directly associated with...
school location, size and class size. The implicit argument can be made therefore that even if the school roll is large, effective principal leadership can mediate the levels of stress experienced by teachers.

Table 3

<table>
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<th>1</th>
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<td>.503**</td>
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</tr>
<tr>
<td>7 Delegating</td>
<td>.299*</td>
<td>.297</td>
<td>.365*</td>
<td>.414**</td>
<td>.229</td>
<td>.482**</td>
<td>1</td>
<td>-.240</td>
</tr>
<tr>
<td>8 Stress</td>
<td>-.397**</td>
<td>-.285**</td>
<td>-.455**</td>
<td>-.484**</td>
<td>-.121</td>
<td>-.450**</td>
<td>-.364*</td>
<td>1</td>
</tr>
</tbody>
</table>

Note.** Correlation is significant at the 0.01 level (2-tailed).  
(School Roll Over 1000 N=43, School Roll under 1000 N= 47)  
School Roll over 1000 above the diagonal, School Roll under 1000 below the diagonal

Research Question 2c: Is there a significant relationship between principal leadership style and teacher stress by teaching experience?

The Pearson’s Product Moment Correlation was conducted and the results indicated that the 1-19 cohort reported higher correlations between perceived principal leadership and stress than the 20-39 cohort, with reference to planning (r = -.376, p < 0.01), communicating (r = -.459, p < 0.01) organising (r = -.485, p < 0.01) and delegating (r = -.398, p < 0.01). See Table 4 overleaf.

In terms of stress it is not surprising that younger and inexperienced teachers report higher levels of stress. It can be argued that the older and more experienced a person becomes he/she is able to develop coping strategies and in general be better able to navigate the school environment. Of course there is also the possibility that as one gets older and more experienced one may also become less tolerant of student behaviours and for that reason may experience greater stress. In terms of other research, the results are in accord with the findings of McCormick (1990) who reported that older and more experienced teachers tended to experience less stress than their younger and less experienced counterparts.

On the contrary, there is also research which suggests that the reverse is also true. Research by Darmody and Smyth (2011) found that teachers aged in their forties had higher stress levels than other younger age groups. At the same time occupational stress was evident at all stages of the teaching career but stress levels were somewhat lower for those teachers with 2 to 5 years experience.

Even though the research evidence appears contradictory, what one can concede is that teaching experience as a variable merits further investigation as it may have implications for what Kyriacou (2001) termed direct or palliative stress coping intervention strategies.
Table 4

Correlation matrix for the interrelationship of principal leadership style and teacher stress by teaching experience (N=90)

<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Plan</td>
<td>1</td>
<td>.874**</td>
<td>.837**</td>
<td>.835**</td>
<td>.246</td>
<td>.667**</td>
<td>.415*</td>
<td>-.340*</td>
</tr>
<tr>
<td>2 Decis</td>
<td>.869**</td>
<td>1</td>
<td>.933**</td>
<td>.861**</td>
<td>.372*</td>
<td>.604**</td>
<td>.291</td>
<td>-.218</td>
</tr>
<tr>
<td>3 Comm</td>
<td>.833**</td>
<td>.903**</td>
<td>1</td>
<td>.863**</td>
<td>.291</td>
<td>.606**</td>
<td>.328*</td>
<td>-.253</td>
</tr>
<tr>
<td>4 Orga</td>
<td>.874**</td>
<td>.892**</td>
<td>.909**</td>
<td>1</td>
<td>.354*</td>
<td>.555**</td>
<td>.314</td>
<td>-.247</td>
</tr>
<tr>
<td>5 Eval</td>
<td>.597**</td>
<td>.660**</td>
<td>.631**</td>
<td>.734**</td>
<td>1</td>
<td>.604**</td>
<td>.604**</td>
<td>-.446**</td>
</tr>
<tr>
<td>6 Dele</td>
<td>.442**</td>
<td>.470**</td>
<td>.501**</td>
<td>.570**</td>
<td>.362**</td>
<td>.615**</td>
<td>1</td>
<td>-.094</td>
</tr>
<tr>
<td>7 Stres</td>
<td>-.376**</td>
<td>-.325*</td>
<td>-.459**</td>
<td>-.485*</td>
<td>-.181</td>
<td>-.315**</td>
<td>-.398**</td>
<td>1</td>
</tr>
</tbody>
</table>

Note. ** Correlation is significant at the 0.01 level (2-tailed).

Research Question 3: Is there a statistically significant difference in the level of stress reported by male and female teachers?

The Student ‘t’ test was used to determine if there was a significant difference in the stress scores of male and female teachers. The results indicated that there was no statistically significant difference in the level of stress reported by male and female secondary school teachers. Male teacher (M = 2.57, SD = .949) and female teachers (M = 2.66, SD = -.795), t(88) =.603, p = n.s. See Table 5 below. This finding is not surprising since the correlations that were conducted to analyse the relationship between principal leadership style and teacher stress with specific reference to gender indicated that male and female teachers reported higher and lower negative correlations depending on the variable that was tapped. So this confirms that while there are differences they are not statistically significant; however, this does not mean that principals and potential principals should ignore the fact that they must treat to the issue of stress management, using an approach that is cognisant of how different leadership variables impact on the level of stress experienced by male and female teachers. The findings are also consistent with those of Darmody and Smyth (2011) who also found that gender was not a significant factor in teacher job stress.

Table 5

T Test for male and female teachers N (90)

<table>
<thead>
<tr>
<th>Variable</th>
<th>Stress</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>t</th>
<th>df</th>
<th>2-tailed (SIG.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>Male Teachers</td>
<td>34</td>
<td>2.573</td>
<td>.949</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Female Teachers</td>
<td>56</td>
<td>2.669</td>
<td>-.795</td>
<td>-.516</td>
<td>88</td>
<td>.603</td>
</tr>
</tbody>
</table>

Research Question 4: Is there a statistically significant difference in the level of stress reported by newer secondary school teachers and older secondary school teachers?

The Student ‘t’ test was used to determine if there was a significant difference in the scores of newer secondary school and older secondary school teachers. The results indicated that there was a statistically significant difference in the level of stress reported by newer secondary
teachers and older secondary school teachers. Newer secondary school teachers (M = 26.42, SD = 6.30) reported significantly lower means than older secondary school teachers (M = 29.54, SD = 5.96), t(88) = -2.311, < .05, (see Table 6 below).

This finding is again a bit enigmatic. In the Barbadian school system older secondary schools are able to attract better quality students based on the Barbados Secondary School Entrance Examination or Eleven-plus exam as it is commonly known, while their counterparts in the newer secondary schools receive students of lesser academic ability based on the examination scores. One would be inclined to think therefore, that at the ‘newer secondary’ schools there would a greater level of teacher stress based on the type of student and the attendant problems that could accompany students of lesser academic ability. The fact that the findings indicated the reverse could suggests that the principals at those schools were more adept at reducing the impact of school related stress factors such as disruptive behaviour, substitution for absent teachers, inadequate discipline policies, lack of involvement in decision making, and lack of recognition by the principal among other things. According to Holloman (1998) school related research supports the idea that if some of the aforementioned in-school issues can be adequately addressed some teacher stress can be alleviated. The converse argument can be applied to the principals at the ‘older secondary’ schools.

Another angle that needs to be considered, however is that fact that the ‘older secondary schools’ receive a better quality student and therefore teachers would not have experienced the same type of student related issues, in terms of disruptive and impolite behaviour and the like. The implication therefore is that other factors in the scale which measured teacher stress, such as disenchantedment with school administration, lack of recognition by the principal for contributions in teaching and other responsibilities, lack of involvement in decision making, and attitudes and behaviours of chief administrators may be having a greater impact on the level of stress experienced by the teachers.

Table 6

<table>
<thead>
<tr>
<th>Variable</th>
<th>Stress</th>
<th>N</th>
<th>Mean</th>
<th>S.D.</th>
<th>t</th>
<th>df</th>
<th>2tailed (sig.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newer</td>
<td>57</td>
<td>26.42</td>
<td>6.30</td>
<td></td>
<td>-2.311</td>
<td>88</td>
<td>.023</td>
</tr>
<tr>
<td>Older</td>
<td>33</td>
<td>29.54</td>
<td>5.96</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Research Question 5: What are the combined and relative effects of evaluating, support, planning, decision making, communicating, organising, and delegating on teacher stress?

This question was answered using multiple regression analysis. The multiple R value (r=0.46) indicated that there was a positive but low relationship between the combination of all the leadership sub-variables and teacher stress. However, in the ANOVA table (F = 3.160, p = 0.005) indicated that the combined contribution of the leadership variables to teacher stress was significant. The regression model also indicated that the leadership variables in combination accounted for 21.2 % (R square = 0.212, P < 0.05) of the total variance in the stress experienced by teachers, see Table 7a overleaf.

This finding suggests that there are other variables outside the scope of the study which are contributing to the level of stress experienced by teachers. It would be appropriate therefore
to consider looking at other workplace factors that could be contributing to the level of stress being experienced by teachers, a point which was underscored in the research by Konert (1997).

Table 7a

<table>
<thead>
<tr>
<th>Model</th>
<th>SS</th>
<th>df</th>
<th>MS</th>
<th>f</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regression</td>
<td>13.742</td>
<td>7</td>
<td>1.963</td>
<td>3.160</td>
<td>0.005*</td>
</tr>
<tr>
<td>Residual</td>
<td>50.939</td>
<td>82</td>
<td>.621</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>64.681</td>
<td>89</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. Multiple R = 0.461 Multiple R Square = 0.212 Adjusted R Square= 0.145. *= p<0.05

In Table 7b the relative effects of the variables on teacher stress are captured. The findings indicated that the individual contributions of the variables were not significant, only decision making was approaching the level of significance. However it must be observed that collectively the variables were significant p = 0.000.

Table 7b

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficient</th>
<th>T</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Constant)</td>
<td>4.787 .888</td>
<td>-.228 -.228</td>
<td>5.388</td>
<td>.000</td>
</tr>
<tr>
<td>Planning</td>
<td>-.263 .238</td>
<td>-.228 -.228</td>
<td>-1.106</td>
<td>.272</td>
</tr>
<tr>
<td>Decision making</td>
<td>.408 .218</td>
<td>.400 .400</td>
<td>1.874</td>
<td>.065</td>
</tr>
<tr>
<td>Delegating</td>
<td>.026 .313</td>
<td>.024 .024</td>
<td>.084</td>
<td>.933</td>
</tr>
<tr>
<td>Communicating</td>
<td>-.281 .324</td>
<td>-.237 -.237</td>
<td>-.869</td>
<td>.387</td>
</tr>
<tr>
<td>Organising</td>
<td>-.366 .336</td>
<td>-.303 -.303</td>
<td>-1.087</td>
<td>.280</td>
</tr>
<tr>
<td>Support</td>
<td>.011 .198</td>
<td>.006 .006</td>
<td>.053</td>
<td>.958</td>
</tr>
<tr>
<td>evaluating</td>
<td>-.075 .187</td>
<td>-.061 -.061</td>
<td>-.404</td>
<td>.687</td>
</tr>
</tbody>
</table>

Scholarly significance of the study
The findings of this study are instructive on two levels. On one level, they confirm that there is a relationship between teachers’ perceptions of principal leadership style and the level of stress experienced by teachers. On another level, the findings indicate that principal leadership and teacher stress are multi-faceted. As such they need to be carefully dissected to tease out relevant interventions strategies to promote effective principal leadership and reduce the levels of stress experienced by teachers. The literature points to the need for mentoring programs which would help novice teachers negotiate the teaching environment. Similarly, the study underscores the need to carve out programmes that would address the specific needs of teachers who are working in ‘older secondary’ and ‘newer secondary’ school environments, which tend to mirror the urban and rural school environments respectively as identified by Abel and Sewell (1999).

Additional studies may want to consider looking at the novice teachers and investigating in more details the specific aspects of school leadership that impact adversely on their experience
as educators. Another area of further research is the area of teacher stress. A future study could investigate the in-school and out-of-school factors that impact on the levels of stress experienced by teachers. Such a study would provide important data for use by existing and aspiring school leaders.

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Single Subject Experimental Research: Measuring Speaking Proficiency in Teaching English as a Second Language

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This piece of Applied Linguistics research utilizes a variant of the “A-B” Single Subject Experimental Research design which is termed as a simple variant of the baseline and intervention model. It seeks to measure and analyse the speaking proficiency of two purposive samples, each comprising four adult Spanish-speaking learners in teaching English as a Second Language within the Anglophone Caribbean country of Barbados. With the intervention of strategies related to the Communicative Approach, each learner’s speaking proficiency is perceived as a complex process related to the development of the interrelated skills of communicative competence and is assessed through a prescribed set of performance-based criteria. In this environment, the research design facilitates the methodical application of the relevant research instruments as well as the systematic and rigorous collection and analysis of quantitative data. Thus, the results showed that the “A-B-B” variant of “A-B” Single Subject Experimental Research enabled the efficient measurement of each learner’s speaking proficiency based on the utilisation of communicative instructional strategies. Furthermore, the findings validated the worth and usefulness of procedures within this type of research design to provide comprehensive and conclusive data of the effectiveness of the intervention.

Keywords: Single Subject Experimental Research; intervention; speaking proficiency; Teaching English as a Second Language; performance-based criteria; communicative instructional strategies

Introduction
Background to the Problem
Applied linguists and theorists have established several methods and approaches for application in second language teaching. In this regard, Alice Omaggio-Hadley (2001) suggests with the development of several creative and new approaches, materials, teaching ideas and technological innovations there has been much scholarly debate about how best to use them. With the array of choices that exist in the language teaching domain, the ultimate goal of any instructor is to make the selection that best facilitates the type of instruction which would enable learners to attain the highest level of proficiency in the various skilled areas. By extension, the instructor’s aim is also to provide learners with the means to acquire the ability to use the target language for effective communication.

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ISSN 1727-5512
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http://www.cavehill.uwi.edu/fhe/hum/publications/EducationCERJ.htm
Yet, even within this modern era, some instructors conclude that meaningful learning in a second language is achieved through engaging learners in intense reading and writing exercises based on the grammar of the target language. Accordingly, such instructors determine that the learners’ level of proficiency increases as they acquire the knowledge and ability to use the structure of the language. For this reason, it is important to establish the fact that proficiency in a foreign or second language is no longer perceived narrowly as the acquisition of linguistic skills relating to grammar, vocabulary and pronunciation. This is mainly because research based on the work of several acclaimed linguists has proved emphatically that proficiency in a target language is a complex process that relates to the development of skills in communicative competence.

Such theorising is further substantiated by those linguists who specifically focus on research associated with the Teaching of English as a Second Language (TESOL). They indicate that the materials which are used in language development need to be comprehensible to learners so that they can meet their developmental, cognitive, social and cultural needs (Language and Literacy, 2006). Therefore, in contrast to those who persist in adhering to traditional pedagogy, some instructors subscribe to the conceptualisations of the aforementioned TESOL researchers. Moreover, the literature advocates that the process of learning a language entails far more than merely focus on linguistic competence and proficiency in the specific skills that comprise this component. A central feature is the suggestion that attention must be given to the acquisition of knowledge through experience as well to the areas included in communicative competence. In fact, Penny Ur (2002) states that instead of the idea associated with the audio-lingual principles which stipulates that learners should use language in controlled exercises until they have mastered the structures to a high degree, it is now accepted that some sort of meaningful oral practice should be included in language instruction from the beginning.

Likewise, in his contribution to the corpus of work on modern approaches to language teaching, Taylor (1987) focuses on the point that current literature stresses that learners need to acquire the target language by using it rather than to learn it by studying and they should be provided with more opportunities to interact directly with the target language. He further claims that the observation that many learners fail to acquire communicative competence in the target language even after years of instruction has prompted instructors to question the effectiveness of some approaches. Taylor’s (1987) views draw attention to the fact that traditional grammar-based instruction has been widely criticised as being ineffective.

Undeniably, it is recognised that foreign and second language speakers are confronted with a particularly challenging task of aiming to develop proficiency within a language which is not their first language. As a consequence, the selected methods or approaches for instruction should assist in making this process as successful as possible for the learner. Accordingly, after careful analysis of the comments of Omaggio-Hadley (2001), Ur (2002) and Taylor (1987), as well as other noted linguists, the conclusion was made that there was a need for some instructors to revisit the use of the habitual and conventional strategies used in language teaching. It was also deduced that the existing research findings on the modern approach to language teaching, had implications for the form of instruction used within the six-week summer English programme at UWI.

Although no formal research was done to provide empirical evidence of the success or failure of the methods used in the university’s programme, informal observation of the classroom environment and the form of instruction, as well as evaluation of the results of learners’ discrete-point of reference tests during the years 2002 to 2004, revealed some significant information. As a result, one of the areas of focus was the instructors’ predominant use of activities and tasks
related to traditional language methods such as the Audiolingual Method and the Grammar Translation Method. The related activities appeared to be monotonous and rigid and the classroom atmosphere seemed to lack excitement and enjoyment for the learners. This meant that several of them exhibited a diminished level of interest and enthusiasm during the sessions. In addition, a major development was that many of the percentages attained by learners in the speaking final achievement tests indicated clearly only marginal progress in proficiency. Therefore, as there was evidence of a measure of retardation in the progress of some learners in attaining the maximum levels of proficiency in the oral language skill, a primary concern was that they also appeared to lack the ability to function as efficient communicators in the target language.

In this regard, from the “rich” literature that emerged based on the body of work of several linguists, there was information about a more modern approach to language teaching known as the Communicative Approach. The fundamental principles of this approach presented it as a feasible alternative to the usual form of instruction which was used within the summer English programme. Moreover, the writings indicate that the Communicative Approach possesses some similarity to the whole language approach to language teaching in which language learning is conceptualised as an interactive process. For that reason, learners are allowed to manipulate the language and interact with it in meaningful and interesting ways with activities that are authentic and contextually rich. When this communicative interaction materialises, the language function is viewed as purposeful and real to learners. Researchers have also discovered that with instruction based on the Communicative Approach learners are facilitated with the necessary knowledge and ability to improve their proficiency level and sustain a satisfactory performance in their language output. Needless to say, all of those aforementioned foci seemed to be precisely what were necessary for the learners in the UWI summer English programme to attain the optimum success.

In spite of the fact that the aforementioned views were not based on experimental data, consideration must be given to the comments of researchers of TESOL who affirm that a preponderance of isolated language skills as an intense language programme which is not grounded in meaningful instruction does not foster the overall proficiency skills. They also claim that there is a need for a balanced programme that would teach language skills within the context of meaningful interaction with the material (Language and Literacy, 2006). To buttress the foregoing ideas, most researchers are of the view that learners who are acquiring a foreign or second language need a strong supportive context for learning in which they can experience the language without fear of failure and in which the acquisition of proficiency in the second language is regarded as an exciting and meaningful activity.

The linguists’ comments reinforce the fact that the information gathered from the informal observation of the teaching-learning environment within the six-week summer programme could not be ignored. Consequently, it was hypothesised that foreign language teaching based on a method which focused more on meaning and the appropriate use of oral language would provide learners with the knowledge and ability to achieve the maximum potential in their language output. Furthermore, for each year of the six-week summer English programme at the UWI, learners frequently expressed a special need and preference to increase their knowledge and proficiency in speaking skills. So, as alluded to earlier, it was deduced that the language teaching and learning environment which was necessary to facilitate their needs required much more than a traditional approach; learners needed to be exposed to instruction which enabled them to engage in real and meaningful situations in which they could interact.
among themselves as well as with speakers of the target language. Thus, it was deemed necessary for any model of language teaching which aimed to develop proficiency in speaking skills in English among adult Spanish-speakers to entail a component in which learners were exposed to a language-rich environment that appropriately utilises meaningful content based on the use of authentic materials.

A productive language programme should focus on using the most effective approach which would equip learners with the necessary skills to use the target language efficiently for the principal function of language, which is communication. Indeed, each learner’s proficiency in oral communication relies substantially on the ability to listen and comprehend. Even with that acknowledgement, over the years, the teaching of the oral skills and the interrelated listening skills, “have not figured so centrally in second and foreign language pedagogy” (Larzaraton, 2001, p. 103). Such linguists consider this situation to be an oversight and one that retards the progress of language learners. In fact, like listening skills, speaking skills are considered to be the foundation of language learning and learners’ proficiency in this area is paramount to facilitate acquisition of the target language. Hence, it was deemed worthwhile to examine and measure the oral language behaviour of each of the eight participants that comprised the two subgroups of four participants within the two study samples in relation to the application of the treatment and the conditions under which it was administered. Accordingly, the “A-B-B” variant of the “A-B” Single Subject Experimental Research design was deemed most adequate to facilitate the efficient measurement of the each participant’s speaking proficiency, based on the utilization of communicative instructional strategies.

A brief history reveals that the inaugural summer exchange language programme between the Colombian institutes and the Mona Campus of Jamaica commenced in 2000 after the signing of a collaborative academic agreement in Kingston Jamaica on 16th February that same year between The University of the West Indies (UWI) and The Colombian Institute for the Development of Higher Education (ICFES). Then in 2001, the programme expanded to include the Cave Hill Campus in Barbados and the St. Augustine Campus in Trinidad. As a result, each summer, students from the Spanish courses at the three campuses in the West Indies travelled to Colombia to participate in the summer Spanish programme and university lecturers from the various campuses in the cities of Bogota, Medellin and Manizales of the ‘Universidad Nacional’ (National University) in Colombia, journeyed to Jamaica, Trinidad and Barbados as students in the summer English programme.

Research Problem
The purpose of this research is to analyse the efficacy of the “A-B-B” variant of the “A-B” Single Subject Experimental Research in measuring the speaking proficiency of each adult Spanish-speaker learning English as second language, based on the application of instructional strategies associated with the Communicative Approach to language teaching within the six-week English summer course, in the Anglophone setting at The University of the West Indies, Cave Hill Campus.
Research Questions
Data from the oral language behaviour of each of the eight participants that comprised the two subgroups of four participants within the two study samples were measured and analysed to determine the following:

1. Does the “A-B-B” variant of the “A-B” Single Subject Experimental Research enable the effective measurement of the speaking proficiency of each adult Spanish-speaking learner within a six-week English programme?
2. Is the “A-B-B” variant of the “A-B” Single Subject Experimental Research efficient to analyse the effectiveness of instructional strategies associated with the Communicative Approach on the speaking proficiency of each adult Spanish-speaking learner within a six-week English programme?

Research Methodology and Approach
Research Design/Framework
The research employed the A-B design of Single Subject Experimental Research (S.S.E.R.) which is also termed a baseline and intervention model. The research focused on the treatment was the systematic application of instructional strategies linked to the Communicative Approach, the independent variable, on the speaking proficiency of adult Spanish-speaking learners of a second language, the dependent variable. Hence, it was determined that the implementation of S.S.E.R. facilitated the systematic collection and analysis of quantitative data to determine the existence of a causal or functional relationship between the independent variable and the dependent variable.

As there are challenges in establishing a functional link between the application of the independent variable and any changes that may occur with the dependent variable when using the A-B, S.S.E.R. design, there was utilisation of a baseline phase with six data collection points and a ‘formative intervention phase’ and ‘summative intervention phase’ each administered within eight day durations. Consequently, these procedures facilitated the analysis of the results at each stage to determine if any effect which occurred at the first treatment phase was continued or maintained within the second treatment phase. Furthermore, it was judged that the use of data from the two treatment phases served to strengthen and validate any conclusions about the level of effectiveness of the independent variable on the dependent variable.

By the same token, because replication is considered a vital part of S.S.E.R. research (Gay & Airasian, 2003), it was resolved that the simultaneous replication of the application of the intervention on two different study samples, made up of four participants, provided eight separate collections of data for analysis so that the total collection could be perceived as eight individual studies. Furthermore, the procedure was carried out under similar conditions at the same location, in two different time periods and applied within the same six-week duration each year with the use of teaching methods and strategies based on the Communicative Approach. These conditions established replication of the research and served to remove any existing threat to external validity. Commensurately, the combined measures guaranteed the level of verification necessary to authenticate the predictions made within the baseline phase. In addition, they intensified experimental control and validated any conclusions of a functional relationship between the independent variable and the dependent variable.

Based on the implementation of a baseline phase and two intervention phases, each year the design conformed to the variant ‘A-B-B Single Subject Experimental Research’. The procedure is symbolised in Figure 1.
The Study Sample
A probability sampling procedure was used to randomly select two groups of eight learners classified as stratified samples with varying levels of proficiency in English ranging from novice through to competent from among the cohort of eleven during 2005 and 2006. Accordingly, Gall and Borg (1989) point out that stratified sampling includes several cases at defined points in variation with respect to the phenomena being studied which allows insight into each type as well as into the variations that exist. Then, at the baseline phase, data were analysed to evaluate the learners’ proficiency levels and each year four learners who demonstrated a stable trend in their speaking pre-intervention behaviour were selected.

At that stage, although each sample included all the participants available, it was restrictive to a very specific population which comprised small numbers. As a result, it was categorised as a purposive sample in which the participants’ selection was based on some existing differences related to maximum variation. In this regard, Patton (1990) states that maximum variation sampling is the type of purposeful sampling that describes central themes and focuses on a great deal of participant variation. When this procedure is applied with single subject research, after the baseline data are analysed, the researcher can purposively select the participants who are best representative of how the variation has influenced the behaviour. Therefore, purposive maximum variation sampling was carried out for this research and the participants were assessed to be “information-rich” cases with variations in age, sex and proficiency in speaking. Those conditions were favourable to provide detailed analyses of the effectiveness of the Communicative Approach on each participant’s speaking proficiency. This meant that the selection of the participants in sample one and two was based on the following criteria:

a baseline data which represented a stable pre-intervention pattern of proficiency in speaking.

b language behaviour which demonstrated a need for instruction to improve proficiency in speaking.

Instrumentation
The Diagnostic Test
For two days prior to the commencement of the language programme, a set of diagnostic speaking tests in the form of an Oral Proficiency Interview was the first research instrument used to gather pre-intervention data about each learner. It was a fifteen minute face-to-face interaction between each participant and the two interviewers which was administered to identify each participant’s language problem and its intensity. Hall (2001) suggests that this standardised measuring tool, known as the Oral Proficiency Interview (OPI), was designed to evaluate oral abilities in the foreign language. She states that the OPI was formulated as a result of concern for an instrument which focused on measuring performance, based on communicative skills. Accordingly, as the principles associated with the Communicative Approach are directly related to the concept of communicative competence, it was concluded that the purpose of the research
was better served with the use of Hall’s performance-based guidelines related to Situated and Transformed Practice Activities. The guidelines for the categories within this instrument are based on Hymes’ (1986) linguistic concept of communicative competence.

Communicative principles are related directly to the more recent model of performance-criteria with a focus on communicative competence so that there is a shift in emphasis from specific grammatical skills to a more modern style of mark category which covers all aspects of a speaker’s performance and requires consideration of the speaker and the context, as well as the appropriateness of what is said (Hall, 2001). Based on this conceptualisation, the criteria in Hall’s performance-based instrument which relate specifically to oral proficiency were adjusted and placed within an instrument termed an ‘Oral Assessment Sheet’ which was used to record each participant’s quantitative data acquired from the results of the OPI.

Table 1 is an amended version of Hall’s rubric of a performance-based measurement for Situated and Transformed Practice Activities modified into an Oral Assessment Sheet using a rating scale. The Table also sets out the proficiency levels, the categories that comprise communicative competence and the criteria in which the learners are measured.
### Participant’s Oral Assessment Sheet Based on Hall’s Rubric for Evaluating Performance in Situated and Transformed Practice Activities

<table>
<thead>
<tr>
<th>MARK RANGE &amp; PROFICIENCY LEVEL</th>
<th>AREAS OF COMPETENCE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>DISCOURSE COMPETENCE</td>
</tr>
<tr>
<td>1-4 Novice</td>
<td>Limited ability to interact. Only a few utterances are coherent</td>
</tr>
<tr>
<td>5-8 Intermediate</td>
<td>Some ability to understand, select and arrange utterances</td>
</tr>
<tr>
<td>9-12 Competent</td>
<td>Able to sustain interaction through the appropriate interpretation,</td>
</tr>
<tr>
<td>13-16 Distinguished</td>
<td>Clear understanding of interaction, able to initiate and sustain the interaction</td>
</tr>
<tr>
<td>17-20 Expert</td>
<td>Can create and sustain a cohesive interaction</td>
</tr>
</tbody>
</table>

**Source:** Joan Kelly Hall, *Methods for Teaching Foreign Language: Creating a Community of Learners in the Classroom* (New Jersey: Prentice, 2001)

Along with the categories relating to communicative competence, the Oral Assessment Sheet presented the hierarchic order of proficiency ranging from the lowest level, Novice, through to Intermediate, Competent and Distinguished, with the highest level, Expert. A rating scale was formulated to provide a series of brief descriptions of different levels of language ability and capabilities of the typical learner so that the assessor can decide what level or score to give each learner (Underhill, 1989). So, the OPI was used to measure each participant’s ability to effectively use all the components of communicative competence within the interactions based on the completion of three oral tasks and a numerical score was awarded for the performance which was assessed according to the criteria in the rating scale. The first task functioned as a
“warm-up” activity, the second focused on competency to perform a communicative task successfully while the concluding task aimed at relaxing the participants.

To counteract the problem of lack of reliability associated with evaluating the OPI, two interviewers assessed each participant. Their scores were combined and divided by two and the final raw score for each participant was converted to an average score which was further converted to a percentage. In the lower range, a score of zero (0) was given to participants who demonstrated no functional proficiency in any of the areas. A raw score of twenty was allocated as the highest mark that the participant could receive in any of the categories. As there were five categories, the final score of 100 marks was reduced to a score out of 20 marks. The results were placed on the Oral Assessment Sheet and were analysed to provide quantitative data for each participant.

Table 2 highlights the scores and proficiency levels of Participants C and B in sample one and participants E and G in sample two.

Table 2

<table>
<thead>
<tr>
<th>PARTICIPANT 2005</th>
<th>PERCENTAGE</th>
<th>AVERAGE</th>
<th>PROFICIENCY LEVEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>25</td>
<td>5/20</td>
<td>Intermediate</td>
</tr>
<tr>
<td>C</td>
<td>45</td>
<td>9/20</td>
<td>Competent</td>
</tr>
<tr>
<td>PARTICIPANT 2006</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>18</td>
<td>3.6/20</td>
<td>Novice</td>
</tr>
<tr>
<td>G</td>
<td>31</td>
<td>6.2/20</td>
<td>Intermediate</td>
</tr>
</tbody>
</table>

Based on the results of the 2005 Diagnostic OPI, Participant B who received an average score of 5/20, which was converted to 25%, was deemed to have an Intermediate Level proficiency. Participant C with an average score of 9/20 and a percentage of 45 was considered to be at a competent level of proficiency.

In 2006, Participant E got an average score of 3.6/20 which was 18% and he was assessed to be at the Novice proficiency level while Participant G had an average score of 6.2/20 and 31% so that he was evaluated to have Intermediate level competence.

**Data Collection Procedure**

Collection of the data utilised the quantitative mode primarily and qualitative data were used to present details of the general trends indicated by the quantitative data as well as an overall description of each participant’s learning environment prior to and during the intervention. Table 3 shows the quantitative data collection phases as well as the instruments and the quantity of each data collection instrument for the two years of the research.

Table 3

<table>
<thead>
<tr>
<th>Phases of Quantitative Data collection: Measurement Instrument and Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Baseline Phase</strong></td>
</tr>
<tr>
<td>Diagnostic Speaking Test (1)</td>
</tr>
<tr>
<td>Needs Analysis Questionnaire (1)</td>
</tr>
<tr>
<td>Proficiency Speaking Pre-tests (3)</td>
</tr>
</tbody>
</table>
Within the intervention phase, various aspects of oral interaction in relation to the appropriate use of the target language, participation in the activities and utilisation of materials were assessed and the general trends indicated from the Diagnostic Tests and Pre-tests were also sources of data. In addition, the data from the Observation Schedule were used to supplement and enhance the results from the total measurement points.

Table 4 highlights the schedule for activities, instruction and data collection during the pre-intervention and treatment phases of the study. The Table also shows the type of instruction and the duration for each session.

Table 4

<table>
<thead>
<tr>
<th>Year</th>
<th>Phase</th>
<th>Activity/Instruction Type</th>
<th>Time Period - hr/min</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 and 2006</td>
<td>Diagnostic Phase</td>
<td>Diagnostic measurement</td>
<td>6hr 40 min</td>
</tr>
<tr>
<td>2005 and 2006</td>
<td>Pre-instruction Baseline</td>
<td>Three Speaking Proficiency Tests</td>
<td>3hr</td>
</tr>
<tr>
<td>2005 and 2006</td>
<td>Needs Analysis Questionnaire</td>
<td>Baseline measurement</td>
<td>1hr 20 min</td>
</tr>
<tr>
<td>2005 and 2006</td>
<td>Baseline</td>
<td>Baseline measurement</td>
<td>11 hr 20 min</td>
</tr>
<tr>
<td>2005 and 2006</td>
<td>Formative instruction</td>
<td>Formative speaking activities</td>
<td>13 hr 30 min</td>
</tr>
<tr>
<td>2005 and 2006</td>
<td>Summative instruction</td>
<td>Summative speaking activities</td>
<td>13 hr 30 min</td>
</tr>
<tr>
<td>2005 and 2006</td>
<td>Intervention instruction</td>
<td>Speaking activities</td>
<td>27hr</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Total 54hr</td>
</tr>
</tbody>
</table>

Table 4 shows the modules of diagnostic testing and pre-testing took 6 hours and 40 minutes, and 11 hours and 20 minutes respectively each year. There were 27 hours allocated to instruction in the dependent variable in each year for a total of 54 hours. Every participant within the two study samples was exposed to daily sessions of instruction of approximately ninety minutes with the systematic application of the independent variable on the dependent variable.

Formal instruction comprised sessions of conversation, discussions and oral presentations as well as the field trips. As the structure of the course did not facilitate separate teaching of the participants they were merged with the other language learners in the cohort. However, that condition was not deemed to influence the validity of the research negatively as both the participants and non-participants were exposed to the same course content, activities and materials. Furthermore, every aspect of instruction was administered using procedures related to the Communicative Approach and each participant’s language behaviour was systematically measured, recorded and analysed according to the stipulations of the “A-B-B” Single Subject Experimental Research.
Table 5 presents the instruction schedule with the dependent variable and highlights the schedule for the application of the intervention.

Table 5

<table>
<thead>
<tr>
<th>Time Per Session</th>
<th>Monday</th>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005 1hr 30min</td>
<td>Conversation</td>
<td>Conversation</td>
<td></td>
<td>Conversation Field Trip</td>
<td>Conversation Discussions Presentations</td>
</tr>
<tr>
<td>2006 1hr 30min</td>
<td>Conversation</td>
<td>Conversation</td>
<td>Conversation</td>
<td>Conversation Field Trips</td>
<td>Conversation Discussions Presentations</td>
</tr>
</tbody>
</table>

The Baseline Phase

As a result of the constraint of the limited duration of six weeks for instruction each year it was determined that one session of baseline measurement within eight days of repeated applications of the measurement using three data collection points was adequate for the learners to demonstrate a consistent and definite pattern in speaking. That procedural framework was used with three Pre-tests in speaking administered to each study sample in the first stage of the “A-B-B” variant of the S.S.E.R. before the participants were exposed to any form of treatment. As data of the participants’ behaviour in the dependent variable were collected the results were graphed immediately on a line graph to provide a visual description and the information was consistently examined to focus on the visual trend as well as the level and variability.

In this regard, as the visual representation of each participant’s performance revealed scores which fell within a narrow range, this demonstrated observable stability in the oral communication. The stable baseline data predict future behaviour and are “the foundation on which single subject evaluation is grounded” (McCormick, 1995, p. 27). This baseline period was distinguished as “A” and the data were analysed to make predictions about each participant’s behaviour to determine the trend or direction of the participant’s speaking proficiency before the treatment was applied, assess the baseline proficiency in speaking and inform decisions about the procedures for the next phase.
Table 6 presents details of the scores obtained by Participants B, C, from sample one and Participants E and G from sample two in each of the five categories during the three Oral Proficiency Pre-tests.

Table 6

<table>
<thead>
<tr>
<th>Participant 2005 Pre-tests</th>
<th>Discourse Competence</th>
<th>Linguistic Competence</th>
<th>Actional Competence</th>
<th>Sociocultural Competence</th>
<th>Strategic Competence</th>
</tr>
</thead>
<tbody>
<tr>
<td>B</td>
<td>5 6 6 5</td>
<td>8 9 10 8</td>
<td>8 8 8 8</td>
<td>8 8 8 8</td>
<td>8 9 9 9</td>
</tr>
<tr>
<td>C</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Participant 2006 Pre-tests</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>E</td>
<td>3 4 3 3</td>
<td>3 4 3 3</td>
<td>2 3 2 3</td>
<td>3 3 3 3</td>
<td>3 3 3 3</td>
</tr>
<tr>
<td>G</td>
<td>5 7 6 7</td>
<td>5 6 6 5</td>
<td>5 5 5 5</td>
<td>6 6 6 5</td>
<td>6 6 6 5</td>
</tr>
</tbody>
</table>

According to the data, in 2005, Participant C had a range of scores of 8/20 to 10/20. There was also some similarity in the scores of Participant B, in 2005, and Participant G, in 2006 whose range was 4/20 to 7/20. In the first year Participants E’s scores ranged from 2/20 to 4/20.

Table 7 shows the assessment of the participants’ proficiency levels based on the percentages from the Oral Proficiency Pre-tests attained during the three data collection points in the baseline.

Table 7

<table>
<thead>
<tr>
<th>Year</th>
<th>Participants</th>
<th>Oral Pre-test 1 Percentage</th>
<th>Oral Pre-test 2 Percentage</th>
<th>Oral Pre-test 3 Percentage</th>
<th>Proficiency Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>C</td>
<td>40</td>
<td>43</td>
<td>44</td>
<td>Competent</td>
</tr>
<tr>
<td>2005</td>
<td>B</td>
<td>25</td>
<td>27</td>
<td>27</td>
<td>Intermediate</td>
</tr>
<tr>
<td>2006</td>
<td>G</td>
<td>27</td>
<td>30</td>
<td>30</td>
<td>Intermediate</td>
</tr>
<tr>
<td>2006</td>
<td>E</td>
<td>14</td>
<td>17</td>
<td>15</td>
<td>Novice</td>
</tr>
</tbody>
</table>

After the analysis of baseline data from measurement of the dependent variable, each participant maintained a steady pattern with scores in Pre-tests in the oral language. These criteria determined their selection as the two purposive samples. In addition, when a comparison was made between the results of the Diagnostic Tests and the Proficiency Pre-tests, there were no significant changes in oral proficiency levels of the four selected participants. This meant that the results of the proficiency levels of the participants based on the pre-tests mirrored generally those from the diagnostic data and the judgement was made that the selected participants exhibited consistent patterns in their performance in the dependent variable during the pre-intervention period.

At the last data collection point none of the participants’ performance indicated an increasing trend in the language behaviour. Therefore, the results suggested that the stability in their patterns was favourable for the application of the independent variable. The condition was also conducive to make the prediction that application of the independent variable could result in an increase in the proficiency level in the dependent variable. Accordingly, the participants were
selected as the two Stratified Purposeful and their Pre-test results in the dependent variable was the baseline data as designated within the “A-B-B” Single Subject Experimental Research.

The Intervention
Within this treatment phase identified as “B-B”, numerical and graphical data were used to measure and evaluate each participant’s language behaviour in the dependent variable. Accordingly, in a foreign language teaching-learning environment that focuses on the Communicative Approach the extensive and intensive use of language for communication is of major importance and priority is given to the use of language for meaning and appropriateness. For these reasons, during the research, major focus was placed on the sociocultural context in which the language was used and communication was paramount so that the communicative tasks were categorised as focused on “form in communicative contexts” (FCC), “meaning in interaction” (MI) or “meaning in transaction” (MT).

FCC activities were formulated to make practice in the structure of the target language real and meaningful. According to Flyman-Mattsson (2007), such activities are dominated by interaction which is directed towards practice of some specific grammatical area. She emphasizes that with this type of task learners are often unaware that as they learn the skill of speaking the target language they are being taught grammar as well. Moreover, Lightbown and Spada (1993) express the view that … in more communicative settings, meaning is emphasized over form, a larger variety of discourse types are used and language input is simplified through contextual cues (as cited in Flyman-Mattsson 47: 39, 2007). Consequently, activities formulated and categorised as MI and MT were geared towards enhancing the communicative and interactive features of each participant’s language.

Therefore, while participants engaged in the MI activities the importance of using the correct form of the target language was not negated or trivialised and major focus was on their ability to explore the language and use it appropriately within various social contexts. Furthermore, MT activities afforded participants the opportunity to use the language for interaction that facilitated their skills for completing some form of transaction. The variation in the purpose of the interactive activities revealed their proficiency in all five components of communicative competence. In addition, authentic materials were used for these activities and participants were placed within the most effective group pattern to facilitate the “richest” interactions in the interactional and transactional modes The activities allowed them to use language in response to utterances which occur within daily routines and to practice various aspects of communicative competence meaningfully and realistically as stipulated by the principles of the Communicative Approach.

At this stage, the Oral Assessment Sheet’ was used again to record each participant’s quantitative data acquired from the results of the OPI. This meant that each participant’s results from the two intervention phases were represented visually on line graphs and the analysis was based on a comparison of these representations at the baseline phase and the treatment phase. The data from both phases were also statistically analysed and compared through the simple time series analysis procedure which focuses on whether there is a visible or marked trend in the sequential measurement.
Data Analysis
The numerical and visual data of the baseline phase and the intervention allowed for a comprehensive comparison of the each participant’s performance to evaluate the effectiveness of the intervention. According to Gay and Airasian (2003), “data analysis in single subject research is typically based on visual inspection and the analysis of graphic presentation of results”.

Presented below are the data for two participants during both years of the research.

Figure 2

A Scatter Graph showing Participant B’s performance for speaking.

An analysis of Participant B’s performance for the variable indicated a slight movement upwards from data point1 to data point 2. Her performance remained static at data point 3 at the baseline phase which suggested a stable pattern. There was an increasing trend in Participant B’s performance in the intervention phase from data point 4 through to data point 8. There was no variation in her performance at data points 8 and 9, indicating that her level of improvement remained fixed for these last two data points. As there was no downward or decreasing trend in her performance there was lack of evidence to indicate that some deterioration in her oral language behaviour was occurring. Conversely, the results suggest that she maintained the level of improved performance. Overall, the data revealed a marked improvement in Participant B’s proficiency at the intervention phase; this improved to Competent proficiency (45%) when compared to her performance at the baseline phase- intermediate proficiency (26%).
Participant C had a slight upward movement in his performance at the baseline phase in the variable at data points 1 and 2. Although his performance showed a marginal increase of one percentage point from 43% at data point 2 to 44% at data point 3, a thorough analysis of the scores suggests that such a small increase could not be termed a trend. Therefore, Participant C’s performance at the baseline phase was predicted to produce percentages within the narrow range of 40 to 44%. This was determined to be his stable pattern. In the intervention phase, his improved performance resulted in an upward trend, based on an increase in percentages from data point 4 through to data point 9. Although Participant C showed a trend in his performance of a marginal increase of two percentage points from data point 5 with 60%, to data point 6 with 62%, and data point 7 with 64%, his progress was continuous. His level of improvement increased at data points 8 and 9. When his performances at the baseline and intervention phases are compared the results indicate a definite enhanced proficiency level in speaking. Hence, this satisfies the prediction at the baseline that Participant C’s performance was consistent, and suitable for intervention. His proficiency improved from 42.5% Competent at the baseline to 74% Distinguished at the intervention.
In the second study sample, **Participant E** had a minimal increase in scores from data points 1 to 2 for the dependent variable, resulting in a slight upward movement. He then attained a smaller percentage at data point 3 which caused a slight downward movement and indicated a marginal decline in his performance. Therefore, the range of 14 to 18 percent was determined to be his consistent baseline pattern. **Participant E**’s percentages at all the data points in the intervention phase showed a steady upward trend from the first data point to the last data point. At data point 6, **Participant E** attained 31% and at data point 7 he received 32%. This slight increase of one percent indicated marginal improvement in his performance. Significantly, a comparison of the data from the baseline phase with the intervention phase show that application of the treatment resulted in an improved performance and a higher level of proficiency in oral communication. At the baseline 15.5% placed him at Novice proficiency while after the Intervention with 32% he improved to Intermediate.
At the baseline phase Participant G had a slight upward movement in his performance at data points 1 and 2 and this remained static at data point 3. As a result, it was concluded that his performance ranged between 25 and 30 percent, and this was his stable pattern. The data indicate that during the period of the application of the independent variable, there was a constant upward trend, validating judgement of an improvement in his performance from the first data point to the last data point. A comparison of the baseline and intervention data also revealed significant improvement in Participant G’s proficiency in oral communication from 29% at the baseline which indicated intermediate proficiency level to 64% after the intervention and advancing to distinguished.

Conclusions
An analysis of the graphic data in Figures 2, 3, 4 and 5 for sample one and two respectively, suggest that with the application of the treatment on the dependent variable, there was an immediate and rapid change in the participants’ oral language proficiency. At the first data point at the intervention phase, each participant showed an increase in the percentage attained from the last data point at the baseline phase. The results also indicate that the participants increased their percentages from the Formative Intervention Phase to the Summative Intervention Phase and generally from data point to data point. This suggested that the application of the intervention on the dependent variable was taking effect and influencing the increasing trend of improvement in their speaking proficiency. Thus, the “A-B-B” variant of the “A-B” Single Subject Experimental Research was effective in measuring the speaking proficiency of each adult Spanish-speaking learner in the UWI’s six-week English programme.

Researchers such as Wasson (2000) are of the view that use of S.S.E.R. design is the most scientifically valid method of making the appropriate decision for our learners. Likewise, McCormick (1995) asserts that with implementation of the necessary control procedures, the internal validity of single-subject experiments is often very strong and the experimental logic entails the three elements of prediction, verification and replication (McCormick, 1995). It is
significant that all three of these constituents were accounted for in the “A-B-B” variant of SSER applied in this research, so that validity and reliability were assured. Hence, the evidence confirms the worth and success of the application of the “A-B-B” variant of the “A-B” Single Subject Experimental Research in analysis of the effectiveness of communicative instructional strategies in language teaching strategies, methods and approaches in Applied Linguistics.

References


Teachers’ Preference and Use of Educational Technology in Low-Resource Social Studies Classrooms: An Exploratory Study

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In the 21st century, synchronous and asynchronous communications in every sector of human endeavour century is mostly driven and enhanced by varying emerging technologies. This study investigates social studies teachers’ preference and use of technology. Two hundred and ninety-five (295) teachers from one State in the Southwest geopolitical zone in Nigeria constituted the sample for the study. The data for this study were collected through the use of Social Studies Teachers’ Technology Awareness, Motivation and Preference Questionnaire. Using the descriptive statistics, Pearson Product Moment Correlation Coefficient, Analysis of Variance, and Multiple-regression, the data for the study was analyzed at 0.05 significance. Findings from the study reveal that most social studies teachers use more of visual media than electronic/digital media in the classrooms. Moreover, the study shows that social studies teachers’ preference and use of educational technology are influenced by their highest academic qualification while their level of awareness about the value of technology in education is not gender based. All the predictive variables combined significantly to predict teachers’ preference and use of technology in education.

Keywords: Social studies; Low resource classrooms; Educational digital media; Technology integration

Introduction

Technology integration into social studies classrooms is a veritable way of making teaching and learning more meaningful and impactful (Berson, Lee & Stuckart, 2001; Helmes, 2011; Zao, 2007). Technology integration enhances the learning environment for learners; supplements teachers’ instruction in classrooms; provides administrative tools for teachers and administrators; increases access to education and inclusive education in schools; creates a communication platform; and provides a passport to gaining competitive edge in the global economy (Jhurree, 2005). Despite the promise of technology integration, however, the evidence suggests that social studies teachers are among the least likely to use technology in the classroom (Acikalin, 2010; Zhao, 2007). Yet, “Without teachers who can integrate technology, students’ exposure to technology remains limited and inequitable” (Gorder, 2008, p. 65).

In relative terms, substantial advancement has been achieved on technology integration in resource-rich classroom environments of Europe and America. For instance, the rate of Internet connectivity in American elementary schools is almost 100% with student to computer ratio put
Similarly, most Western countries have vigorously pursued the one-to-one laptop policy in the last two decades (Larkin & Finger, 2011). The story in low-resource countries is however different; progress in technology integration has been slow and teachers operate in classroom environments which make the deployment of modern technology very difficult (Fong, 2009; Jhurree, 2005). As Underwood, Garg, Tseng, Findlater, Anderson and Pal (2010) observed, “computer use in low-resource learning environments typically consists of a many-to-one scenario, in which multiple children share a single computer” (p. 1). Also, Murray, Wenger, Downes and Terrazas (2011) instructively reported that “low-resource countries face many challenges in providing education” (p. 6). As they further noted, ill-prepared teachers and gross shortage of teaching resources, computers, and other modern technological devices characterise educational systems of low-resource countries.

In view of the problems of technology access and use, Khan, Hassan and Clement (2012) recently concluded that schools in developing countries are far from reaping the benefits of technology integration. This lag has been attributed, among others, to poor infrastructure that supports technology integration, lack of resources for technology procurement, misplacement of priority by political leadership, inadequate knowledge and skills for technology deployment, and teachers’ poor attitude and beliefs about technology integration (Khan, et al, 2012). Consequently, school success is largely measured by learners’ performance in pen-and-paper tests and teachers are under pressure to cover topics of the overly packed curriculum, rather than give attention to technology use to promote learners’ understanding. Research findings suggest that teachers in these climes focus less on interactive teaching-learning activities that enhance learners’ ability to transfer knowledge gained in the classroom to solving out-of-class problems as demanded by social studies education (Capper, 2003; Taiwo, 2009).

In Nigerian schools, like in many other low-resource environments, the mode of instructional delivery in social studies classrooms is yet far from being technology-driven. About 70% of social studies teachers rely on the traditional methods of teaching (Meziobi, 2004 cited in Okobia, 2012; Okobia, 2012). The traditional social studies teachers ‘talk’ and ‘chalk’ while students listen, read and answer questions from the textbooks and regurgitate facts. At best, most of the teachers employ visual media such as textbooks, newspapers, graphs, and chalkboard which do not fully promote learners’ active participation and interaction in the social studies classroom (Adomi & Kpanghan, 2010; Okobia, 2011).

The Federal Government of Nigeria recognises the benefits of integrating modern technology into education; hence the National Policy on Education emphasises the use of Information and Communication Technology (ICT) to facilitate learning at all levels of education. In particular, the policy stresses that primary school pupils should be introduced to the basic computer skills (FGN, 2004). The Federal and States’ Ministries of Education in Nigeria have funded training programmes targeted at improving social studies teachers’ technology skills (Obakhume, 2011; Okobia, 2012). However, only a few social studies teachers use educational technology for classroom instruction. Most of the teachers who have access to computers use them for personal and administrative purposes, rather than for instructional or pedagogical activities (Okobia, 2011, 2012). In order to achieve the basic objectives of social studies teaching, researchers and educators have argued that teachers should adopt and integrate appropriate technology to facilitate student-centred pedagogy (Obakhume, 2011; Okobia, 2012; Whitworth & Berson, 2003).

The use of technology has had an immense impact on the educational systems worldwide. However, the extent to which the potential of educational technology is being maximised by
primary school teachers in social studies classrooms has not been sufficiently examined especially in the low-resource countries (Fong, 2009; Khan, Hasan & Clement, 2012). Thus, this study was designed to provide further empirical evidence on technology use for instruction in social studies classrooms and the motives underlying technology integration among primary school teachers in Nigeria. The study explored the gap in the literature by investigating the adoption and infusion of educational technology in the classroom among Nigerian social studies teachers borrowing from the technology acceptance model and self-determination theory.

Literature Review
The review of literature for this study consists of its theoretical framework and the empirical background. The theoretical framework which served as the foundation for the study was drawn from two theories: the self-determination theory (SDT) and the technology acceptance model (TAM). The two theories provided guides for empirical investigation of study variables. The theoretical framework also provides a perspective for making meaningful link between the independent variables of the study and social studies teachers’ use of educational technology.

Self-Determination Theory
The self-determination theory (SDT) developed by Deci and Ryan (1985, 2000) is a theory of human motivation which processes the environmental and interpersonal factors that affect motivated behaviour. Such behaviour could be motivated either intrinsically or extrinsically (Hagger & Chatzisarantis, 2012; Sorebo, Halvari, Gulli & Kristiansen, 2009). Intrinsic or self-determined motivation illustrates individual’s engagement in behaviours because of inherent personal interest or enjoyment in the behaviour. Similarly, an individual may be self-determined to engage in behaviour for the purpose of accomplishing individual's personal valued outcomes without being under pressure by external contingencies (Brown & Ryan, 2004; Deci & Ryan, 1985; Hagger & Chatzisarantis, 2012). The extrinsic motivation is attached to external sources (Deci & Ryan, 1985; Sorebo, Halvari, Gulli & Kristiansen, 2009). When an individual is intrinsically motivated, behaviours are likely to be persistent, whereas persistence in behaviour would be sustained in controlled behaviour in as much the external sources continue to act (Hagger & Chatzisarantis, 2012).

SDT proposes that the satisfaction of three innate psychological needs - autonomy, competence and relatedness - motivates the adoption of autonomous motivation (Bachman & Stewart, 2011; Sorebo, Halvari, Gulli & Kristiansen, 2009). Autonomy implies an individual’s desire to exercise self-initiatives and self-regulate behaviour while competence refers to the desire to have effect on the environment and as well achieve valued outcomes. Relatedness is the desire to feel connected to other people (Bachman & Stewart, 2011; Ryan & Deci, 2000, 2002). The more SDT needs are met, the greater one’s self-determination and motivation. This implies that when individuals are intrinsically motivated, external incentives become irrelevant by the satisfaction (Bachman & Stewart, 2011; Ryan & Deci, 2000). By implication, self-determined social studies teachers would be more motivated to adopt and integrate educational technology into the classroom instruction.

Technology Acceptance Model
The technology acceptance model (TAM), which was adapted from the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980; Fishbein & Ajzen, 1975), was developed by Davis (1986) and Davis, Bagozzi and Warshaw (1989). TAM is a theoretical framework that explains
technology behaviour and other variables related to acceptance of technology. The model posits that an individual’s intention to use technology based on self-determination influences the actual use of the technology (Chang, Yan, & Tseng, 2012; Shroff, Deneen & Ng, 2011). TAM also proposes that perceived usefulness and perceived ease of use are key elements that determine a user’s attitude towards technology use. Moreover, perceived usefulness (PU), perceived ease of use (PEOU) and attitude (ATT) are three basic attributes of the system that determine a user’s behavioural intention (BI) whether to use or not to use the system (Davis, 1989; McKinnon & Igonor, 2008).

Perceived usefulness (PU) refers to the degree to which a person believes that the use of a technology can improve his or her performance. Perceived ease of use (PEOU) is the extent at which an individual believes that using a technological device would be easy (Sanchez & Hueros, 2010). TAM suggests that behavioural intention (BI) is determined by PU and PEOU. Similarly, BI is assumed to control a user’s beliefs about the technology and their behavioural intention and the actual use of the system (Ajzen & Fishbein, 2000; Vankatesh, Morris, Davis & Davis, 2003). Technology acceptance model has been widely used to predict a user’s and use of technology based on perceived usefulness and perceived ease of use. Available findings show TAM’s high level of validity in investigating user’s behaviour towards the use of technology (Park, 2009; Shroff, Deneen & Ng, 2011). This model implies that social studies teacher’s intention to use technology may be motivated by some intrinsic and/or extrinsic variables.

**Empirical Background**

The wind of technology shift is blowing rapidly, and the education sector is striving to keep up with the pace (Diem, 2000; Whitworth & Berson, 2003). Developments within this process have created new opportunities for social studies teaching assisted by various emerging interactive technologies (Lei & Zhao, 2007; Rose & Fernlund, 1997). Until the last two decades, the context of education generally, and social studies education in particular, was structured towards drill-and-practice; but the arrival of modern technologies in schools has provided for interactive and engaging instructional process (Rose & Fernlund, 1997). Nevertheless, technology integration among teachers is just gaining roots. For instance, about a third of public school teachers who reported to having had access to computers, Internet and computer labs in their schools in the United States of America were not prepared to use computers for classroom instruction (U.S. Department of Education, 2000). In particular, social studies teachers were found to be lesser users of technology in the classroom as compared to teachers of other disciplines (Becker, 1986; Ehman & Bonk, 2002).

Effective use of technology has the potential of improving students’ learning in social studies. Social studies teachers should therefore strive to develop students’ technology literacy in order to prepare them for the challenges of citizens of the 21st global society (Friedman, Bolick, Berson, & Porfeli, 2009). The present crop of students is a generation immersed in a digital age because they comfortably depend on technology in their daily lives. If social studies teachers would prepare students for the responsibility of citizenship, the learners must be able to critically explore their world by interacting with emerging technologies (Cogan, Grossman, & Lei, 2000; Hicks, Tlou, Lee, Parry & Doolittle, 2002).

Deim (2000) and Doolittle and Hicks (2003) agree that the use of technology has positive effects on the learning of social studies. The evidence indicates that integrating technology into social studies classrooms promotes active students’ inquiry (Whitworth & Berson, 2003), students’ active participation and engagement, and involvement in critical thinking (Lei & Zhao,
Technology-based learning facilitates the development of students’ problem-solving skills and communication capabilities. Through technology integration, students also have the opportunity to gain access to expansive knowledge as they actively engage in the instructional process. The influence of technology on the education system underscores the relevance and importance of emerging technologies in the teaching and learning of social studies. If teachers are to maximise the potential these technologies, they must be infused into the instructional process (Whitworth & Berson, 2003).

Teachers’ willingness to infuse technology into teaching and learning is largely a product of beliefs and attitude which motivate or discourage their actual use (Sorebo, Halvari, Gulli, Kristansen & Wang, 2008). Motivation is the process whereby an individual’s goal-directed activity is instigated and sustained (Schunk, Pintrich & Meece, 2004). Teachers are sometimes self-motivated to integrate technology into the education system. On the other hand, they may be discouraged from adopting technology in teaching and learning by factors beyond their control as in the case of low-resource countries (Khan et al, 2012). This is because technology integration into the classroom involves a radical decision and determination to shift from the didactic ways of teaching to an engaging and participatory teaching style. Previous studies have shown that many teachers do not maximise the potential of technology in teaching and learning (Capper, 2003; Park, 2009; Teo, 2009).

Educational researchers have also investigated variables that encourage teachers’ technology adoption and integration (Wozney, Venkatesh & Abrami, 2006). Although schools may be equipped with modern technological devices in order to provide 21st century learners with the appropriate skills and knowledge, teachers’ positive attitude towards such transformation is very significant. Teachers’ attitude to technology use also influences students’ use of technology for learning (Albirini, 2006; Gulbahar & Guven, 2008). Readiness and willingness to change the role in the classroom from that of a dispenser of knowledge to becoming a facilitator of instructional activities and a co-constructor of knowledge with students prompt teacher’s utilisation of technology in education (Norton, McRobbie & Copper, 2000; Windschitl & Sahl, 2002).

Gulbahar and Guven (2008) investigated the use of ICT among social studies teachers in Turkey. Some of the contributory factors to technology adoption for instruction as identified by the teachers include rewarding technology usage, investment of institutions on in-service programme for instructional technology, development of policies and plans for diffusion of the instructional technology, reducing workload to provide opportunities to teachers for developing instructional materials. Other factors that affect teachers’ readiness to integrate technology in classrooms include teacher’s access to technology (Norris, Sullivan & Poirot, 2003), quality of pre-service and in-service training as well as follow-up support (Norris, Sullivan, Poirot, & Soloway, 2003), administrators, parents, employers and students (Sugar, Crawley & Fine, 2004). Therefore, it could be assumed that teachers’ negative pedagogical philosophy and poor attitude towards technology and its use for instruction may lead to ineffective teaching and underachievement in social studies classes.

Statement of the Problem

Research findings on the positive roles of technology integration in effective teaching and learning of many school subjects are well documented (Wright & Wilson, 2005). However, the literature on technology acceptance and use by social studies teachers in low-resource environments like Nigeria is yet scanty (Berson & Balyta, 2004; Fong, 2009; Jhurree, 2005;
Underwood, et al 2010). Indeed, Shaver (1999) opines that empirical research capable of connecting emerging digital educational technology and social studies is expedient. Therefore, this study was designed to examine the teachers’ values and preferences about technology integration and the extent to which teachers adopt and use educational technology to promote the teaching of social studies in Nigerian primary school classes.

**Purpose of the Study**
The main purpose of this research was to explore teachers’ preference and use of technology in primary social studies classrooms. Based on its theoretical background, the research attempted to answer the following questions:

1. What is the general pattern of teachers’ preference and use of technology in primary social studies classrooms?
2. To what extent do academic qualifications influence social studies teachers’ preference and use of technology in the classroom?
3. Would gender influence teachers’ level of awareness about the value of technology in social studies classrooms?
4. To what extent does academic qualification influence teachers’ level of awareness about the value of technology in social studies classrooms?
5. What are the relative and joint contributions of awareness of the value of technology in education, discouraging factors from, and motivators for, the use of technology to the prediction of teachers’ preference and use of technology in social studies classrooms?

**Methodology**

**Participants**
The population of this study was all primary school teachers in Ogun State, Nigeria. The sample for this study was 295 primary school teachers who were selected through simple random sampling technique from four geographical locations (Ijebu-Ode, Sagamu, Ilaro and Abeokuta) in Ogun State, Nigeria. Among the participants, 221 (74.9%) of them were females, while 73 (25.1%) of them were males. The mean age of all participants involved in this study was 23.76 years (SD = 7.72). There were 2 (0.7%) PhD degree holders, 3 (1.0%) Masters’ degree holders, 72 (24.4%) first degree holders, 143 (48.5%) National Certificate in Education degree holders and 75 (25.4%) Teacher Grade II certificate holders involved in this study. All participants involved in this study taught social studies as a school subject, but the teachers’ specific areas of subject specialisation included social studies, agricultural science, mathematics, economics, business studies, fine-arts, religious studies, health education, languages and elementary science.

**Instrument**
The data analysed for this study were gathered through an instrument developed by the researchers. We developed the instrument named Social Studies Teachers’ Technology Awareness, Motivation and Preference Questionnaire (SSTAMPQ) after a review of literature on social studies teachers and the use of technology in education (Afshari, Bakar, Luan, Samah, & Fooi, 2009; Bingimlas, 2009; Baytak, Tarman, & Ayas, 2011). The instrument had four sections. The first section contained six items that elicited demographic information of the participants. The second section contained 24 different educational technology items. Participants expressed their preference and use of each technology by indicating how frequently they use each of the technologies listed.
The third section of the survey contained five multiple choice questions which assessed participants’ level of awareness and knowledge about the value of educational technology in education. The fourth section of the questionnaire contained twenty items. Ten of the items were generated to determine how some motivating factors encouraged participants’ use of educational technology in social studies classroom. The other ten items of the section related to some factors which discourage teachers’ use of technology in the classroom. Besides the items which elicited the demographic information of the participants, each item in the other sections were rated based on a three-point Likert- scale ranging from 3 = frequently, 2 = sometimes and 1 = never. The Cronbach’s alpha reliability of the instrument was 0.78.

Procedure
The researchers involved five research assistants in the data collection process. At the initial stage of the research, the principal researchers briefed the research assistants on the purpose of the study, and how to administer the questionnaires effectively. A research assistant monitored the administration of the instruments in four of the five geographical locations involved in this study. Two research assistants administered copies of the questionnaire at Abeokuta (in view of its size and being the state capital of Ogun State). In each school, after receiving due permission from the head of the school, each research assistant briefly introduced the study to the participants. Moreover, prior to distributing and completing the questionnaire, all participants were informed of their rights not to participate in the study. The teachers involved in the study were also assured that any information gathered from them would be treated with utmost confidentiality by the research team. In all locations, the research assistants administered copies of the questionnaire onsite to participants in their various schools.

Results
The results from the analysis of the data gathered for this study are presented below in relation to the research questions for this study.

Research Question 1: What is the pattern of primary school teachers’ preference and use of technology in social studies classrooms?
In order to provide an answer to the first research question, Table 1 displays the frequency and percentage of social studies teachers’ use of some of the educational technology resources for teaching and learning process.
### Table 1
Teachers' Preference and Use of Technology in Social Studies Classrooms

<table>
<thead>
<tr>
<th>Item</th>
<th>Never freq</th>
<th>%</th>
<th>Sometimes freq</th>
<th>%</th>
<th>Frequently freq</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Television</td>
<td>131</td>
<td>44.4</td>
<td>121</td>
<td>41.0</td>
<td>43</td>
<td>14.6</td>
</tr>
<tr>
<td>2. Videocassette player</td>
<td>95</td>
<td>32.2</td>
<td>155</td>
<td>52.5</td>
<td>45</td>
<td>15.3</td>
</tr>
<tr>
<td>3. Computers</td>
<td>150</td>
<td>51.0</td>
<td>122</td>
<td>41.5</td>
<td>22</td>
<td>7.5</td>
</tr>
<tr>
<td>4. Textbooks</td>
<td>14</td>
<td>4.8</td>
<td>93</td>
<td>31.5</td>
<td>188</td>
<td>63.7</td>
</tr>
<tr>
<td>5. Multimedia projector</td>
<td>253</td>
<td>85.7</td>
<td>37</td>
<td>12.54</td>
<td>5</td>
<td>1.7</td>
</tr>
<tr>
<td>6. Charts</td>
<td>13</td>
<td>4.4</td>
<td>127</td>
<td>43.1</td>
<td>155</td>
<td>52.5</td>
</tr>
<tr>
<td>7. Internet</td>
<td>268</td>
<td>90.85</td>
<td>26</td>
<td>8.81</td>
<td>1</td>
<td>0.34</td>
</tr>
<tr>
<td>8. Magazines/Newspapers</td>
<td>17</td>
<td>5.8</td>
<td>125</td>
<td>42.5</td>
<td>152</td>
<td>51.7</td>
</tr>
<tr>
<td>9. Pictures</td>
<td>5</td>
<td>1.7</td>
<td>162</td>
<td>55.1</td>
<td>127</td>
<td>43.2</td>
</tr>
<tr>
<td>10. Video Games</td>
<td>90</td>
<td>30.5</td>
<td>147</td>
<td>49.8</td>
<td>58</td>
<td>19.7</td>
</tr>
<tr>
<td>11. Radio</td>
<td>118</td>
<td>40.0</td>
<td>142</td>
<td>48.1</td>
<td>35</td>
<td>11.9</td>
</tr>
<tr>
<td>12. VCD/DVD</td>
<td>210</td>
<td>71.19</td>
<td>83</td>
<td>28.1</td>
<td>2</td>
<td>0.71</td>
</tr>
<tr>
<td>13. Bulletin board</td>
<td>107</td>
<td>36.3</td>
<td>145</td>
<td>49.2</td>
<td>43</td>
<td>14.6</td>
</tr>
<tr>
<td>14. Chalkboard</td>
<td>9</td>
<td>3.1</td>
<td>44</td>
<td>14.92</td>
<td>242</td>
<td>54.08</td>
</tr>
<tr>
<td>15. Interactive video</td>
<td>265</td>
<td>89.83</td>
<td>22</td>
<td>7.46</td>
<td>8</td>
<td>2.71</td>
</tr>
<tr>
<td>16. Digital Cameras</td>
<td>83</td>
<td>28.1</td>
<td>139</td>
<td>47.1</td>
<td>73</td>
<td>24.7</td>
</tr>
<tr>
<td>17. Slides</td>
<td>282</td>
<td>95.59</td>
<td>13</td>
<td>4.41</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>18. Concrete Manipulative models</td>
<td>31</td>
<td>10.5</td>
<td>141</td>
<td>47.8</td>
<td>123</td>
<td>41.7</td>
</tr>
<tr>
<td>(photographs, puppets, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Calculators</td>
<td>136</td>
<td>46.1</td>
<td>129</td>
<td>43.7</td>
<td>30</td>
<td>10.2</td>
</tr>
<tr>
<td>20. Overhead projector</td>
<td>289</td>
<td>97.97</td>
<td>6</td>
<td>2.03</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>21. MP3 / iPod</td>
<td>275</td>
<td>93.22</td>
<td>19</td>
<td>6.44</td>
<td>1</td>
<td>0.34</td>
</tr>
<tr>
<td>22. Mobile phones</td>
<td>122</td>
<td>41.6</td>
<td>145</td>
<td>49.5</td>
<td>26</td>
<td>8.9</td>
</tr>
<tr>
<td>23. Real objects within environment</td>
<td>14</td>
<td>4.8</td>
<td>106</td>
<td>36.2</td>
<td>173</td>
<td>59.0</td>
</tr>
<tr>
<td>24. Public address system</td>
<td>106</td>
<td>36.1</td>
<td>151</td>
<td>51.4</td>
<td>37</td>
<td>12.6</td>
</tr>
</tbody>
</table>
Table 1 presents a profile of social studies teachers’ preference and use of technology in social studies classrooms. The results indicate that textbooks, charts, magazines/newspapers and chalkboard were the most frequently used technology among social studies teachers in Nigerian primary schools. Moreover, video cassette players, pictures, video games, radio, bulletin board, digital camera, concrete manipulative models, mobile phones and public address system were indicated to be fairly used by social studies teachers for instructional purposes. Meanwhile, the social studies teachers claimed never to have integrated television, computers, multimedia projector, Internet, VCD/DVD, interactive video, slides, overhead projector, and MP3/iPod into the classroom instructional process. The results suggest that Nigerian primary school teachers integrated visual media more than they adopted electronic and digital technology into the classroom to enhance the teaching of social studies.

**Research Question 2:** To what extent does academic qualification influence social studies teachers’ preference and use of technology in the classroom?

The descriptive of the distribution of the total number of social studies teachers, as well as the mean and standard deviation of the distribution based on teachers’ academic qualification is presented in Table 2:

Table 2

<table>
<thead>
<tr>
<th>Academic Qualification</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC II</td>
<td>75</td>
<td>68.14</td>
<td>10.19</td>
</tr>
<tr>
<td>NCE</td>
<td>143</td>
<td>71.52</td>
<td>10.37</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>72</td>
<td>78.08</td>
<td>9.57</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>3</td>
<td>78.00</td>
<td>6.25</td>
</tr>
<tr>
<td>PhD</td>
<td>2</td>
<td>80.00</td>
<td>12.73</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>295</td>
<td>72.38</td>
<td>10.70</td>
</tr>
</tbody>
</table>

Table 2 presents the mean and standard deviation statistics of the social studies teachers’ based on their academic qualifications. With respect to social studies teachers’ academic qualification mean score, the results revealed that the PhD holders had the highest mean, followed by the Bachelor degree graduates. The academic qualification mean score for the masters’ degree holders was lower than that of the Bachelor degree holders, but higher when compared with those of the NCE and TC II certificates holders. Meanwhile the TC II certificate holders had the lowest mean.

To find out how academic qualification significantly influenced social studies teachers’ preference and use of technology in classrooms, Analysis of Variance (ANOVA) analysis was performed, and the results are presented in Table 3.
Table 3

**Analysis of Variance Statistics of Social Studies Teachers’ Preference and Use of Technology based on Academic Qualifications**

<table>
<thead>
<tr>
<th></th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>3846.654</td>
<td>3</td>
<td>961.663</td>
<td>9.386</td>
<td>.000</td>
</tr>
<tr>
<td>Within Groups</td>
<td>28892.454</td>
<td>291</td>
<td>102.456</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>32739.108</td>
<td>294</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The analysis of variance in Table 3 presents social studies teachers’ preference and use of technology in teaching and learning based on their academic qualifications. The results indicates a statistically significant difference in social studies teachers’ preference and use of educational technology in teaching and learning (F (3,291) = 9.386, p < .05). The results thus suggest that social studies teachers’ preference and use of technology in the classrooms is dependent upon on their highest academic qualification. In order to determine further patterns of differences in social studies teachers’ preference and use of technology in education according to the varying academic qualifications, Turkey HSD pairwise comparison was performed. The results of the comparison are as presented in Table 4.
Table 4

Pairwise Comparisons of the Differences in Teachers’ Preference and Use of Technology in Education.

<table>
<thead>
<tr>
<th>(I) Qualification</th>
<th>(J) Qualification</th>
<th>Mean Difference (I-J)</th>
<th>Std. Error</th>
<th>Sig.</th>
<th>95% Confidence Interval</th>
<th>Lower Bound</th>
<th>Upper Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCE</td>
<td>TC II</td>
<td>-3.38</td>
<td>1.47</td>
<td>.146</td>
<td>-7.40 - .65</td>
<td>-9.40</td>
<td>2.73</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>TC II</td>
<td>-9.93*</td>
<td>1.71</td>
<td>.000</td>
<td>-14.62 - -5.25</td>
<td>-14.62</td>
<td>-4.94</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>TC II</td>
<td>-9.86</td>
<td>5.97</td>
<td>.465</td>
<td>-26.24 6.51</td>
<td>-26.24</td>
<td>10.02</td>
</tr>
<tr>
<td>TC II</td>
<td>PhD</td>
<td>-11.86</td>
<td>7.26</td>
<td>.477</td>
<td>-31.78 8.06</td>
<td>-31.78</td>
<td>9.06</td>
</tr>
<tr>
<td>TC II</td>
<td>NCE</td>
<td>3.38</td>
<td>1.47</td>
<td>.146</td>
<td>-.65 7.40</td>
<td>2.47</td>
<td>7.73</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>NCE</td>
<td>-6.56*</td>
<td>1.49</td>
<td>.000</td>
<td>-10.64 - -2.47</td>
<td>-10.64</td>
<td>-4.94</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>NCE</td>
<td>-6.48</td>
<td>5.91</td>
<td>.808</td>
<td>-22.70 9.73</td>
<td>-22.70</td>
<td>6.58</td>
</tr>
<tr>
<td>TC II</td>
<td>NCE</td>
<td>9.93*</td>
<td>1.71</td>
<td>.000</td>
<td>5.25 14.62</td>
<td>5.25</td>
<td>14.62</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>Masters Degree</td>
<td>-6.07</td>
<td>5.97</td>
<td>1.000</td>
<td>-16.32 16.46</td>
<td>-16.32</td>
<td>16.46</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>PhD</td>
<td>-1.93</td>
<td>7.26</td>
<td>.999</td>
<td>-21.86 18.01</td>
<td>-21.86</td>
<td>18.01</td>
</tr>
<tr>
<td>Bachelor Degree</td>
<td>PhD</td>
<td>9.86</td>
<td>5.97</td>
<td>.465</td>
<td>-6.51 26.24</td>
<td>-6.51</td>
<td>26.24</td>
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<tr>
<td>Masters Degree</td>
<td>NCE</td>
<td>6.48</td>
<td>5.91</td>
<td>.808</td>
<td>-9.73 22.70</td>
<td>-9.73</td>
<td>22.70</td>
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<tr>
<td>Masters Degree</td>
<td>First Degree</td>
<td>-.07</td>
<td>5.97</td>
<td>1.000</td>
<td>-16.46 16.32</td>
<td>-16.46</td>
<td>16.32</td>
</tr>
<tr>
<td>PhD</td>
<td>Masters Degree</td>
<td>-2.00</td>
<td>9.24</td>
<td>1.000</td>
<td>-27.37 23.37</td>
<td>-27.37</td>
<td>23.37</td>
</tr>
<tr>
<td>TC II</td>
<td>NCE</td>
<td>11.86</td>
<td>7.26</td>
<td>.477</td>
<td>-8.06 31.78</td>
<td>-8.06</td>
<td>31.78</td>
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<tr>
<td>PhD</td>
<td>Masters Degree</td>
<td>1.92</td>
<td>7.26</td>
<td>.999</td>
<td>-18.01 21.86</td>
<td>-18.01</td>
<td>21.86</td>
</tr>
</tbody>
</table>

* The mean difference is significant at the 0.05 level.

Table 4 presents the results of the Turkey pairwise comparison of differences in teachers’ preference and use of technology in social studies classes. The results indicate that there was a statistically significant difference in the preference and the use of technology in the classroom between social studies teachers who were TC II certificate holders and those who were Bachelor degree certificate holders (-9.93, p < .05). In the same vein, there existed a statistically significant difference in preference and the use of technology in teaching and learning between the social studies teachers who were N.C.E holders and Bachelor degree holders (-6.56, p < .05).

However, the results further showed that there was no statistically significant difference in the preference and use of technology in the classroom between social studies teachers who were TC II certificate holders and their counterparts who were N.C.E., masters’ degree, and PhD.
certificates’ holders. Furthermore, no significant differences were found between teachers with N.C.E certificate holders as compared with those with masters’ degree and PhD certificates regarding their preference and use of technology in social studies classes. The results also revealed that, there existed no significant difference between social studies teachers who were Bachelor degree certificate holders when compared with their counterparts who were PhD certificate holders with respect to the use of technological devices in the classroom. The preference and use of technology in teaching and learning between the groups of teachers who were masters’ degree certificate holders and PhD holders was statistically insignificant.

Table 5

*Tukey Post-hoc Analysis of Teachers’ Preference and Use of Technology in Education*

<table>
<thead>
<tr>
<th>Qualification</th>
<th>N</th>
<th>Subset for alpha = 0.05</th>
</tr>
</thead>
<tbody>
<tr>
<td>TC II</td>
<td>72</td>
<td>68.1389</td>
</tr>
<tr>
<td>NCE</td>
<td>141</td>
<td>71.5177</td>
</tr>
<tr>
<td>Masters Degree</td>
<td>3</td>
<td>78.0000</td>
</tr>
<tr>
<td>Bachelors Degree</td>
<td>69</td>
<td>78.0725</td>
</tr>
<tr>
<td>PhD</td>
<td>2</td>
<td>80.0000</td>
</tr>
<tr>
<td>Sig.</td>
<td></td>
<td>.275</td>
</tr>
</tbody>
</table>

The results of Turkey post-hoc analysis in Table 5 showed that, on the overall, there was a subset of teachers regarding preference and use of technology in social studies classrooms based on their academic qualifications. In other words, teachers' preference and use of technology in classrooms were not clearly based on their highest attained academic qualifications.
Research Question 3: Does gender influence teachers’ level of awareness about the value of technology in social studies classrooms?

![Teachers' Awareness of the Value of Technology in Education by Gender](image)

*Figure 1. Teachers’ Awareness of the Value of Technology in Education by Gender*

Figure 1 is the box plot comparing male and female social studies teachers’ levels of awareness about the value of technology in teaching and learning. The figure shows that the median of female and male social studies teachers’ regarding their level of awareness about the value of technology in education was similar. The interquartile and the overall range of the distribution of opinions for male and female social studies teachers regarding their knowledge of the value of technology in education were both similar. The distributions of male and female social studies teachers’ opinions about their level of awareness regarding the value of technology in education were normally distributed. Similarly, neither of the data for groups of teachers showed any conspicuous far out values (outliers) which may require a closer look or further analysis. The results thus suggest that female and male social studies teachers had a similar level of awareness and knowledge about the value of technology in education.
**Research Question 4:** To what extent does academic qualification influence teachers’ level of awareness about the value of technology in social studies classrooms?

Figure 2 shows the box plot comparing social studies teachers’ levels of awareness regarding the value of technology in education. The results indicate that teachers’ levels of knowledge about the value of technology in education were drastically different based on their academic qualifications. Figure 2 further shows that the median for the social studies teachers with masters’ degree was higher than those of other teachers with different academic qualifications but had similar median. While the interquartile range of teachers who were masters degree and TC II certificate holders were similar, those of teachers who were Bachelor degree and NCE holders were almost the same and higher than those of the masters degree and TC II certificate holders. The overall range of the PhD holders was the least while those of the Bachelor degree and NCE holders were the highest.

The data for the first degree and NCE holders were normally distributed while those of the masters’ degree and TC II certificate holders were positively skewed. The results thus indicate that the level of awareness about the value of technology in education was higher among the Bachelor degree and NCE certificate holders when compared with that of other groups of teachers who were PhD, masters’ degree and TC II certificate holders. In each of the data sets, there were no outliers in the distribution. Overall, the results imply that Nigerian social studies teachers of different academic qualifications differed regarding their levels of awareness and knowledge about the relevance of technology in teaching and learning.
Research Question 5: What are the relative and joint contributions of awareness of the value of technology in education, discouraging factors from, and motivators for the use of technology to the prediction of teachers’ preference and use of technology in social studies classrooms?

In order to find out the strength and direction of the association that exist between the predictor and the outcome variables, a Pearson product-moment correlation coefficient analysis was performed, and the results are contained in Table 6.

Table 6

Descriptive Statistics and Correlations Matrix for Teachers’ Preference and Use of Technology in Education and the Independent Variables

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Preference and use</td>
<td></td>
<td>.223*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>B. Awareness / Knowledge</td>
<td>.355*</td>
<td></td>
<td>-.363*</td>
<td></td>
</tr>
<tr>
<td>C. Motivating factors</td>
<td></td>
<td>.522*</td>
<td></td>
<td>-.124*</td>
</tr>
<tr>
<td>D. Discouraging factors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean</td>
<td>72.37</td>
<td>2.01</td>
<td>15.58</td>
<td>17.63</td>
</tr>
<tr>
<td>SD</td>
<td>10.55</td>
<td>1.30</td>
<td>2.34</td>
<td>3.57</td>
</tr>
</tbody>
</table>

The results in Table 6 show the mean and standard deviation statistics of the variables which relate to social studies teachers’ integration of technology in the classroom. The results indicated that teachers’ preference for and use of technology in education had the highest mean while teachers’ awareness of the value of technology in education recorded the lowest mean score. Motivating factors towards the use of technology as a variable recorded a lower average mean score as compared to discouraging factors from using technology in education recorded. The two variables: motivating factors and discouraging factors recorded higher average mean scores when compared to teachers’ awareness of the value of technology in education.

The results in Table 3 also revealed the Pearson product moment correlation of the dependent variable (teachers’ preference and use of educational technology in the classroom) and the independent variables (awareness of the value of technology in education, motivating factors and discouraging factors to the use of technology in education). Teachers’ preference and use of educational technology correlated positively and significantly with teachers’ awareness about the value of technology in education and with motivators towards the use of technology in education. There was a significant and negative correlation between discouraging factors from and motivating factors to the use of technology in education. Teachers’ knowledge about the value of technology in education correlated negatively and significantly with the discouraging factors from the use of technology in teaching and learning.

The results thus suggest that the more teachers realise the value of technology in education, the more they are most likely to be motivated to prefer, adopt and integrate technology in teaching and learning processes. In other words, when teachers are less discouraged from using technology, they are most likely to utilise technology to facilitate effective teaching and learning.
Table 7

Model Summary, Coefficient and t-value of Multiple Regression Analysis of the predictor variables and the Dependent Variable

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>(Constant)</td>
<td>35.678</td>
<td>3.903</td>
</tr>
<tr>
<td>Awareness / Knowledge</td>
<td>1.582</td>
<td>.419</td>
</tr>
<tr>
<td>Motivating factors</td>
<td>.711</td>
<td>.210</td>
</tr>
<tr>
<td>Discouraging factors</td>
<td>1.273</td>
<td>.153</td>
</tr>
</tbody>
</table>

Model Summary
- Multiple $R^2 = .330$
- Multiple $R^2$ (Adjusted) = .324
- Standard Error Estimate = 8.67925
- $F = 47.871$
- Sig. = .000

a. Dependent Variable: Preference and Use

The results in Table 7 indicate that a combination of awareness of the value of technology in education, discouraging factors from and motivators for the use of technology contributed a coefficient of multiple regression of .330 and a multiple correlation square of .324 to the prediction of teachers’ preference and use of technology in social studies classrooms. The implication of the result is that the independent variables accounted for 32.4% of the total variance of social studies teachers’ preference and use of technology in classrooms.

In addition, the results above also indicate that the analysis of variance of the multiple regression data produced an F-ratio value significant at 0.05 level ($F (3,295) = 47.871; p < .05$). The results also show “discouraging factors from the use of technology” as the potent predictor of social studies teachers’ preference and use of technology in the classroom ($\beta = .431, t = 8.304, p = .000$). Meanwhile, “motivators for the use of technology” made the least contribution to the prediction of teachers’ preference and use of technology in social studies classrooms ($\beta = .164, t = 3.391, p = .001$).

Discussion

Findings of this study make significant contributions to research on educational technology use by examining social studies teachers’ preference, and use of educational media in teaching and learning. This study suggests that social studies teachers prefer and utilise text and paper-based visual media as enhancements to the instructional process than the adoption of digital technologies. Similarly, earlier research findings reveal that, during teaching, many teachers rarely or never integrated digital educational tools (e-mails, Facebook, blogs, mailing lists, and chat rooms), subject-specific-software, compact discs, and digital video discs (Almekhlafi &
Almeqdadi, 2010; Peeraer & Petegem, 2010). However, Yeung, Lim, Tay and Lam-Chiang (2012) found that teachers often utilize digital media such as e-mails, cameras, scanners, online social networks, e-books, digital games, and online dictionary to catalyse improved learning outcomes.

The pattern of technology usage displayed by participants of this study might be a reflection of their exposure in and experience of the digital world, and technical “know-how” regarding digital technology innovations. Moreover, awareness and knowledge about best practices regarding technology integration in instruction might have influenced social studies teachers’ attitude towards infusing educational technology in classrooms. It is most likely that a low resource nature of the context of this study inhibited some teachers from adopting and infusing educational technology into an instructional process. Somehow, it seems paradoxical and more daunting when technology-literate teachers find themselves in schools where educational devices are either inadequate or unavailable than in schools that are “technologically-enriched.”

Perhaps, social studies teachers’ low preference and use of educational technology in the classroom is a fall-out of education not being a priority in the Nigeria’s budgetary allocation. When public schools are not well funded by government, providing essential infrastructure and technological facilities might become a herculean task. The multiplier effect is that where Information and Communication Technologies are not available or inadequate in schools, teachers have limited, or no access to them; hence they are less likely to expose students to hands-on learning experience. It is not impossible that social studies teachers’ non-utilisation of digital technology for teaching and learning is connected to how computer laboratories and technological devices in some schools are archived as untouchable “sacred god.”

The analysis of data collected for this study revealed a significant difference among social studies teachers with regards to the preference and the use technology in the classroom based on their academic qualification. The preference and the use of technology in the classrooms for teachers who possess the Teachers Certificate Grade Two certificate and the National Certificate in Education differ when compared with teachers who have a bachelor or postgraduate degree. However, earlier research reported no statistically significant relationship between teachers’ use of Internet, and their competency and professional development (Goos & Bennison, 2008; Loong, 2003). Meanwhile, the finding of Ndahi (1999) that there is an association between teachers’ academic qualification and the use of technology to deliver instruction lends credence to the outcome of this study.

It is worth noting that research findings regarding teachers’ use of technology based on their academic qualification has been inconclusive. For instance, some empirical researchers (Yeung, Lim, Tay, & Lam-Chang, 2012) found that students in the bachelor degree program used digital technologies more frequently than the postgraduate students who were older in age as compared to the former group. Prensky (2007) reported that younger educators are more of Information Communication Technology natives than the older ones. Ndahi (1999) and Bauer and Kenton (2005) concluded that teachers who are highly educated have a higher tendency to use technology for delivery of instruction as compared to those with lower academic qualifications.

We are of the view that an individual will offer to others what he or she possesses. Nigerian social studies teachers with minimum entry teaching qualification are more likely to have less exposure to the avalanche of emerging technologies when compared to teachers who have a bachelor or/and postgraduate degrees. Teachers with postgraduate education are more
likely to participate in government-sponsored ICT training as well as technology-oriented academic activities (seminars, workshops and conferences). Further or continuing education and career development program as a factor might contribute to determining whether or not teachers would desire to integrate educational technology into the classroom. In this study, the non-significant difference observed in the preference and use of technology between teachers with postgraduate degrees and those who have lesser academic qualifications might be connected to the proportion of the sampled teachers who had postgraduate degrees.

Contrary to our expectations, male social studies teachers’ level of awareness regarding the value of technology in teaching and learning was not different from that of their female counterparts. Although previous research (Buabeng-Andoh, 2012; Peeraer & Petegen, 2010) revealed that females tend to be limited in the use of technology as compared to men, Almekhlafi & Almegdadi (2010) report that females are heavy users of technology when compared to males. Corroborating the outcome of this study, Yükseltürk and Bulut (2009) also found a reduced gender gap between males and females regarding the use of the Internet and Web 2.0.

That male and female teachers are not different regarding their level of awareness about the value of technology in the instructional process could be interpreted that the two sets of teachers do not have “autonomous” access to available technological devices in their schools. In some schools, technology/computer laboratories are maintained as non-integral part of the instructional process or subject curriculum. In such ways, teachers, irrespective of their gender are not likely to maximize the potential of technology in the instructional process if they do not have access to technology tools in schools at their beck and call.

Analysis of data revealed academic qualification as a factor that influences social studies teachers’ level of awareness about the value of technology in classroom teaching and learning process. Contradicting the outcome of this study, Sim and Theng (2007) reported no significant association between teachers’ highest academic qualification and their perception of technology in instruction. Perhaps teachers’ level of technology knowledge and skills presumably indicated by their levels of academic exposure and attainment influence their attitude towards integrating technology into the instructional process. It might not be out of place to assume that teachers who pursue further higher education are more likely to be exposed to emerging technologies and acquire additional technology skills. Teachers with additional higher education qualifications gain exposure to technologies in vogue through their participation in academic conferences, seminars, research and other professional development programs.

If Nigerian social studies teachers’ level of awareness about the value of technology in teaching and learning was based on their academic qualifications, to what extent have the “informed” teachers utilized technology to offer students a variety of resource to discover, research, solve problems, collaborate and learn? Our expectation is that the “informed” Nigerian social studies teachers should be using the available digital resources in schools and free online media such as Facebook, Blogs, Skype, Wikis, Twitter, etc. to provoke students’ active engagement and thoughtful discussions during instruction. Unfortunately, only a few integrate some digital resources into teaching social studies. Perhaps the scenario may change if the Nigerian government and the Ministries of Education intensify efforts to communicate teachers about emerging digital technologies that could be harnessed into the instructional process as enhancements.

Moreover, results from the regression analysis suggested that teachers’ awareness of the value of technology, discouraging factors and the motivator for the use of technology were predictive of social studies teachers’ use of technology in the classroom. There seems to a dearth
of studies that have investigated the combination of the independent variables to predict the outcome variable in this study. However, previous independent research revealed that discouraging factors (McManis & Gunnewig, 2012); teachers’ understanding of how technology would enhance education (Jones 2004, Mahamad, Ibrahim & Taib, 2010), and motivating factors (Peeraer and Petegen, 2010) prompt teachers’ determination to infuse technology into the classroom. Contradicting the outcome of this study, Yeung, Lim, Tay and Lam-Chiang (2012) reported that teachers seem to value technology in instruction, but their actual use of the technology in education was very low.

The use of technology in education is challenging and time consuming. Perhaps teachers non-use of digital media as revealed by the results of this study might be connected to the limited available for professional practice, learn more about technology and engage in career development programs required to enhance their status. It may not be out of place to posit that some of these teachers prefer to use emerging technology for personal purposes than integrate them as instructional enhancements. It is worth mentioning that there is a need for teachers to transform learning theories into practice. The essence of scaffolding in learning by assisting students at the zone of proximal development (ZPD) should not only be theoretical but also be implemented practically through technology-artefacts.

Social studies teachers in developing nations like Nigeria to an extent may sound justified for utilizing some digital technology probably because they may think the content of some technological devices does not match cultural context, the age and abilities of the learners. When teachers do not have significant influence on the quality of content embedded in digital media designed for instruction, massive adoption and effective integration of such technology may be daunting.

**Conclusion and Recommendations**

Social studies teachers in the 21st century should be innovative, creative and proactive in adopting technology to compliment their pedagogical inclinations. It is obvious that social studies classroom teaching has shifted from the teacher-centred to small-groups or collaborative and self-directed learning. Unfortunately, teachers who do not understand the value of technology in education integrate technologies in teaching and learning process for the sake of technology application per se. As a matter of fact, when schools fail to provide necessary technology skills students require to succeed in the labour market, national progress might be incremental without a majority of students acquiring the skills they need to sustain themselves. Therefore, besides having “good education policy”, Ministries of Education might need to catalyze regular integration of technology in social studies class by developing guidelines for teachers on effective use of technology in teaching and learning.

Teacher education programs in the various Nigerian universities should be technology-oriented in order to provide opportunities for pre-service teachers to have a good experience with a variety of technology applications for instruction. We are of the view that such opportunities would provide teachers the needed pedagogical content knowledge as connected to technology, and develop teachers’ competence and confidence in as well as a positive attitude towards technology integration in the classroom. Social studies instruction would be enhanced if curricular objectives are linked to technology-based activities while lesson plan development and assessment strategies are technology-driven. It is also imperative to note that when huge amount of funds is expended on procuring technology in schools without providing adequate training for teachers on how to effectively integrate technology, the goals of such investment might be an
illusion. Technology is not an alternative to teachers because technology is not self-transformative in education; hence training teacher is a paramount element to effective integration and application of digital media in social studies instruction.

References


