HOW DO THE PEDAGOGICAL BELIEFS OF PRIMARY SCHOOL TEACHERS AFFECT THE IMPLEMENTATION OF LEARNER CENTRED INSTRUCTION IN THE EARLY CHILDHOOD EDUCATION CURRICULUM? A CASE STUDY OF TWO PRIMARY SCHOOLS IN BARBADOS

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Date of Submission: September 2016

Thesis Submitted In Partial Fulfilment of the Requirements for the Degree of Doctor of Education of the University of Sheffield

ABSTRACT

This qualitative case study was undertaken due to concerns about Barbadian pupils' continuous challenges in answering higher order questions and thinking creatively and critically. Learner centred instruction (LCI) has been deemed by the Barbadian government as an effective approach to counteract these difficulties from the early years. This study therefore aimed to explore and analyze the pedagogical beliefs of teachers in the context of implementing LCI in the Barbadian Early Childhood Education (ECE) Curriculum. The sample consisted of eight teachers purposively selected from the 4-6 age groups of two primary schools, four of whom were observed in their classrooms after being interviewed.

An author designed semi-structured interview schedule and two author-designed checklists comprised the data collection tools. Follow-up interviews were also conducted after observing the lessons. The data were analyzed descriptively.

The findings of the research indicated that all the teachers expressed the belief that LCI in ECE should be implemented as it was important, relevant and beneficial to both teachers and pupils with the pupils deriving long-term benefits and experiencing a greater level of motivation to learn. However interpretation of the data from the classroom observations suggested a "belief-practice gap" (Li, Wang and Wong, 2011, p. 6) in that there was some discrepancy between the teachers' espoused and enacted practices. The main discrepancy concerned the extent to which the teachers demonstrated traditional teaching. They accounted for the inconsistencies as being largely due to contextual factors such as insufficient classroom space, materials, mentorship and training.

Implications are drawn about understanding teachers' beliefs about implementing innovations, about formal teacher education, curriculum reassessment, clear understanding of contextual factors that impact innovations, teacher collaboration and collegiality, administrative support and understanding changes in learning and teaching approaches by partners in education. The findings of this study can provide a reference for other Caribbean islands wishing to implement LCI in ECE.

Keywords: Early Childhood Education, Curriculum, Learner Centred Instruction,Teachers' pedagogical beliefs

ACKNOWLEDGEMENTS

A research study of this nature could not have been successfully completed without valuable contributions from a number of individuals to whom I am indebted.

I first wish to thank Almighty God for his mercies and blessings of life, health and strength and for allowing me to achieve this very important goal.

I am specifically indebted to my supervisor Mr. Jon Scaife without whom the successful completion of this thesis would not have been realised. His expert advice and professional guidance were invaluable and so were his meticulous and insightful contributions which kept me motivated and focused.

I express sincere thanks to Dr. Myrna Patrick for her unwavering support, sacrificial time and consistent encouragement from the commencement to completion of this Thesis.

Heartfelt thanks are also extended to my sister Christiana Harewood, other family members and friends who prayed for, provided emotional and technical support, expressed confidence in my ability to complete this research and encouraged me to keep working even during times of difficulty.

Expressions of gratitude are also owed to the Chief Education Officer of the Ministry of Education who gave permission to conduct this research, the Principals and teachers of the two schools who facilitated the investigations and other colleagues in education who gave their support.

I remain very appreciative to Eunette Blake who first inspired me to pursue doctoral studies and kept me in her prayers throughout the entire journey.

Angela M. Smith

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CHAPTER ONE

IDENTIFICATION OF THE PROBLEM

Background to the problem

A Caribbean Community and Common Market (CARICOM) Heads of Government Summit was held in Jamaica in 1997. At this meeting the governments agreed that education should be considered as the main method to effect essential changes in the Caribbean islands that would prepare its people to effectively cope with current demands: namely social, educational and economic (Ministry of Education, Youth Affairs and Culture June 2000, p. 4).

Barbados acknowledged the critical role which education must play "in bolstering national development" and determined that "it is the curriculum that provides the fuel for the attack" (Ministry of Education, Youth Affairs and Culture June 2000, p. 6).

It must be noted that postcolonial education in Barbados focused on the traditional curriculum which was teacher-centred (Ministry of Education, Youth Affairs and Culture June, 2000) and failed to promote higher order thinking (Ministry of Education, Youth Affairs and Culture, 1999).

The acknowledgement that this curriculum was inadequate seems to suggest that the Ministry shared the concerns of the Caribbean governments, that the needs and interests of all the students, as well as the expectations of our modern society were not being addressed.

Furthermore, in a report of The Barbados National Summit on Education 2004-2008, Dr. Idamay Denny, former Deputy Chief Education Officer, stated that for over a decade eleven year old pupils scored very low in section B of the Barbados Secondary Schools Entrance Examinations (BSSEE) English paper, which was geared at testing their comprehension skills through open-ended questions. She added that pupil performance in section 3 of the Mathematics paper, which assessed the critical thinking skills of the pupils, was also a cause for worry (The University of the West Indies, Cave Hill Campus, 2010).

It is against this general backdrop that the Ministry of Education decided to undertake a reform program in order to improve the educational system by increasing the national success rate. It focused on, among other things, a fundamental examination of the national schools' curriculum. One of the outcomes in 2000 was a revised national Early Childhood Education (ECE) "child-centred" (Ministry of Education, Youth Affairs and Culture September 2000, p. 3) curriculum for nursery and primary schools.

The significant role of teachers in an innovation was highlighted in the White Paper on Education Reform (1995) which stated that if teachers' critical role in the process of educational transformation is not acknowledged, then it would be unsuccessful. This is supported by Marsh (2000 cited in Patrick 2008) who states that if a teacher has negative views about a curriculum then it is unlikely that it would be implemented as intended. Teachers' beliefs must therefore be considered as an integral part of the successful implementation of the revised curriculum.

Rationale for Focus of Research

The impetus for engaging in this research is my genuine love for and involvement in ECE. I believe that the first eight years of a child's life are critical in relation to their holistic development (Essa, 2011; Aldemir and Sezer, 2009; Henniger, 2005) and the provision of quality education at this stage is invaluable. Undoubtedly, the way in which children of early childhood years are educated impacts significantly on their overall success in school, on their attitude towards continuous education and on their life experiences ((Ministry of Education, Youth Affairs and Culture June, 2000).

My Positionality

I was an ECE teacher for eighteen of my twenty three years in the classroom. I was very passionate about my assignment and was fascinated by how young children learn through first-hand experiences and by constructing knowledge for themselves.

Additionally, I was selected by the Ministry of Education to be a member of the ECE National Curriculum Reform Committee which designed the 2000 Curriculum and recommended the adoption of learner centred instruction for pupils 3-7 years old.

I was also seconded to the Ministry of Education as an ECE peripatetic teacher for two years. During my tenure, I encountered teachers who implemented the Curriculum using learner centred instruction, as well as others who continued to teach in the traditional teacher centred way.

For approximately six years I worked as a part-time tutor of the ECE General Interest Programme at the Teachers' Training College. As I interacted with the participants, I realized that some of them were opposed to the idea of using learner centred instruction. I felt that this might have been due to their familiarity and comfort with the traditional method.

As a Principal of a school with ECE classes I also have first-hand experience of teachers who seek to avoid using learner centred instruction, and also have heard reports from other Principals who confirm that a similar situation exists in their respective schools.

Furthermore, having searched the local literature, I am aware that one recent study has been done on the "Quality of the ECE Learning Environments in some Nursery Schools in Barbados" (Murray, 2012), but I have been unable to find any study which was undertaken to determine to what extent the curriculum is being implemented in primary schools using learner centred instruction, or what factors have promoted or hindered its implementation. It would therefore be worthwhile to explore what teachers' beliefs are with regards to its implementation, and what factors have promoted or hindered their use of this instructional approach.

I can make these explorations by hearing the specific thoughts as they are directly expressed by the individual teachers. I share this view because my epistemological assumption is that knowledge is built up by individuals and based on personal experiences, "since it is "actively constructed as individuals . . . make sense of their experiential worlds" (Maclellan and Soden 2004 cited in Yilmaz 2008, p.37) and in order to acquire and gain some understanding of knowledge, I must question the individuals who are involved in the specific social situation. With regards to my axiological position I hold the view that my values shape my understanding and interpretations and influence my perceptions, decisions and actions. My values have

therefore affected how I conducted my research with regards to ethical considerations as well as informed what I value in the results of my research.

Greenbank (2003) suggests that the accusation has been made that educational researchers allow both their educational and political beliefs to prejudice what they choose to investigate as well as the research process and the conclusions which they reach. As a researcher, I acknowledge that I have brought my own experiences, feelings, principles and values into the research process.

Statement of the Problem

Research indicates that the learning as well as the social and emotional outcomes for children in the early childhood education years are enhanced within the context of learner centred classrooms (An and Reigeluth, 2011). To this end, the revised ECE curriculum mandates that two learner centred approaches: The Thematic Approach and The Project Approach be utilized for planning and teaching respectively.

Learner centred instruction can be described as the key to fostering critical thinking skills (Henniger, 2005). However there has been national concern about the consistent lack of evidence of critical thinking skills in the performance of a high percentage of students in both the English and Mathematics papers in the BSSEE. (The University of the West Indies, Cave Hill Campus, 2010).

In addition, research is replete with the view that teachers' beliefs influence the decisions which they make in their classrooms (Chai, 2010; Lim and Chai, 2008; Snider and Roehl, 2007; Smith and Southerland, 2007). These beliefs largely determine teachers' reasons for employing new teaching strategies and coupled with teacher attitudes they impact on the implementation of innovations (Levin and Wadmany 2006/2007).

Purpose of the Study

This study will seek to explore and analyze the beliefs and support requirements of ECE teachers, in the context of implementing learner centred instruction in the Barbadian ECE Curriculum. This is with a view to determining the beliefs and values

that help to inform their pedagogy, and to provide insights into how they can be provided with support in their implementation.

The Research Questions

This qualitative case study will seek to answer the following main question:

How do the pedagogical beliefs of primary school teachers affect the implementation of learner centred instruction in the Early Childhood Education Curriculum? A case study of two primary schools in Barbados.

Creswell (2008, p. 123) advised that research questions can be used for "narrowing and focusing purpose statements." Hence in an effort to answer the main research question responses will be sought to the following five basic questions which underpin this study. Research question number four is the key question for answering the main research question. The questions were formulated from literature reviewed on learner centred instruction and teachers' beliefs as well as my long experience as an early childhood educator.

1. What are particular Barbadian teachers' perceptions of the rationale for adopting learner centred instruction in the context of early childhood education in Barbados?

2. What are particular Barbadian teachers' understandings of the term learner centred instruction in the context of ECE?

3. What are these teachers' declared pedagogical beliefs about learner centred instruction in the context of ECE?

4. How do the pedagogical beliefs of these teachers influence their implementation of learner centred instruction in the ECE curriculum?

5. According to these teachers what are the contextual factors affecting their implementation of learner centred instruction in the ECE curriculum?

Significance of the Study

It is hoped that this study, although specific to Barbados, will also be significant to educators in the Caribbean since there is a dearth of research in this area. It seeks to provide:

1. Policy makers, administrators, and Education Officials with an awareness of teachers' beliefs about the use of learner centred instruction and the impact of these beliefs on their actual classroom practices.

2. Policy makers, administrators, teachers and Education Officials with information as to the factors that promote and those which hinder the successful implementation of learner centred instruction.

3. Officials of the Ministry of Education with information as to how the curriculum is being implemented. It also seeks to aid them in making any necessary additional provision for its successful implementation.

4. Officials of the Ministry of Education with information regarding teachers' beliefs about the role of Principals in the effective implementation of learner centred instruction.

5. Teacher trainers with knowledge of specific areas which need to be addressed in teacher education and training programs based on teachers' beliefs regarding the employment of learner centred instruction.

6. Administrators and ECE teachers with guidance on to how to implement the new ECE curriculum using learner centred instruction.

7. Students with improved opportunities for learning through learner centred instruction.

Definition of Major Terms

It is critical that the meanings of key terms be always defined at the outset of a study in order to assist the readers in understanding them when they are used (Cone and Foster, 2006). Following are working definitions for key terms:

- **Early Childhood Education (ECE)** – "the sum of all the knowledge, skills, attitudes and behaviours experienced by a child during the first seven years of life" (Ministry of Education, Youth Affairs and Culture June 2000, p. 20).
- **Learner Centred Instruction: (LCI)** -"a system of instruction based on a student's individual choices, interests, needs, abilities, learning styles, types of intelligences and educational goals within an authentic context where situated thinking is deemed important" (Yilmaz 2008, p. 38).
- **Curriculum: -** "an organized statement of goals and intended learning outcomes that serve as a framework for decisions about teaching and learning" (Ministry of Education, Youth Affairs and Culture June 2000, p. 6).
- **Teachers' pedagogical beliefs: -** "preferred ways of teaching by teachers" (Chai 2010, p. 128).

Context of Research

The research was undertaken in the island of Barbados, a small independent and developing Caribbean state of 166 square miles with an estimated population of 287,733 as of July 2011 according to the Barbados Statistical Department.

The philosophy underpinning the Barbadian educational system is based on the premise that "each child must be educated to the maximum of his or her ability" (Ministry of Education, Youth Affairs and Culture June 2000, p. 4) and be prepared to contribute to the social and economic growth of the island.

Barbados' educational system is British based and structured in tiers with some overlapping. The Early Childhood facilities are "Day Care Centres, Government and Private Nursery Schools, Nursery units and Infant Departments in primary schools

and one public infant school" (Ministry of Education, Youth Affairs and Culture 2005, p.4).

Pupils ages 7 and 9 are required to write criterion referenced tests in English and Mathematics. The aim of these tests is to "ensure that the system is performing in the way that is expected and that pupils are achieving the objectives and standards established" (Ministry of Education, Youth Affairs and Culture 2005, p.10).

Students, age 11+ "transfer from primary to secondary" schools "on the basis of their performance" (Ministry of Education, Youth Affairs and Culture 2005, p.2) in the BSSEE which consists of an Essay and English and Mathematics.

According to the Ministry of Education, Youth Affairs and Culture (June, 2000) the Government of Barbados believes that "quality education has its roots in Early Childhood Education" (p. 20). The curriculum was therefore designed to demonstrate integration, link prior knowledge with future knowledge, "develop the natural curiosity of children and pave the way for them to be critical and creative thinkers from an early age" (Ministry of Education Youth Affairs and Culture June 2000, p. 21).

It was also designed to operate in a "learner centred" environment in which "learning is relevant and connected to real-life situations", (Ministry of Education, Youth Affairs and Culture June 2000 p. 12) in which students can actively assume responsibility for their own learning, construct knowledge and develop skills, concepts and strategies which they can use to create meaning from information which is presented to them.

The curriculum requires teachers to be innovative, creative facilitators and to promote group work. Since the emphasis is on "outcomes- what the learner becomes and understands, flexible time frames allow learners to work at their own pace" and they are assessed using "non-traditional forms of assessment" (Ministry of Education, Youth Affairs and Culture June 2000, p. 12).

In Barbados, induction rather than professional training is essential for initial entry to the teaching service, but the securing of a permanent appointment requires that

individuals be professionally trained. Training for all teachers occurs at the Teachers' Training College (Ministry of Education, Youth Affairs and Culture, 2005).

Organization of the Thesis

Chapter 1 provides the background to the study, the rationale for the focus of the research, my positionality, a statement of the problem, the purpose of the study, the research questions, and the significance of the study to educators. Also included in this chapter are the definitions of the key terms, the context of the research and the organization of the study.

Chapter 2 presents a critical analysis of the related literature under the following headings:

- Introduction
- Towards an Understanding of LC I in ECE
- High Quality ECE Programs
- Teachers' Pedagogical Beliefs and Classroom Practice
- Beyond Pedagogical Beliefs
- Previous Studies
- Summary

Chapter 3 provides a theoretical framework and describes the procedures that will be employed to conduct the study. It discusses the population and sample selected for the research, methods of data generation, instrumentation, analysis of data, delimitations and limitations of the Study.

Chapter 4 includes the presentation, analysis and discussion of the data from each interview question individually and sequentially. A description of each classroom, summaries of the lessons observed from the two schools, analysis and discussion of classroom observations and an analysis of the post-observation interviews are also included.

Chapter 5 outlines the conclusions which are drawn, summarizes the major findings, discusses broader implications for educational practice, makes recommendations for educators and offers suggestions for future research.

CHAPTER TWO

REVIEW OF RELATED LITERATURE

Introduction

This chapter is a synthesis of selected literature that is pertinent to this study. It commences with a general discussion of the concept of learner centred instruction (LCI) in early childhood education (ECE) and advances through examining the notion of high quality early childhood education programs. It then explores the relationship between teachers' pedagogical beliefs and their classroom practice as well as contextual factors which influence the practice of teachers. A synopsis of previous similar studies is given and the review ends with a summary.

Towards an Understanding of LCI in ECE

Around the beginning of the millennium several studies were conducted and reforms recommended and implemented in ECE curricula and pedagogy (Ebbeck and Chan, 2011; Li, Wang and Wong, 2011; Sofou and Tsafos, 2010; Pan and Liu, 2008; Alvestad and Duncan, 2006; Lee, 2006). The major innovation was a change from traditional methods of teaching to LCI. It is therefore necessary succinctly to describe the major components of traditional teaching and then explain LCI, why it is important and the concomitant changes in the roles of pupils and teachers.

In the traditional teaching mode, pupils are expected to receive knowledge passively and are afforded limited opportunities to think for themselves since teachers spend a lot of time introducing, explaining and analyzing information for the pupils (Jia, 2010). This type of teaching was described as the dissemination of information with activity being excluded from learning and pupils accepting only a small amount of accountability for their own learning (Lim, 2007). The ensuing result was a lack of creativity and critical thinking (Freire 1996 cited in Altinyelken 2011). Conversely, LCI is an approach which has been deemed to be more appropriate for teaching young children. So what is LCI?

LCI has been described by Yilmaz (2009) as "a system of instruction based on a student's individual choices, interests, needs, abilities, learning styles and educational

goals" (p.23). It focuses on "developing real-life skills such as collaboration, higher-order thinking, and problem-solving skills" (An and Reigeluth 2011, p. 54) and the emphasis is not solely on learning but on the learner as well (An and Reigeluth, 2011; Minter, 2011). It leads to the development or improvement of critical thinking skills which require pupils to think and not just memorize and regurgitate information and is based mainly on "constructivist epistemology" which "informs constructivist pedagogy" (Yilmaz 2008, p. 37).

According to Maclellan and Soden (2004 cited in Yilmaz 2008) constructivist epistemology proposes that knowledge is not something waiting to be discovered nor collected from the world or some authority figure, but rather is actively constructed by individuals or groups as they draw on their prior knowledge and personal experiences. This construction of knowledge which includes the development of personal meaning and understanding has to be undertaken by each pupil during each stage of the learning process (Yilmaz, 2008). Pupils are constantly constructing new knowledge during their interaction with people and things in their world because as pointed out by Brooks and Brooks (1993 cited in Paris and Combs 2000) knowledge is "temporary, developmental, socially and culturally mediated and non-objective" (p. 2).

In an environment that promotes LCI which is a constructivist approach, children are at the core of teaching (Jia, 2010) and their learning activities are the main focus (Elen, Clarebout, Leonard and Lowyck, 2007). Teachers are therefore encouraged to take into account what the students already know, build on this prior knowledge and allow the students to use their knowledge in practical ways (Mvududu and Thiel-Burgess, 2012). It is desirable for teachers to create a favourable learning environment for the pupils in which there is interaction. This is critical because from a constructivist perspective, knowledge is socially constructed and therefore while constructing knowledge, it is advantageous for pupils to be given opportunities to co-operate and communicate with persons (Jia, 2010). This kind of learning results in pupils benefitting from "distributed cognition, where the strengths of one student complement the needs of another, and each increases her [his] knowledge base" (Coke 2005, p. 395). The end result is that pupils are enabled to develop their own

knowledge, engage in problem-solving, become innovative and improve cognitively (Jia, 2010).

In constructivist-informed learning environments learning does not take one form but includes approaches such as collaborative learning, inquiry learning, problem-based learning (Sang et al. 2009) and the Project Method. Strategies such as these focus on motivating students by involving them in the teaching and learning processes and conveying to them a sense of responsibility for their own learning.

One of the proponents of the Project Method underscored the importance of young children being involved in real life experiences where they can observe, investigate and interact with people and materials in their surroundings (Katz, 2007). She maintained that pupils' intellectual development is strengthened through activities such as "predicting, theorizing, hypothesizing" and "persisting" (Katz 2007, p. 36). Kostelnik, Soderman and Whiren (2011) also stressed the importance of accompanying real-life experiences with clear explanations and Morrow and Dougherty (2011, p.6) maintained that knowledge is built when pupils interact with the world by using real-life materials, playing, experimenting, using language "and constantly changing and reorganizing their own knowledge". Snider and Roehl (2007) concurred by stating that "meaningful authentic exploration, engaging activities, interactive group work and student ownership of the learning process" are all necessary for facilitating pupils' construction of knowledge (p. 874).

LCI requires that children be actively and independently involved in their learning (Gordon, 2009; Henniger, 2005) since they "learn best through their earnest exploration of the world around them, actively constructing their own understanding of it" (Hurst and Joseph 1998, p.19). Essa (2011) maintained that such knowledge is not conveyed or 'poured' into the child by a source external to the child such as the teacher, but it is something that each child can build up by physically manipulating and transforming materials in the environment which are based on her or his personal interests. She stressed that children are naturally social beings and therefore they spend much of their time interacting with adults and peers. It is through these interactions, coupled with the manipulation of real life objects, that children create their own interpretation of the world (Henniger, 2005). Bay (2011) described these

pupils as ‘scientists’ and “active learners who possess creative, reflective and critical thinking abilities” (p. 896).

When children are taught using the constructivist approach it seems that they reap benefits in various subjects including Mathematics and English (Yang 2002 cited in Mvududu and Thiel-Burgess 2012). The same study also showed that this method could be valuable in helping pupils who were gaining low mathematics scores to improve their marks and also to gain long term positive benefits which far outweighed those of other methods. In English, the pupils seemed to be more involved and on task, were better able to link present learning to prior knowledge by working in groups, retained vocabulary longer, were more focused on the curriculum and were better able to construct new knowledge (Mvududu and Thiel-Burgess, 2012).

Another significant benefit of a constructivist approach to teaching is that children are taught more frequently in small groups. Wasik (2008) expressed the view that when this occurs teaching is enhanced since teachers can provide individualized attention for the pupils in all areas. Furthermore, the children are afforded the opportunity to express their independent views, to engage in conversations with the teacher that promote critical thinking about what they are learning and to receive immediate meaningful feedback (Powell and Kalina, 2009).

Pupils’ needs are also addressed in constructivist teaching. In an effort to achieve this Mvududu and Thiel-Burgess (2012) suggested that pupils’ learning experiences should comprise problems that are of importance to them rather than ones which are mainly important to teachers and the educational system.

Attention therefore needs to be paid to “age appropriateness” and “individual appropriateness” (Kostelnik et al. 2011, p. 20). ‘Age appropriateness’ refers to that which is suitable for the ages of children based on their developmental milestones, while ‘individual appropriateness’ focuses on what is suitable for each child depending on her/his particular personality, personal experiences, attainments and learning styles (Henniger, 2005). It is imperative that all aspects of children’s development be taken into account and ascribed the same level of importance. There must therefore be an intertwining of “the strands of age appropriateness, individual

appropriateness and socio-cultural appropriateness" (Kostelnik et al. 2011, p. 22) with all areas of development in the early childhood classroom.

The mistake of believing that all children understand information in a similar way should not be made by teachers (Mvududu and Thiel-Burgess, 2012). Rather, they ought to be cognizant that it is necessary to make a variety of experiences available so that each child can experience understanding at suitable levels. All in all, pupils are successfully taught through the use of constructivist approaches such as LCI because they are encouraged to think, make sense of their experiences and thus learn beyond mere recall (Mvududu and Thiel-Burgess, 2012).

Teachers have several important roles to play in the classroom where they are implementing LCI and these are distinct from those used in didactic teaching. While in traditional learning environments teachers were expected to instruct and dispense knowledge to children who were considered as passive recipients just learning by rote, or a "blank slate", a "vessel to fill", or a "duck to stuff" (Cuban 1990, p. 4), in the LCI classroom they are responsible for helping the students who are like "rich clay in the hands of an artist" or a "flourishing garden in need of a masterful cultivator" (Cuban 1990, p. 4) to construct new knowledge through their own experiences and prior knowledge (Hursen and Soykara, 2012). This would need to be a common occurrence in all classrooms during every lesson if genuine learning is to be experienced and so that "imagination, knowledge and inspiration can glow within each individual student" (Powell and Kalina 2009, p. 248).

When constructivist methods are employed, teachers are no longer the sole initiators, indoctrinators, or the centre of the classroom focusing on conveying knowledge and treating students as objects for receiving knowledge. Rather they are now the helpers, guides for students' learning, academic consultants for pupils, designers of the teaching environment and organizers and guides of the entire teaching process. They are to guide the pupils (Isikoglu, 2008; Doolittle and Hicks, 2003) to produce new knowledge and experiences from original ideas and to form a connection between prior and new knowledge (Jia, 2010).

Other researchers who shared the notion that the teacher is 'the facilitator' and 'guide on the side' and no longer the 'transmitter of all knowledge', the 'sage on the stage' or 'the dictator' were Mvududu and Thiel-Burgess (2012); An and Reigeluth (2011); Powell and Kalina (2009); Wakefield (2008) and Paris and Combs (2000). Kumar (2011) and Yilmaz (2008) added that teachers are to be reflective practitioners with the ability to identify and utilize strategies which will assist pupils in overcoming any misconceptions in their learning (Doolittle and Hicks, 2003).

It is also necessary in LCI classrooms for teachers to show respect for pupils while guiding and scaffolding their learning (Morrison, 2012), to appreciate differences in their attainments (Rallis, 1995) and promote interaction, contribution of ideas, asking of questions and offering of solutions. The pupils must also "be encouraged to create relationships between events and objects, utilize divergent thinking to solve problems, and be encouraged to take mental risks during problem solving" (Speaker 2001, p.613). The role of the teachers also includes meeting the pupils' socio-emotional needs (McCombs and Whisler, 1997), providing developmentally appropriate instructional activities, creating positive relationships with the children and supporting them by frequently interacting with them to monitor their development and progress (Daniels and Perry, 2003). This interaction would not only be the teachers talking to the pupils but also listening to them (Adams, 2006).

Another specific role of the teacher, who has implemented a constructivist approach such as LCI, is that of 'observer'. Henniger (2005) described observing as being a critical component of both teaching and learning and stated that in order to learn about children and their development as well as assess their progress, careful observation would have to be undertaken by the teacher. He also specified that teachers ought to engage in observing pupils frequently and thoroughly while they are working and playing, so as to be able to effectively address educational issues such as pupils' social interaction, their needs and interests, and their ability to engage in independent problem solving.

A "co-constructor of knowledge" is yet another role of the teacher in LCI as identified by Ebbeck and Chan (2011). This involves helping pupils to "construct their own

learning in a seamless, integrated and holistic way" (ibid 2011, p. 458) and also calls for the teacher to be actively involved in the pupils' learning.

It is important to note that in constructivist teaching there is also a change in the roles of the pupils which mirror those of the teachers. Pupils' main tasks according to Iran-Nejad (2001) are to construct for themselves new knowledge from prior knowledge and develop problem solving and critical thinking skills. Since the construction of knowledge is based on individual experiences, it is essential that opportunities be provided for each pupil to understand information gained from new situations and to fit this information into already existing schemas (Anderson, 2005).

Terhart (2003) described learning as situation and context dependent and pointed out that the process of construction "never starts at ground zero" (p. 31). Rather, learning occurs when the learners' previous ideas and concepts are extended or altered by their new ideas and concepts (Gouws and Dicker, 2011). This creation or recreation of knowledge must be done by the pupils themselves (Perkins, 1999) as genuine learning is not a passive activity (Rallis, 1995; Gordon, 2009) but one that requires pupils to actively construct "their own meanings for an event, object, person, idea or activity" (Rallis 1995, p. 226) as well as to be open-minded to accept new information. Involvement in activities that require them to be "active, scholarly participators in the learning process" (Rallis 1995, p. 39) is therefore essential for the pupils. It is critical that pupils' attainments and differences be appreciated and all children be expected to participate in and contribute to their learning. Rather than merely following directions or memorizing facts they are encouraged to make discoveries, engage in critical thinking, talk about their constructs and use the information acquired (Rallis, 1995).

Supporting the view that knowledge is constructed on two distinct grounds, namely the personal and social was Kumar (2011). Terwell (1999) however pointed out that some of the various factors which affect knowledge-acquisition are diverse experiences, different learning styles, specific interests, working with others and critically reviewing actions. She stressed the importance of interaction, and explained that while learning depends partly on the way in which students participate in activities that foster interaction, the emphasis should be on the quality rather than the amount of interactions.

On the issue of problem-solving, Henniger (2005) argued that this skill is essential for daily living and hence children need to develop appropriate strategies for first recognizing and then successfully solving problems that they may encounter. In order to accomplish this task, it is vital that creative and critical thinking be present. Snyder and Snyder (2008) proposed that students' critical thinking can be developed if they are actively engaged in projects or other activities requiring collaboration, and if the thinking process is modelled and children are guided towards thinking critically. These researchers further underscored the point that in order for pupils to lead effective lives personally and in the future, it is crucial that they be able to solve problems, make valuable decisions and think critically since "students who are able to think critically are able to solve problems effectively" (Snyder and Snyder 2008, p.90).

However in spite of all the benefits that have been identified about learner centred pedagogy and constructivism, it must be noted that not all theorists share the view that this is the only or best conceptualisation of learning and hence they have launched counter arguments. McCarty and Schwandt (2000) spoke favourably about the didactic approach and pointed out that there are "no grounds available for rejecting or disparaging certain versions of didactics" and that didactic teaching is not "always bad teaching" (p.79). They also maintained that no one learning approach should be condemned "whole cloth" since that would be "absolutist thinking about teaching . . ." (p. 80). Selly (1999, p. 5) concurred and explained that the "constructivist approach is not appropriate to all school learning" since knowledge such as the alphabet, spelling words, punctuation rules, arithmetic symbols, compass points and the national anthem "need to be transmitted directly".

Offering support were Hyslop-Margison and Strobel (2008) who stressed that it must not be concluded that there are specific classroom practices which are "inherently preferable to other classroom practices, based on some narrow interpretation of constructivism" (p. 75). They cited Phillips (1995) as describing such a stance as "the ugly side of constructivism" which is 'sectarianism' or "the distrust - even dismissal . . . of rival epistemic theories and possible ways of learning" (p.73). These researchers specified that lecturing as a teaching method should not be totally omitted by teachers

of a constructivist persuasion because there are times when this method is valuable as in the case of when pupils "possess considerable subject knowledge. . ." (p. 74).

With regards to the curriculum being tailor-made to fit each "child's needs and interests" as is advocated in child-centred education, Darling (1994, p. 5) stated that the practical difficulty would be for teachers to "support and monitor" the learning or address the amount of freedom which would result from several pupils engaging in their preferred activities simultaneously.

Refuting the argument by Watson (2001) that through constructivism all pupils irrespective of their levels of attainments can be taught effectively were Green and Gredler (2002). They posited that pupils with learning difficulties would experience challenges in learning by this approach. The three main problems specified were firstly that they would experience challenges with "constructing meaning in authentic contexts, developing approaches to understanding, and drawing connections that allow for generalization" (Green and Gredler 2002, p.63), secondly they would have problems with "individual exploration" due to "the level of skill and self regulation" which is required for reading books and writing on topics of interest and thirdly they might experience barriers due to the "participation structure" which calls for dialogue (p.63). Green and Gredler (2002, p.63) further cited Delpit (1988) who suggested that pupils from "minority cultures or lower socio-economic groups" may also be excluded from environments that seem to be unrestricted because they might not possess the "knowledge and skills" which are needed for them to participate.

Having surveyed the research literature on LCI and constructivist-informed teaching, I will now turn to the theme of ECE.

High Quality ECE Programs

ECE is used broadly to describe various approaches and programs which are specifically designed for children for the first eight years of their lives. The main purposes of these programs are to provide an appropriate environment for young children in which care and safety are priorities (Essa, 2011) and in which there is provision for development in the cognitive, linguistic, social, emotional and physical domains (Kostelnik et al. 2011). It is critical that children be participants in an ECE

program but it should be one which can be described as “high quality”. What are the characteristics of such a program?

In settings of high-quality ECE programs the holistic development of young children is addressed by focusing on their physical, social, emotional, aesthetic, intellectual and language development (Morrison, 2012). In order to achieve this, teachers are encouraged to employ student-centred activities (Chai, 2010) and organize learning in ways that will encourage pupils to become actively involved in the construction of knowledge and “foster high level thinking such as analysis, synthesis and evaluation” (Birbili 2007, p. 141).

Lesson Planning is a “key element of *high quality* early childhood programs . . .” and “distinguishes effective practices from ineffective ones” (Kostelnik et al. 2011, p.72). Successful teaching entails thorough planning because “teachers need to know *why* they are teaching *what* they are teaching and *how* they are going to teach” (Kostelnik et al. 2011, p.72). The plans must be tailored to address the needs, interests and attainments of the pupils and not be a “one size fits all” (Kostelnik et al. 2011, p. 72). They must also not only be developmentally appropriate but also contextual in nature as such thorough preparation would inevitably result in “intentional instruction that benefits young children” (p.71).

All children regardless of their attainments should be provided with appropriate learning activities which should be included in the teachers’ planning (Kostelnik et al. 2011; Hsiao and Yang, 2010; Henniger, 2005) and attention should be paid to each learner’s “personal needs, preferences, interests, and competencies” (McCombs and Whisler 1997, p. 33) since this will allow each of them to develop critical knowledge and skills. This is of significant import since these are traits which seem to be lacking in some children and has become a cause for concern.

Lesson planning which is “thorough”, “specific”, “process-oriented” and “student-centred” “enables the teaching-learning processes to be valuable and productive” while that which is “sporadic” “haphazard”, “inflexible, procedurally vague and teacher-oriented, tends to be less successful” . . . and “results in unfocused and unproductive learning experiences” (Dorovolomo, Phan and Maebuta 2010, p. 448).

This includes chaos in classrooms, inappropriate pupil behaviours, lack of stimulation to learn, boredom and discouragement.

"Readymade plans available online, or borrowed from another teacher, or utilized year after year with little variation are not always educationally sound nor will they automatically work well with every group of children" (Kostelnik et al. 2011, p.72). This is supported by the fact that children possess learning differences and since this may impact on their ability to engage actively in learning, plans for large group instruction should not be prepared and then adjustments made to cater to individual pupils. Rather, teachers should "be taught effective, efficient, and proactive approaches to lesson planning in order to meet the needs of all their students" (Williams, Evans and King 2012, p.213). Additionally, it is critical that teachers have a sound knowledge of the overall trends of how children develop and learn, since the more they know and understand about the developmental characteristics and possible deviations from the norm, the better equipped they would be to prepare suitable learning activities for their classes (Henniger, 2005).

Appropriate learning experiences include the children busily "exploring their indoor and outdoor environments and interacting with other children and adults" (Henniger 2005, p.84). Thus in high quality ECE programs, along with what children learn, consideration is also given to how they learn and this necessitates advanced planning and setting up of the learning environment by the teacher. The learning environment, both outdoor and indoor, is therefore a critical element of high-quality ECE programs and indeed of educating generally. It should be organized to promote maximum growth and development and contain opportunities for learning and exploration. This is necessary since the kind and level of involvement of the pupils, as well as the quality of their interactions with adults and peers are affected by the available classroom space and materials (Essa, 2011; Kostelnik et al. 2011, Henniger, 2005).

"More space" along with "more toys and equipment" (Essa and Burnham 2001 cited in Prochner, Cleghorn and Green 2008, p.194) have been identified as indicators of high quality ECE programmes. The classroom should be large enough to accommodate the range of activities which would be undertaken in it (Tanner, 2008). These include providing security, shelter and opportunities for social contact (Essa,

2011; Sahin, Erden and Akar, 2011;) through small and large group activities, the establishing of Learning Centres (Henniger, 2005) and learning through "social, sensory, creative, constructive and dramatic activities . . ." (Stephen, Ellis and Martlew 2010, p. 317). Also of critical importance for classroom activities are provision for "good traffic flow" (Sahin, Erden and Akar, 2011, p.187), easy access to "supplies and equipment and the creation of private spaces" (Essa, 2011). Space should also be allocated for the display of children's work as this is another feature of a quality learning environment. It provides a welcoming feeling as well as greater "feelings of ownership and involvement, leading to improved motivation" (Maxwell 2000 cited in Woolner, Hall, Higgins, McCaughey and Wall 2007, p.59) and more positive feelings (Killeen et al. 2003 cited in Woolner et al. 2007) since their displayed work also communicates that their ideas and efforts have value and are worth displaying (Darling, 1994). Art work in particular, according to Kim, Park and Lee (2001) enhances the early childhood learning environment. It therefore seems that when there is a shortage of space the result is various problems such as "excess levels of stimulation; stress and arousal. . ." (Wohlwill & van Vliet 1985 cited in Tanner 2008, p.450).

Another characteristic of a quality learning environment according to The Ministry of Education, Youth Affairs and Culture (June 2000, p. 21) is one in which "concrete and multisensory materials and tools" and "real life experiences" are available. Consequently, a rich variety of play and learning materials should be available in every early childhood classroom, and they should be developmentally appropriate, promote active involvement and exploration, enhance the children's imaginations and problem-solving skills (Essa, 2011) and consist of "appropriate activities for different ability levels" (Speaker 2001, p. 611). The materials should also cater to the different interests of the pupils, develop their fine and gross motor skills, promote creativity and language use, encourage socialization and provide an outlet for their emotional needs (Essa, 2011). This is crucial, for when young children interact with manipulatives, they develop increased sensory experiences, achieve relaxation and satisfaction, and may be assisted in reasoning mentally (Watson, 2001).

Teaching is affected either positively or negatively by the availability of materials in the classroom. In relation to this Varol and Farran (2006) pointed out that an adequate

supply may have a significant effect on students' academic success. Furthermore, the materials which the teachers deemed as being essential and therefore selected for their lessons could increase the effectiveness of their instruction (Turel and Varol 2012, p.17) by improving "motivation, readiness to learn and students' activities, which are . . . the key factors of learning achievements" (Mazgon and Stefanc 2012, p. 176). It is therefore essential that materials are "prepared in such a way that they help the teacher with quality planning and carrying out of the teaching process and students with their independent learning, that is, gaining, revising, reflecting on, valuing and using knowledge" (Mazgon and Stefanc 2012, p. 174).

Extending the point on the use of materials, Henniger (2005, p.290) opined that pupils' understanding is fostered through practical interaction with manipulatives, and the promotion of "positive peer interaction" (Essa 2011, p. 192). Therefore quality early childhood education environments should be organized for developmentally appropriate play through the establishment of a variety of Learning Centres with each containing "specialized materials" (Henniger 2005, p. 238). Some of the open-ended materials that should be available in the centres are "a wide variety of art materials, manipulatives, blocks, sensory materials, puppets, dramatic play props [and] musical instruments . . ." (Essa 2011, p. 259).

Learning occurs best in social contexts when there is meaningful interaction with peers and adults (Hurst and Joseph, 1998) and hence learning environments should be participatory and democratic and organized in a way that allows for working together (Altinyelken, 2011).

This does not mean however that learning will occur automatically because there is social interaction, but rather it is what happens during the social interaction, especially the use of language, that is "taken over and internalized by the child" (Wood and Attfield 1996, p.55). Consequently, the conditions which educators provide for children to think and learn, coupled with their self motivation and aspirations, contribute significantly to the ways in which the children will come to know and understand. However, where materials or the context create a challenge for them they may require "skilled assistance" (Wood and Attfield 1996, p. 58) or where they are unable to perceive the relationship between materials and concepts it would be

necessary for them to engage in classroom discussions and co-operative activities with peers and teachers (Varol and Farran, 2006). One common activity which promotes interaction and cooperation among children is play.

Play is accepted by several researchers as being valuable to the learning and development of young children either directly or indirectly (Kostelnik et al. 2011; Wood, 2009; Henniger, 2005; Essa, 2011; Wood and Attfield 1996). It is their natural way of learning and hence should incorporate daily learning experiences rather than have them engage in activities which are inflexible, dull and boring (Jalongo, Fennimore, Pattnaik, Laverick, Brewster and Mutuku, 2004). Play can be incorporated in several activities and behaviours of young children, serve various purposes at different developmental stages, offer "powerful ways of learning" (Hurst and Joseph 1998, p. 54) and is also a vital component of active learning whether it is initiated by the child or teacher.

If play is of "good quality" then it will result in "positive learning outcomes" (Wood 2009, p.28) which would include the development of problem solving, imaginative, interactive and divergent thinking skills, improved language, and creative use of materials (Wood and Attfield, 1996).

One of the activities which promotes development of the social processes is symbolic play (Wood and Attfield, 1996). This includes "pretend, fantasy and socio-dramatic play" (p. 20) which affords opportunities for sharing ideas, helps to "clarify misunderstandings and provides additional perspectives that enrich the learning experiences" (Henniger 2005, p. 355).This is the type of play which is primarily used during Learning Centre activities when children are afforded opportunities for interaction with persons and materials. It can take place indoors as well as outdoors.

The outdoor environment "is one area of the early childhood curriculum that has been significantly undervalued and has the potential for being a rich part of children's lives" (Henniger 2005, p.274). It is therefore advantageous for teachers to reassess their previously held beliefs about playgrounds and regard them as "an extension of the indoor environment" (Henniger 2005, p.274). A selected "outdoor area can also be enhanced by creating defined Learning Centres that are more permanent, similar to those used indoors" (Essa 2011, p.203). Teachers can examine the indoor materials

and select some of those or similar ones to be used outdoors, for "children learn best by physically manipulating the materials and equipment in their environment, and these should be readily available to them outdoors" (Henniger 2005, p.272).

The boundary of the learning environment does not have to be confined to the four walls of a classroom but should be extended into the outdoors or any appropriate place where teaching can effectively occur. Thus,

> while organizing learning-settings, any in-class and out-of-class area deemed appropriate should be utilized by taking into consideration the curriculum objectives, general education principles, facilities provided by the environment and the cultural experiences of the school environment (Durmusoglu 2008, p. 42).

School culture "shape[s] all the activities that occur in schools including teaching and learning" (Gordon 2009, p.43) and this involves the implementation of innovations. Since in Barbados teachers tend to be assigned to schools longer than principals, they seemingly contribute to the development of school culture in a greater way. Therefore, whether an innovation is successfully implemented or not depends to a large extent on the quality of teachers who are assigned to the school (Ng, 2009). A quality learning environment is one in which persons expect and accept change since they regard advancement by individuals as well as organizations as being valuable (Rallis, 1995). "The school is the centre of change and both principals and teachers play important roles in the change process" (Goodlad 1994 cited in Ng 2009, p. 189). Consequently in order for schools to be effective and efficient in implementing change all persons must be open to and embrace the change process. One such change is the integration of technology. This can be used to engage pupils in "problem solving, critical thinking, and collaborative learning . . ." (Chen 2008, p.73).

In the "constructivist-oriented view of learning" (Kemp and Scaife 2012, p. 182) teachers are required to make decisions as to the most appropriate type of assessment they will use to provide feedback to the pupils as they engage in learning. This is necessary since assessment can be used mainly "for learning" or mainly "for teaching" (Scaife and Wellington 2010, p. 137) and therefore is one of the characteristics used to help determine a high-quality learning environment.

Assessment is described as “a systematic procedure for obtaining information from observation, interviews, portfolios, projects, tests, and other sources” (Council of Chief State School Officers, 2008 cited in Essa 2011, p. 166) such as “anecdotal records”, “rating scales”, and samples of children’s work” (Kostelnik et al. 2011 p. 82) “that can be used to make judgments about characteristics of children or programs” (Essa, 2011 p. 166). All of these strategies allow for the recording of naturally occurring behaviours of the children as they engage in their daily routines.

These procedures are described by Bagnato and Ho (2006) as “authentic assessment” and Essa (2011) indicated that it is continuous and addresses all the developmental domains of the child. This type of assessment which can also be described as diagnostic, is consistent with constructivist teaching as it allows teachers to become aware of the prior learning and understanding of each pupil, is based on the application of knowledge and skills (Kemp and Scaife, 2012) and also measures what pupils know and can do (Williams, 2011). Additionally, it makes provision for the teacher to evaluate lessons that were previously taught, aids in making decisions about what else is necessary for the pupils to learn in subsequent lessons (Kemp and Scaife, 2012) and allows for the identification of appropriate strategies that can be used with the children in the future. Varol and Farran (2006) also noted that assessment enables teachers to acquire information about the pupils’ skills and potential, provides constructive feedback for the pupils and aids the teacher in improving teaching. The result is that the pupils “have appropriate and beneficial educational experiences and expectations” (Bagnato and Ho 2006, p. 30).

While pencil and paper tests may be used when appropriate in learner-centred classrooms, it should however not be the only form of assessment (McCombs and Whisler, 1997) since “evaluating a child’s ability and achievement by only looking at the results of testing may seriously decrease the motivation and self-esteem of children and lead to premature and often erroneous labelling of children” (Bagnato and Ho 2006, p. 24).

I now explore the relationship between teachers’ pedagogical beliefs and their classroom practice.

Teachers' Pedagogical Beliefs and Classroom Practice

Teachers' pedagogical beliefs have been described "as the most valuable psychological construct to teacher education" (Mansour 2009, p.25), but since they are very challenging to define they are also termed a "messy construct" (Pajares 1992 cited in Mansour 2009, p.25). Beliefs, according to Hsiao and Yang (2010, p. 299) "are hidden in every person's heart" and according to Beswick (2006) are formed as a result of teachers' own experiences, their education and classroom experiences. The associated fundamental values which are developed over an expanse of time affect their thinking and decisions, influence their "teaching behaviour" and effectiveness (Hsiao and Yang, 2010) and play "an important role in teacher-student relationships and a student's achievement" (Hsiao and Yang 2010, p. 300). So profound is this, that when compared to teachers' knowledge, pedagogical beliefs play a much greater role in influencing the way teachers teach (Nespor 1987 cited in Mansour 2009, p. 27). In fact, they "can almost be considered as the primary factor that determines the success of education" (Hsiao and Yang 2010, p. 300) since they

> are like the part of the iceberg that is hidden under the sea level; this larger proportion of the iceberg securely supports the smaller portion above sea level, providing tremendous influence to one's behaviour (Hsiao and Yang 2010, p. 299).

Some research therefore suggests that there is a "complex and context dependent" (Mansour 2009, p. 25) relationship between teachers' beliefs and their classroom practices (Chai, 2010; Sang, Valcke, Braak and Tondeur, 2009; Mansour, 2009; Snider and Roehl, 2007; Ertmer, 2005; Fang, 1996). Identifying five areas of teachers' beliefs which could be interrelated Calderhead (1996 cited in Uztosun 2013, p. 21) listed "beliefs about learners and learning, beliefs about teaching, beliefs about subject, beliefs about learning to teach, and beliefs about self and the teaching role." In the same vein, Erkmen (2012) acknowledged that what teachers believe about themselves, their students, and teaching and learning, influences the ways in which they view and approach their work. Also in agreement were Sang et al. (2009, p. 363) who maintained that teachers' educational beliefs affect "teaching practices, classroom judgements and classroom management" as well as their "instructional planning and practices" and "the potential success of educational reforms." The behaviours which they display in the classroom will be based on their teaching beliefs

and will be such that allow them to "achieve their educational goals or implement their educational beliefs" (Hsiao and Yang 2010, p. 304). This could be deemed one of the reasons for the suggestion by Sang et al. (2009, p. 363) that the beliefs of these educators can be used "as the lens" through which we examine their classroom behaviours and decisions.

Not all researchers however subscribe to the view of there being a strong relationship between teachers' beliefs and practice. An earlier study conducted by Duffy and Anderson (1984 cited in Snider and Roehl 2007, p. 874) concluded that "the relationship between beliefs and practice was very weak" and that teachers used "contextual factors such as classroom management and routine or learner characteristics such as age, ability [and] learning style . . ." to make determinations about the way they teach.

It must be noted however that "teacher behaviours are not always consistent with their beliefs" (Mansour 2009, p.31). For example, while undergoing teacher training, teachers tend to employ child-centred approaches, but when they embark in teaching on a full time basis, "they revert to a control-oriented belief system" (Mansour 2009, p.31). Furthermore once they have been taught and have become comfortable working in traditional learning environments and teaching using traditional methods (Levin and Wadmany, 2006/2007; Matzen and Edmunds, 2007; Ertmer, 2005) they "are likely to hold on to traditional beliefs of teaching and learning" (Lim 2007, p.115). It therefore becomes very difficult to get them to alter their underlying instructional beliefs and practices toward student-centred learning.

Teachers' beliefs are large determinants of if, why and how they will adopt new teaching methods (Levin and Wadmany, 2006/2007), since beliefs coupled with attitudes impact on the implementation of innovations. McCombs and Whisler (1997, p.16) reasoned that "people need to know why such a shift is needed, what the shift entails and how to make the shift". They further pointed out that change tends to occur when individuals assess and reflect on their fundamental beliefs and assumptions. Adding support was Beswick (2006, p. 21) who posited that "real and lasting change is achieved only if teachers' belief systems support the underlying premises of the changes they are asked to implement". She further added that if

teachers do not consider the reform to be worthwhile, while they may "mouth 'suitable' views or perform certain actions" (Beswick 2006, p. 21) nothing substantial will be accomplished. Thus in order for a reform such as LCI to be successfully implemented, teachers must reflect on their deep-seated beliefs, be open to new ideas and new practices, be willing "to learn how to learn, unlearn and relearn, and to understand and accept the need for change" (Lim 2007, p. 115).

Literature has identified a disconnection between teachers' espoused practices and their enacted practices. Studies conducted by Polly and Hannafin (2011) and Schneider, Krajcik and Blumenfeld, (2005) and others reported in Wen et al. (2011) all revealed that while teachers indicated they were implementing learner centred instruction, they were observed to be actually using didactic teaching during their lessons. One possible reason for this as suggested by Ertmer (2005) is that teachers are likely to only teach in ways that align with what they believe. Furthermore, "some beliefs are held more strongly than others. The centrally held beliefs are harder to change, while the peripherally held beliefs are more open to discussion, examination and change" (Drageset 2010, p. 32). Therefore providing teachers with "resources, curriculum materials and ideas" (Beswick 2006, p. 21) and not addressing their deep seated beliefs will not necessarily result in a change in their behaviours. The recommendation is therefore made by Ertmer (2005, p. 29) that in order to understand teachers' beliefs, inferences must be made "based on what teachers say, intend and do".

Beyond Pedagogical Beliefs

While teachers' pedagogical beliefs impact on the choices they make about teaching, there are contextual factors which also influence their instructional decisions. Ashton (1990 cited in Fang 1996) conveyed that teachers use classroom factors or the socio-cultural conditions in which they work to help in deciding how they will teach. These include classroom routines, socio-emotional characteristics, pupils' attainment and ways in which children learn. This would hold some relevance because "students learn in different ways, with a mix of motives, beliefs and perceptions of the contexts they are in" (Chan 2010, p. 9) and these characteristics impact how they learn. Consequently, pupil differences would likely be one of the factors which influences the way teachers teach.

In this regard, it is important that early childhood professionals put learners as their priority in teaching, "know and appreciate their learners as individuals" (McCombs and Miller 2007, p.35) or "singular human beings" and not as "a cohort group" (Kostelnik et al. 2011, p.23) and have "explicit individual behavioural and academic expectations for each child depending on his or her needs" (Morrison 2012, p.58). Teachers ought to also become aware that "the primary mission of an effective learning process is to understand each student's quality and uniqueness" (Hsiao and Yang 2010, p.306) and meet the children at their specific developmental stage. Additionally, educators have a duty to aid the pupils in proceeding towards the next required level by designing "a series of appropriate curriculum materials and teaching activities so that students' learning effectiveness can be enhanced" (Hsiao and Yang 2010, p.306).

It would also be prudent for educators to consider facts about children's development and ways of learning in order to select appropriate ECE content and methods (Kostelnik et al. 2011). This should be done for all children, regardless of their current accomplishments. It is essential therefore that teachers avoid ignoring or neglecting the differences in pupils regardless of whether the pupils were born with the differences or acquired them afterwards and instead should ensure that all varied factors are taken into consideration during planning and teaching. As such the social and cultural contexts in which the children live, as well as their "beliefs, history and experiences" can be integrated into teaching in ways that make sense to them and "enable them to flourish as learners" (Kostelnik et al. 2011, p.6).

This type of teaching cannot be underestimated, for in most classrooms there will be children of

> different developmental levels and capacities, different races and ethnicities, diverse religions and cultural beliefs and backgrounds . . . with diverse strengths and differences . . . with different learning styles and needs" and with "a history of experiences, of feelings, pains and triumphs . . . (Morrison 2012, p. 29).

Support for this stance was offered by McCombs and Whisler (1997) who agreed that learner centred teaching should take into account the diverse and distinctive needs and

learning styles of the pupils. They went on to suggest that this can be done by ensuring that at least some lessons are taught in a way to cater to more than one "learning style". By so doing all the pupils would have their dominant learning style employed at some point, resulting in their motivation being enhanced and their learning maximized. Lessons should also allow pupils to have a voice, reflect that learning is a partnership between pupils and teachers and afford opportunities to promote positive relationships and collaboration between teachers and pupils and between pupils and peers (McCombs and Miller, 2007; Speaker, 2001; Beck, Czerniak and Lumpe, 2000).

Another factor which may influence the way in which teachers teach is their belief about pupils' love of activity. While young children may display varied characteristics, one thing which they have in common is their love of activity. They are highly curious about everything which they see and hear and enjoy experimenting with all kinds of materials in their environment (Hildebrand, 1997). They "use their whole bodies as instruments of learning, taking in data through all their senses" and "connect [their] thought with behaviour [by] "exploring, discovering, acquiring, and applying new knowledge and skills" (Kostelnik et al. 2011, p.41).

It stands to reason then that teachers who hold the view that young children love and learn from activity will provide multiple opportunities for them to engage in play and hands on activities so that they may deepen their understanding of concepts (Sherwood and Reifel, 2010; Wood, 2009; Wasik, 2008).

"Teaching is one of the most important professions" . . . since it is "an opportunity to shape minds and lives and to develop society through sharing and co-constructing of ideas" (Miller and Roofe 2013, p. 95). In order to achieve this, good quality teaching is necessary and should commence with the preparation of trainee teachers by "high quality well trained teacher-educators" (Miller and Roofe 2013, p. 97) in a quality teacher training institution. According to Shulman (1987 cited in Mansour 2009, p. 35) "formal teacher education" is one of the four sources on which teachers' thinking is based. Chan (2010) proposed a link by stating that interaction between teachers' beliefs and teacher education programmes "shape a pre-service teacher's conceptions about teaching and learning, which underpin her/his personal theories about teaching

and learning" (p. 14). The teachers' experiences and how they interpret them greatly influence their classroom behaviour (Miller and Roofe, 2013) since they use these conceptions and personal theories to set rules and principles to guide their classroom practices. This cannot be overlooked since these same teachers are the ones who will have responsibility to "transform classroom contexts to influence the lives of students" (Miller and Roofe 2013, p.95).

While undergoing teacher training, it is crucial that student teachers be provided with experiences that would assist them in understanding and employing teaching methods suitable for young children (Anderson 2005). This is significant since when teachers leave formal training and engage in full time teaching either they become "increasingly progressive" or practice "traditional beliefs" (Cohen 1993 cited in Mansour 2009, p. 36). Whichever position the teachers adopt is subject to change depending on various factors such as

> the strength of the inherent/held beliefs, teacher education experiences encountered in the teacher education programmes, teaching practices . . . education reforms and the period of exposure to constructivism promoted in the course of study (Chan 2010, p.15).

Research reveals that teachers are more likely to teach using a constructivist approach "if they themselves are taught in this way" and therefore it is essential that pre-service teachers receive "a proper education" that includes 'inquiry, interactive, and hands-on activities" (Tafrova-Grigorova, Boiadjieva, Emilov and Kirova, 2012 p. 191). Trained teachers as well as student teachers should "be exposed to constructivist teaching" if they are to "construct or reconstruct their beliefs about teaching" (Yilmaz and Sahin 2011, p. 74). This is of significant import since both groups of teachers will need to employ their learning in different classroom situations including during curriculum reform (Kumar, 2011).

The importance of training teachers for reform was emphasized by Ng (2009) who suggested that "prior to initiating reforms, teachers should be provided with sufficient professional development training in various areas" (p. 201). He further noted that the purpose of these programs should be to help the teachers to address their problems competently. A matter of concern must therefore be the style of training which is used by facilitators in teacher training institutions.

Since “teaching well is not instinctive” (Jalongo, Fennimore, Pattnaik, Laverick, Brewster and Mutuku 2004, p.147) attention should be paid to “initial training” for student teachers and “ongoing professional development” for in service teachers. (Jalongo et al. 2004, p.146). It is essential that teachers of young children receive thorough preparation in early childhood content as well as in other teaching related areas (Jalongo et al. 2004) and that in service teachers “continuously update their knowledge and skills” by participating “in various forms of training . . since “teachers who receive more professional development feel more effective” (Tafrova-Grigorova et al. 2012, p. 191).

Teaching experiences have been identified as other sources of teachers’ beliefs by Mansour (2009). He explained that these events may comprise two types, namely, in-service training which is formal and “every-day contacts” of the teachers which are informal. Both of these impact teachers’ beliefs and knowledge resulting in their classroom activities being conducted in a way which reflect their various experiences. Sang et al. (2009) in elucidating the view that teaching is a cultural activity maintained that “teachers’ educational beliefs may be largely shaped by culturally shared experiences and values” (p.366) and confirmed “in context-specific environments where their instructional experience is successful” (Mansour 2009, p. 33). Therefore in order to understand the classroom practices of a teacher, the contexts in which they work must be understood.

Included in the working environment of teachers are formal or informal mentoring programs where there is a mentor and a protégé. The mentor would be the guide or companion who “sets the example and guides the protégé to develop into a successful individual in her or his own respect” (Vierstraete 2005, p. 382). It is also the duty of the mentor teachers to be knowledgeable in the areas of curriculum, teaching methods and classroom organization (Vierstraete, 2005; Moore et al. 2002) as they “impact the future of education and how future educators teach” (Vierstraete 2005, p. 384). The protégé would be the one who “works to further develop teaching confidence and skills” (p. 385).

Induction or mentoring, two expressions which “are currently often used interchangeably,” (Ingersoll and Smith 2004, p. 29) have been proven by most studies

to be valuable for assisting teachers to "become socialized into the teaching profession and feel greater amounts of support about daily teaching responsibilities" (Clark and Byrnes 2012, p. 52), help teachers to improve their teaching, aid them in the preparation of appropriate lesson plans, facilitate their provision of activities that cater to the pupils' interests and assist in the establishment and maintenance of discipline and an overall positive classroom environment. Furthermore, it has been found that the pupils of teachers who access induction courses tend to perform better academically (Ingersoll, 2012).

It is worthwhile for new teachers to interact with "experienced colleagues who will take their daily dilemmas seriously, watch them teach and provide feedback, help them develop instructional strategies, model skilled teaching and share insights about students' work and lives" (Moore et al. 2002, p.13). A concern expressed in the study conducted by Moore et al. (2002) was that while experienced teachers possessed several skills, new teachers who were working relatively near to them did not have access to their expertise. They therefore pointed out that it is important for schools to foster ongoing induction of new teachers by putting structures in place to allow them to discuss pupils, plan lessons together, visit each other's classroom, observe lessons, engage in reflection and hone their teaching skills together, with the ultimate goal being improvement in the learning and development of pupils (Ingersoll and Smith, 2004).

Also concurring were Roberson and Roberson (2009, p. 117) who added that "principals need to encourage novice teachers to seek feedback from those around them, particularly from master teachers and quality veteran teachers". They further added that such individuals should be "positive, invested, experienced people-as opposed to negative, detached, ambivalent people" who can assist the inexperienced teachers.

Supporting the notion of school induction programs was Ingersoll (2012) who suggested that these should not be just general training, but specific programs for teachers who formerly accessed basic training, and could be "classes, workshops, orientations, seminars, and especially mentoring" (Ingersoll and Smith 2004, p. 29).

Such activities could include not only teacher orientation, but also support and guidance.

Teacher collaboration, described as “the most positive [element] in school culture” is a vital component of mentorship (Sahin 2011, p. 1923) and therefore one of the roles of administrators is to provide opportunities for fostering it along with the “sharing of leadership and professional development in order to create a positive and collaborative school culture” (Sahin 2011, p. 1924).

Principals who support a culture of collaboration “ensure that their active support for such a culture is obvious to all” and they address issues such as “developing a culture of trust within the school” and “ensuring that school personnel feel they will be supported in risk taking . . .” (Waldron and Mcleskey 2010, p. 67). These “effective principals lead staffs [sic] to establish student-focused visions and actions by providing the necessary instructional leadership and creating a culture fully focused on student learning and student needs” (Ash, Hodge and Connell 2013, p. 96).

When embarked on carefully, collaboration, according to McCombs and Whisler (1997, p. 130) “facilitates growth” and “includes sharing, trusting and support” since all members are required to arrive at a common agreement about their beliefs and goals. However, if this consensus does not occur teacher isolation will prevail and curriculum reform will be unsuccessful. It is essential then that teachers be helped to be open-minded, accept that collaboration can result in meaningful learning activities and where necessary alter their views about teaching. Furthermore, it must be clearly understood that in order for effective collaboration to exist in schools “teachers must willingly open their classroom doors and work with, teach, and learn from others” (Waldron and Mcleskey 2010, p. 64). This of course calls for strong, healthy, collegial relationships which if fostered will serve to enhance the effectiveness of schools (Shah, 2011).

Some teachers may find this change in behaviour difficult to achieve because teachers generally tend to work by themselves (Ingersoll, 2012). Nevertheless, it was found that teachers who “worked collaboratively toward achieving the same instructional goals and had common norms and expectations about their work and relationships” . . . worked in ‘learning enriched’ rather than ‘learning impoverished’ schools

(Rosenholtz 1989 cited in Kardos, Johnson, Peske, Kauffman and Liu 2001, p. 254) and reaped several benefits. These included greatly improved student performance, learning from each other, developing and sharing professional skills, reducing dependence on external experts and enhancing confidence and competence. This resulted in a greater willingness to be experimenters and risk takers which eventually resulted in a desire for continual teacher improvement (Bird and Little 1986 cited in Ng 2009, p. 190).

"Successful collaborative planning, consultation and evaluation require a major time commitment" (Shah, 2011, p.1) but generally the ways in which schools are built and organized can inhibit teacher interdependence and collaboration. There ought to be regular scheduled meetings for teachers of similar age groups as this would "support teacher autonomy and foster teacher professionalism" (Coke 2005, p. 397) as well as result in pupils benefiting in their development.

It is therefore vital that principals discover methods by which they can promote collegiality among their staff since such support is crucial for the development of "an effective collegial culture" (Shah 2011, p.2). All in all they should ensure that they create an environment of collaborative learning which assists teachers in meeting the requirements of working in diversity and change (Cherian and Daniel, 2008). As such they are to "ferret out the structure and politics of the school culture that present impediments to the successful induction of new teachers" (Cherian and Daniel, 2008, p.3) and ensure that there is "a professional learning culture supportive of new teachers" (ibid 2008, p.5).

According to researchers Cordeiro and Cunningham (2013) it is also imperative that principals "use their expert knowledge and skills in ways that support the primary teaching and learning goals" (Cordeiro and Cunningham 2013, p.207) by being "directly involved in the teaching and learning life of the school" (Sergiovanni 2006, p. 269) and by certifying "that all teachers continue to have optimal opportunities to learn so they can improve their teaching practices" (Cordeiro and Cunningham 2013, p.195). The findings of these researchers also indicated that "the principal's primary role is in modelling and supporting the learning of others" and it is important for them to possess "a deep understanding of curriculum, instruction, assessment and

adaptations to unique contexts" (Cordeiro and Cunningham 2013, p. 10) so that they can motivate, coach and mentor staff as well as positively influence student achievement. In fulfilling their role as instructional leader (Cordeiro and Cunningham, 2013; Fancera and Bliss, 2011; Sergiovanni, 2006) principals are responsible for ensuring that teachers receive guidance and support, both directly and indirectly, so that they can effectively accomplish their various tasks. This includes "managing the teaching and learning program" (Waldron and McLeskey 2011, p.51) and supporting teachers as they implement school changes. It is advisable "that administrators/principals should exhibit instructional leadership behaviours as these skills help develop the unity of vision and mission, and improve the culture of progress as well as the culture of education" (Sahin 2011, p.1924).

Morrison and Cooper (2008/2009) posited that "highly effective principals possess enduring and genuine passion for the education of children" and "are often the instigators of and catalysts for change" (p. 106) as they seek to implement and sustain curriculum reform and innovation in their schools. In this respect they function with the awareness that curriculum reform does not occur in isolation but rather significantly impacts school systems including "personnel, resources, organisation and procedures" (Waldron and Mcleskey 2010, p.116). Consequently, they "ensure the availability of essential resources for teachers, students, and classrooms so that implementation of learning opportunities is optimized for all students" (Ash, Hodge and Connell 2013, p.97). These leaders also acknowledge the need to build collective capacity so that curriculum change and reform can be effectively implemented and sustained.

In referring specifically to the matter of implementing innovations, Ng (2009) argued that during reform, school leaders need to possess leadership qualities which would equip them to "to face an unknown future and to facilitate reforms" (p.200). In this regard he stressed that principals need to be curriculum leaders who not only "foster coherence through organizational learning but also initiate, nurture, develop and preserve the kind of collaborative cultures which promote a learning community among teachers" (p.200). Furthermore, in effecting curriculum reform these administrators need "courage of conviction, deep pedagogical knowledge and skilful, emotionally intelligent leadership . . ." (Morrison and Cooper 2008/2009, p. 118) as

well as the ability to create "a culture that reduces the fear of change and failure" (Ash, Hodge and Connell 2013, p. 97). In order to create "a school culture amenable to change" (Kearney and Smith 2010, p.12) Sahin (2011, p.1924) advised that "administrators should provide opportunities for teacher collaboration, [and] sharing of leadership and professional development" since the level to which change is accepted in schools is contingent on the degree of the principals' influence in schools.

The role of the principal is multifaceted and monumental and consequently these leaders ought to create "a partnership of shared responsibility for the common goal of improvement" (Ash, Hodge and Connell 2013, p. 96) and include all partners in the educational process so that there can be expanded support of the vision for improvement in student learning. Waldron and Mcleskey (2010, p. 66) also reiterated that when administrators make it clear that they are willing to share administrative duties with staff members as well as involve them in making decisions relative to curriculum innovations they "support the development of distributed leadership".

Previous Studies

Several studies have been previously conducted on teachers' beliefs about teaching and pupils' learning using a constructivist approach such as learner centred instruction in different subject areas. Subject areas on which such research has focused include Social Studies, Reading, Mathematics and Science. Studies conducted in Social Studies as cited by Yilmaz (2008) include those by Byer and Dana-Wesley (1999); Koeppen (1999); LeSourd (1984) and Bowman et al. (1998) in Mathematics.

Snider and Roehl (2007) cited research in Reading by Duffy and Anderson (1984) and Fang (1996) while Savasci-Acikalin (2009) cited studies conducted in Science by Haney et al. (1996), Beck et al. (2000), Haney and McArthur (2002), Levitt (2002) and Roehrig and Kruse (2005).

This present Study is different from those previously conducted in that it focuses on teachers' beliefs about implementing LCI in the context of ECE while employing an integrated approach. In this method there is the incorporation of two or more different subjects instead of teaching each subject separately.

Summary

The literature suggested that LCI focuses on the learner as well as learning and has the pupils' needs and interests as paramount. In a favourable teaching environment which it is the duty of the teacher to create, pupils are afforded opportunities to use their prior learning and experiences in order to construct new knowledge. This is accomplished during interaction with other persons and the physical manipulation of materials in their surroundings.

The roles of the teacher in LCI reflect a transformation from that of the traditional instructor to being a guide, facilitator, observer and co-constructor of knowledge. The roles of the pupils have also been revised and involve developing or enhancing problem solving and critical thinking skills and attaining overall academic improvement.

In order for children to reap maximum benefits from LCI they should be participants in a high quality ECE program. Characteristics which help to determine such programs include:

- focusing on the holistic development of each child
- flexible lesson planning
- appropriate learning environments with varied and suitable materials
- learning experiences designed to promote optimum growth and development
- expectation and acceptance of change
- appropriate means of assessment.

Teachers' beliefs, compared to the hidden section of an iceberg, are fundamental to the way in which teachers think, behave and make decisions about teaching. These beliefs formed over a long period of time by personal and classroom experiences, and all levels of education, can be central or peripheral. Beliefs tend to have more influence than teachers' curriculum knowledge in determining how they teach, and

can therefore be regarded as the key factor that decides whether innovations will be implemented and if educational success will be achieved.

There is one trend of thought that a strong relationship exists between teachers' beliefs and their practices resulting in greatly influencing how as educators, they perceive, plan for and approach their teaching. However there is also another spool of thought which indicates that the relationship is weak. In addition, empirical evidence suggested that there are discrepancies between teachers' behaviours and their beliefs and the only way in which teachers will implement reform is if they possess a deep conviction that it is valuable and a change is effected in their central beliefs.

Contextual factors have also been determined to play a significant role in the way teachers teach. These are both pupil and teacher related. With respect to pupils, their differences and love of activity have been specified. The areas identified in relation to teachers are initial and on-going teacher training; formal in-service training and informal experiences such as teachers' every-day contacts; induction or mentorship programs; teacher collaboration and supportive principal involvement and guidance.

CHAPTER THREE

THEORETICAL FRAMEWORK AND METHODOLOGY

Theoretical Framework

The two components which have been integrated and based on literature to form the theoretical framework for this study are learner centred instruction and teachers' beliefs.

Firstly, the framework will be developed on the principle that "learner centred instruction is based first and foremost on constructivist epistemology" (Yilmaz 2008, p.37) which maintains that knowledge is constructed actively and internally by individuals as they endeavour to understand experiences which occur in their world. This study is therefore formulated on the theory of 'social constructivism' which proffers that "the system involved in learning is not located purely within individuals but also encompasses the social world as it exists" and "learning is not solely individual" but "collective" (Davis et. al. 2000 cited in Quay 2003, p.106).

In my view, this suggests that while learning is an individual activity in that the learners actively construct their own understanding based on personal experiences and prior knowledge, it is also a social activity in that there is interaction at varying levels between teachers and pupils and between pupils and pupils. This can be in the form of formal or informal conversations and discussions. There is also interaction between these individuals and the social, historical, economic and political contexts in which the learning occurs. Such interaction may be the result of planned or incidental teaching and may occur formally in the classroom during timetabled lessons or informally such as during recess or lunchtime. In essence, learning is a personal activity but it is also directly affected by factors and circumstances outside of the individual. One of the main proponents of constructivism Lev Vygotsky, affirmed that social interaction was a fundamental part of learning and involved a process of individuals engaging in critical thinking (Powell and Kalina, 2009).

The second assertion is that teachers' pedagogical beliefs are fundamental to the way they interpret and implement curricula and hence should be considered as factors that

can result in the implementation or prevention of reform. The foundation for teachers' behaviour is built on their beliefs, life experiences, education and teacher training (Smith, 2012) and these help to influence their approach to teaching (Lim and Chai, 2008; Smith and Southerland, 2007). These factors also help to shape their philosophy and impact their attitude to the students, the process of educational reform and their actual teaching. In this regard, "teachers who hold the constructivist view tend to emphasize more student-centred activities that facilitate students' knowledge construction. . ." (Chai 2010, p. 129).

In sum, the knowledge, beliefs and assumptions of teachers, are critical for informing educational policies and practices and shaping and implementing curricula. It is therefore essential that insight be gained into Barbadian teachers' thinking and their perception of the world.

This study is therefore guided by the following main principles:

- Learning is actively constructed in a personal way
- Learning takes place in a social context
- Teachers' beliefs can promote or hinder curriculum and pedagogic reform since these beliefs impact teachers' actual practice
- Teachers' beliefs need to be explored and where necessary be redirected, so that they can positively promote curriculum or pedagogic reform, and ultimately benefit students.

Research Design

I employed a qualitative interpretive research methodology "since it allowed me to describe the specific contexts, interpret and infer the beliefs of the individual teachers as well as allowed for flexibility, depth and detail in gaining a holistic overview about the selected issues" (Smith 2012, p. 17).

My study is a qualitative case study (Yin, 2012). My aim was to construct understanding about how the beliefs of teachers affect the implementation of learner centred instruction in a new curriculum, as well as to assist readers in constructing knowledge about the phenomenon.

The case study is defined by Yin (2009, p.18) as "an empirical inquiry that investigates a contemporary phenomenon in depth and within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident." Marrelli (2007, p. 39) also suggests that it is "in-depth descriptive information about specific entities or cases, [which] is collected, organized, interpreted, and presented in a narrative format".

The case study design was used to address the following research question: "How do the pedagogical beliefs of primary school teachers affect the implementation of learner centred instruction in the Early Childhood Education Curriculum? A case study of two primary schools in Barbados."

This design was selected because of its constructivist assumptions, and the fact that in any organization there are several ways of viewing and understanding reality, and through interacting with others, individuals become knowledgeable about and make sense of that reality. Additionally, according to Stake (2010) knowledge about the case can also be socially constructed. I not only wanted to discover how the beliefs of the selected teachers affected their implementation of learner centred instruction in the Early Childhood Education Curriculum, but I was also interested in interpreting and comparing their stories.

Furthermore, since the case study is advantageous for answering "how" and "why" questions (Yin, 2009) I considered it to be suitable for answering my main research question. Yin (2009) also contends that if a case study is about a school curriculum, observation of it at work is critical for understanding exactly how it is being used and for identifying any challenges that may be experienced.

Yet another characteristic of the case study is that it "can make a worthwhile contribution to educational research" since it can convey "the richness of human interactions" and "provide examples of how theories and philosophies can actually be applied in real situations" (Maddux 2000, p. 15).

Merriam (1998) further posits that the case study can be used to examine, affect and improve practice in educational processes, programs and problems as well as be "particularly useful for studying educational innovations . . . and for informing

policy" (p.41). Consequently, the information which would be generated would be valuable for studying, analyzing and improving the implementation of the curriculum and where necessary providing recommendations for policy makers.

Finally, with regards to similar research which has already been undertaken, I have realized that most of them have been qualitative case studies and this has been described as being "more valuable in order to understand the complex relationship among teacher beliefs, practice and school context" (Savasci-acikalin 2009, p.1). Some examples of these studies are An and Reigeluth (2011); Chai (2010); Angus (2010); Snider and Roehl (2007); Smith and Southerland (2007); Rainer, Guyton and Bowen (2000). The common threads in these studies are the generating and analyzing of data in order to compile stories about real life in schools and also the use of a multiple case study approach.

Generally, research is not without its challenges and "good case studies are still difficult to do" (Yin, 2009, p. 16). Hence it was imperative that I anticipated potential challenges and their possible solutions. The major anticipated challenges were the:

- unwillingness of some teachers to participate for fear of being identified due to the close-knit Barbadian society and the small number of public primary schools
- reluctance of teachers to be observed in their classrooms
- accessing of relevant Barbadian literature on the topic

The possible solutions were:
In the event that teachers of the two selected schools had declined to participate in the study, I would have selected other schools which embrace LCI, and seek permission to invite the teachers to become participants in the study.

If the teachers of the 4-6 age groups were reluctant to be observed, I would have requested permission from teachers of other ECE classes (6-7or 7-8 age groups) to observe them in their classrooms.

In the absence of Barbadian literature on the selected topic I proposed to source literature from other countries which possess similarities to the educational system of Barbados.

Permission for Research and other Ethical Considerations

In order to ensure that my research followed the guidelines for ethical research as established by the University of Sheffield, I submitted my Research Ethics Application to the University of Sheffield's Research Ethics Committee. This was done prior to my commencing the research. The Application was subsequently approved by the School of Education Ethics Review Panel. A copy of the Ethical Approval Letter can be found in Appendix A.

According to Creswell (2008), in conducting qualitative research it is necessary to request and obtain permission from individuals and sites at different levels. Consequently, in an effort to gain access to the primary schools where I proposed to conduct the research, I wrote a letter to the Chief Education Officer of the Ministry of Education and Human Resource Development requesting his permission to conduct my research in the two selected schools. Written consent was subsequently received (Appendix D). I also requested permission from the respective Principals. This was initially done through telephone conversations, at which time I briefly described the research, indicated the time that I would be spending at the school, explained how my results would be used, and how the participants would benefit from the study (Creswell, 2008). The verbal request was followed up by a letter to each of the Principals (Appendix E).

Creswell (2007, p. 125) cites Hammersley and Atkinson (1995) as stating that a "gatekeeper is the initial contact for the researcher and leads the researcher to other participants". The two Principals who are members of the Association of Public Primary Schools Principals as I am, served as my gate keepers and facilitated my access to the schools and the teachers. As a result of this I had no challenges meeting with the respective teachers.

At the initial meeting with the teachers of the 4-6 age groups of both schools, I verbally shared with them as much information as I felt they might need in order "to make an informed decision about whether or not they wish to participate in a study" (Bryman, 2008, p.121) and invited them to become participants in the research. At the first school (School A) five teachers attended the meeting. One teacher indicated that she did not wish to participate as she was presently engaged in personal academic studies.

At the second school (School B) six teachers attended the meeting. Two of them indicated that they did not wish to be participants. One cited personal commitments while the other one stated a preference for younger teacher participants. I thanked them graciously for taking time to attend the meeting and wished them continued success in their endeavours. At both schools, the non-participation of the specific teachers did not pose a challenge as there were more teachers than I needed for my sample in the selected age groups.

In explaining the process that would be used for the interviews and the observations I sought the teachers' permission to audio-tape the interviews and video-tape the lessons. However, all of the teachers expressed concern about having their interviews tape-recorded and agreed to it only after they were assured that the tapes would be kept securely and used solely by me or approved staff from the University of Sheffield. I also assured them that they would be granted confidentiality and anonymity (Gay, 1996) through the use of pseudonyms so as to prevent their identities from being revealed. They all nevertheless objected strongly to having their lessons video-taped. In order not to infringe on their rights and to heed Bresler (1996, p.142) that "in the quest to increase knowledge and understanding, we should try to increase benefits and minimize hurt," I agreed not to video-tape the lessons but to observe them with my 'naked eye'. All of the prospective participants stated their approval of this procedure and verbally agreed to become participants.

In an effort to ensure that the potential respondents would be participating in the study voluntarily and were not being forced or coerced, at a time convenient to all parties, the Information Sheet (Appendix B) which was a component of the university's ethics

application was distributed to each one of them and discussed. They were made aware of their rights and informed of any risks that might occur as a result of their participation.

Their written permission was subsequently obtained through their signing of the Participant Consent Form. This was advantageous in that the participants were "fully informed of the nature of the research and the implications of their participation at the outset" (Bryman 2008, p. 123). In addition, I also had a signed document in case any subsequent concerns were highlighted by the participants or other individuals.

All but one teacher signed, dated and returned the Consent Form the same day it was distributed. The said teacher indicated that she wished to take the Consent Form home to study it in more detail and would return it a few days later. This seemed to be reflective of the view of Bryman (2008) that one of the major problems of requiring participants to sign a Consent Form is that "it may prompt rather than alleviate concerns on the part of the prospective participants" (p. 123). However, as promised, the teacher returned the signed Form in a few days. Each teacher was provided with a signed and dated copy of the Participant Consent Form (Appendix C) to keep in their personal records along with their Information Sheet.

Barbados is a very small island and therefore in order to ensure the anonymity of the schools and the participants, I have not provided any demographic information which might be used to identify either the schools or the teachers. It is also for this reason that copies of the letters to the Ministry of Education and the Principals have been included (Appendices D, E) without the names and addresses of the schools and Principals.

Since transcripts can be extremely useful in the analysis of data, on completion of the interviews, they were all transcribed verbatim. A typed copy was given to each participant for a member check prior to it being analyzed as data. They were invited to check for accuracy and if desired, request that any section of the interview with which they were uncomfortable be withheld from the research publication. The transcripts were approved by all respondents.

Due to the fact that I was conducting observations in the classroom with children present, I sent a letter to the parent of each child in the classrooms requesting their permission to be present in the classrooms (Appendix F). I saw this as critical since as a researcher it is imperative that I be aware that research can "disturb the site and potentially (and often unintentionally) exploit the vulnerable populations we study, such as young children. . ." (Creswell 2007, p.44). No objections were received from any of the parents.

At the end of the study, in an effort to afford participants an opportunity "to understand and potentially use findings from [my] research" (Creswell 2008, p. 272) I contacted each by telephone and informed them that the study had been completed and I wished to share with them a transcript of the main findings. They all expressed an eagerness to discover the results of the research. I thanked them for their participation in the research and their continued interest and invited them to provide me with feedback on the key findings after they had completed their reading. We discussed what would be a reasonable time frame within which they could respond and we agreed that within a maximum of two weeks would be adequate. I offered to send the transcripts by email but the participants all indicated that they preferred to have typed written copies. I therefore agreed with each on a specific day when I would hand deliver the transcripts. This occurred as planned. Two of the respondents indicated that they would respond to me by email while the others stated they would telephone to inform me as to when I could collect their typed written responses. I received all the responses in the agreed form and time frame.

It was very interesting that one of the teachers actually stated that *"the ideology of learner centred instruction within our early childhood educational system to a certain extent seems to be a myth. Although some elements of it may be present, the traditional style of teaching still seems to dominate". (Lisa)*

Another teacher sought to offer reasons to justify the use of didactic teaching. They included "*due to our custom",* "*our syllabus and targets for each year level is such that there is not much room for student centred learning"* and "*usually our system focuses on whole class teaching". (Cherry)*

Other noteworthy points were that "*even though in some instances there seemed to be some inconsistencies with teacher beliefs and teacher instruction" (Lisa) "the teachers made every effort to adapt their general training in an effort to implement LCI" (Jean)* but "*the views of each teacher as it relates to learning centred instruction played a fundamental role in influencing their classroom instruction" (Lisa).*

Two participants reiterated that there were challenges and limitations which affected their implementation of LCI. These included "*limited classroom space", "the lack of resources such as materials, finances and human assistance" (Lisa)* and "*inadequate mentorship and training in LCI and a quality environment with suitable materials" (Jean).*

The following solutions were recommended by two respondents. *"Policy makers need to rethink their approach to the implementation of learning centred instruction. Consistent teacher training is necessary in addition to the development of the physical school structure so as to ensure the effectiveness of it in our schools" (Lisa)* and *"More specific training and observation is needed in LCI in ECE institutions so as to bridge the gap between the traditional practice and the learner centred model". (Cherry)*

The Sample

The population from which the teachers were selected consisted of two Barbadian Primary schools. These schools were selected using non-probability sampling, a type of sampling which includes purposive sampling and according to Wellington (2000, p. 59) "is perhaps more feasible and more informative in qualitative research". My aim was to "discover, understand, and gain insight" (Merriam 1988, p. 48) and therefore it was important that a sample from which the most can be learnt be selected. In addition, it was critical that the setting which was selected for the research should demonstrate the phenomenon in which I was interested, as well as be accessible, and provide relevant data readily and within a reasonable timeframe (Silverman, 2000). Since the two settings met the above-stated criteria, the schools

and teachers were purposively selected. I believed that the teachers of the 4-6 age groups of the two selected schools were using the revised E.C.E Curriculum in their teaching as had been mandated by the Ministry of Education, had an interest in the topic, were willing to share their views (Gay, 1996; Newell 1993 cited in Smith 2003) and I would be able to construct a detailed understanding of the phenomenon.
A sub-urban and a sub-rural school were selected from different geographical locations in order to discover if this would contribute in any way to the contextual findings of the study. Sang, Valcke, Braak and Tondeur (2009) suggest that "the geographical teaching area (rural/urban) where teachers teach has been reported to be an important influencing factor on teachers' beliefs" (p. 366).

The sample comprised eight teachers- two from the 4-5 age groups and two from the 5-6 age groups of each school. Their professional experiences varied from 4 years to 45 years and the number of children in their classes ranged from sixteen to twenty-six. Four of these teachers, two from each school, were studied in detail, that is, interviewed and observed. One teacher was chosen from each of the selected age groups in each of the two schools for this purpose. While the entire sample had indicated during their interviews that they embraced and practised learner centred instruction, and based on their answers revealed that they had some knowledge of the literature, they were not all willing to be observed. Consequently, the teachers who were observed were the ones who volunteered to be involved in this aspect of the research.

A single case would be inadequate in this study since teachers' beliefs about the implementation of learner centred instruction may produce different stories from schools in different locations. Consequently, in order to enhance the substantiveness of the study, a multiple case study approach was utilized. In this regard, the actual teaching done by each of the four teachers constituted a case in the study.

Instrumentation

Thomas (2011); Stake (2010) and Yin (2009) all emphasize that one of the major and distinctive strengths of a case study is that it is able to deal with varied kinds of evidence. They therefore recommend using several sources of evidence while

generating data. These include “interviews” and “direct observations . . .” (Yin 2009, p. 101).

Bearing in mind that good tools help to do a good job, the instruments which were used to generate data for this study were: an author-designed semi-structured interview schedule and two author-designed classroom observation checklists. I generated data through the use of one on one interviews with all the participants and direct observation of the learning environment and four lessons from each of four teachers. These two methods were selected because they “make no attempt to separate the researcher from the researched in order to maintain objectivity” (Greenbank 2003, p. 793). Both the interview schedule and the two checklists were piloted prior to use. A description and results of the pilot are provided later in this chapter.

Interviews

The semi-structured interviews (Stake, 2010; Yin, 2009) of approximately forty-five minutes to an hour in length were conducted with the eight teachers at a time that was convenient to both me and the participants. Questions relating to the teachers’ pedagogical beliefs and perceptions about learner centred instruction as recommended in the ECE curriculum were included in the interviews. This basic method of generating data was used as it was aimed at attaining “rich and detailed answers to the research questions” (Yilmaz 2008, p.40). An interview schedule (Appendix G) with the research questions and the related guiding items based on each research question was used in the interviews. All interviews were audio-taped. This method of acquiring the actual quotations of the participants was employed since I share the belief that “no matter how carefully one words interview questions, it all comes to naught if the interviewer fails to capture the actual words of the person being interviewed” (Patton 1990, p. 347).

In order to avoid influencing the views of the respondents, the interview questions were structured in a broad way. For example, in order to obtain the participants’ beliefs about learner centred instruction in the context of ECE, they were asked *‘What do you perceive your role to be in a learner centred instruction environment?’* With regards to generating information on contextual factors affecting the participants in

the implementation of learner centred instruction in the ECE curriculum, they were asked: *'Have you experienced any challenges in implementing learner centred instruction? If so, how have you dealt with these challenges?'* Such questions provided opportunity for openness, follow-up and probing.

All of the participants were asked the same questions in an effort to ensure that there was compatibility across the responses of the participants. However, depending on each participant's responses, different probes were "used to deepen the response to a question, to increase the richness of the data being obtained, and to give cues to the interviewee about the level of response that is desired" (Patton 1990, p. 324). Three main types of probes were used during the interviews. These were "detail-oriented probes" in which questions beginning with words such as 'when', 'where', 'what', 'how' and 'who' were employed; "elaboration probes" in which the researcher used either a gentle nodding of the head or verbal requests such as 'Could you tell me more about that?' or 'Would you elaborate on that?'; and "clarification probes" which required the interviewees to provide an explanation of specific words, phrases or sentences. During the recorded interviews, I also engaged in some note taking primarily to assist with the formulation of new questions where necessary as the interview proceeded (Patton, 1990).

In an effort to allow the participants to share any other information which they considered relevant, the interviews all ended with the question: *'Do you have any other comments that you would like to add?'*

Checklists

The first checklist was captioned "Checklist for Classroom Observations". It was completed just prior to the first lesson observation of the four teachers who had volunteered to be observed and focused on the classroom's physical setting. The items in it were informed by my personal experience as well as a "set of descriptors of constructivist teaching behaviours" by Brooks and Brooks (2001, p. 102) which can be used in the classroom. Literature by Oldfather, West, White and Wilmarth (1999) that identified characteristics of classrooms whose teachers take a social constructivist stance was also used. The items addressed such areas as the arrangement of the furniture, seating arrangement of pupils, physical contents of the room such as

Learning Centres, manipulatives and technology. Provision was also made on the checklist for the addition of any other significant areas which were seen during the observation of the settings.

The second checklist captioned "Checklist for Lesson Observations" was designed to acquire information on the teaching and classroom activities of the teachers. Since the case study would take place in the natural settings: the classrooms of the teachers (Yin, 2009), I would be able to directly observe the teachers, capture the richness of organizational behaviour and draw inferences about the teachers' beliefs. The items in this checklist, were informed mainly by literature by Hsiao and Yang (2010) who in their *"Study of Teaching Beliefs Reflected on Teaching Behavior: Focusing on Elementary School Teachers"* suggested that teachers' beliefs in action are revealed through such aspects as teaching methods, student learning activities, teacher-student relationship, students' independent development and teaching assessment.

Based on this, the lesson observations focused on: Teaching Methods- which I have reflected under the headings of **The Teaching Process** and **Questioning**, Students' Learning Activities- which I have reflected under the headings of **The Learning Process** and **Manipulative Materials**, Teacher-student relationship- which I have reflected under **Interaction,** Students' Independent Development- which is reflected as **Student Needs** and the final section **Assessment**.

There were also sections for my comments which were captioned "Exactly what I see" and "Exactly what I hear". The word 'exactly' as used in this context does not mean that I am claiming to be "all-seeing" and therefore have not missed anything that occurred during the lessons. Rather, it refers to my recording as precisely as is humanly possible, what I have seen and heard without any additions or deletions.

A total of four lesson observations were made of each teacher on days which were determined by the availability of the participants and their timetable, as opposed to my schedule (Yin, 2009). The observations were done in this manner since there were weekly scheduled lessons when specialist teachers were responsible for teaching lessons at the classes of the participants. I sat at the back of the classrooms as a non-participant in the lessons. The significant aspects of the lessons were observed

through use of the checklists and any other aspects which were considered to be valuable but were not on the lists were recorded through use of pencil and paper.

It is my realization that data generated from dialogues and observational records would be difficult to convert quantitatively and this therefore further strengthened my judgement for employing a qualitative case study.

The Pilot

"Piloting has a role in ensuring that the research instrument as a whole functions well. . . ." (Bryman 2008, p. 247) and it "may clear up problems in question formulation" (ibid p. 251). Creswell (2008, p.402) posits that when the researcher "pilot tests the questions" it helps determine that the individuals in the sample . . . can understand the questions" and Stake (2010, p. 94) also states that "a main data-gathering approach should be . . . piloted, not using the people who will provide the final data to be analyzed, but people like them." Consequently, the interview schedule and the checklists were piloted with teachers who teach the same age groups that were used in the sample for the research but who taught at different schools from where the actual research took place. This validation was done in order to ensure that these instruments could effectively generate the data for which they had been designed.

Four teachers with varying years of experience in teaching children of the 4-6 age groups were selected for the pilot of the interviews since "the numbers in the pilot trials do not need to be large" (Stake 2010, p. 94). One teacher was selected from each of the following categories of years of teaching: 1-10 years, 11-20 years, 21-30 years, 31-40 years and 40 + years. These groups were selected since they reflected the various numbers of years of teaching by teachers who generally teach in the 4-6 age groups.

These teachers were telephoned, provided with information about the study and their permission to participate in the pilot was sought. All of them agreed to participate in the pilot. A time and place convenient to both parties was determined for carrying out the pilot. This activity resulted in this researcher revising the interview schedule based on the feedback which was received from these individuals (Creswell, 2008). For example question 2 *What does the term learner centred instruction mean to you?* was moved to become question 1. What was formerly question 1 became question 2. That

question previously read '*Why do you think the child-centred or learner centred approach was adopted for use in Early Childhood Education in Barbadian Primary Schools?'* It was changed to "*Why do you think the learner centred approach was adopted for use in Early Childhood Education in Barbadian Primary Schools?"* The word '*child-centred'* was deleted from it as it seemed too wordy. 'Question three which originally read "*In your view, how might learner centred instruction affect teaching and learning in ECE"?* was modified from being a double-barrel question to read *"In your view how might understanding learner centred instruction affect (a) teaching and (b) learning in ECE "?* The modified interview schedule was hand-delivered to the teachers in the pilot and this resulted in the final interview schedule (Appendix G).

The Checklist for Classroom Observations seemed to effectively generate the required data and hence no changes were made to it after it was piloted (Appendix I).

With regards to the Checklist for Lesson Observations, I realized that the terms 'always', 'occasionally' and 'never' were not appropriate for use with all of the items (e.g Item 1 *"The teacher employs an integrated approach to teaching''* and Item 8 *"The pupils engage in purposeful activities that promote creative and critical thinking"*) and I therefore chose to simply use "yes" or "no" followed by the three areas of comments: Exactly what I see, Exactly what I hear, and My interpretation.

Additionally, due to the number of items which I had included in the Lesson Observations Checklist, I was unable to successfully observe and record information on all of them, during the forty (40) minute lessons. I therefore reduced the number of items by omitting those which could be subsumed under other items. (*e.g. "There is shared decision making between the teacher and the pupils"* was subsumed under the item *"Shared learning occurs between the pupils and the teacher";* and the item *"The pupils engage in purposeful play"* was subsumed under the item *"The lesson provides opportunities for the pupils to purposefully use manipulative, interactive and physical materials"*). The Checklist eventually consisted of sixteen (16) items rather than the initial twenty-three (23). This Checklist was again piloted and in the view of the researcher successfully generated the required data. It was therefore employed during the observation of the four teachers (Appendix H).

Analysis of data

The purpose of data analysis is to describe the data clearly, identify differences, relationships and patterns in the data and finally answer the research question (Davis 1995 cited in Patrick 2008). The challenge which presents itself, according to Patton (1990) is to manage and make sense of the voluminous data that was generated during the fieldwork.

In analyzing the data I employed "techniques" consistent with "inductive qualitative data analysis" (Yilmaz 2008, p. 42). This means that I identified themes and categories to be analyzed from the generated data, rather than selecting them prior to the generation of the data. This required "going from the particular data to the general codes and themes" (Creswell 2008, p. 244). This was however not a linear but an iterative process (Creswell, 2008) which required a simultaneous process of generating and analyzing data and a going "back and forth between data generation and analysis" (Creswell 2008, p. 245).

I first transcribed the data from the interviews and then read each of the transcripts in order to acquire a general understanding of the entire interview. I also reviewed the observations of the classroom environment as well as the lessons in order to get an initial general sense of the material. The transcripts were then all reread in order to highlight and formally code the information which informed the study.
I then engaged in member checking by providing the participants with transcriptions of their interviews and observations for their substantiation. This was done as a means of increasing the rigor and validity of the analysis and the "credibility of the research study" (Yilmaz 2008, p. 42). The transcripts were then further analyzed for patterns or trends and these were coded by themes. "Each participant's response to the same question was compared with one another" and then I identified "similarities, differences, patterns and themes across the data" (Yilmaz 2008, p. 42) and matched them with the specific research questions. This simultaneous generation and analysis of data; data coding processes; comparative methods and integration of the theoretical framework (Smith, 2012; Mills, Bonner and Francis, 2006) were based on the constructivist grounded theory methods of Charmaz (2011).

There were five basic research questions which underpinned this study. Fourteen interview items were prepared based on these basic questions. The responses to these items and their analyses are first presented and followed by a summary of the interviews. This is followed by a presentation of data of the classroom observations. This comprises the observations of the learning environment and the teaching of each of the four teachers. An analysis of the follow-up interviews is then presented.

Delimitations of the Study

I explored the beliefs of Barbadian ECE teachers in the context of implementing LCI in the ECE curriculum. This is a topic which is of great interest to me, which has not been researched locally as far as I am aware and can generate findings which can be used to inform policy in relation to the implementation of innovations.

I adopted a social constructivist position in an effort to generate subjective accounts and perceptions from the teachers that explained how they constructed and experienced their world. I used a qualitative case study (Yin, 2012) an author-designed, semi-structured interview schedule and two author-designed checklists in order to generate "in-depth descriptive information" (Marelli 2007, p. 39) in "real-life context" (Yin 2009, p.18). This approach was best suited to this study as it facilitated the answering of 'how' and 'why' questions, observing the curriculum in real situations, the examining of educational reform and the informing of policy (Merriam, 1998). This method also provided insight into what the teachers believed since there seems to be a relationship between their beliefs and their teaching (Chai, 2010). Purposive sampling (Wellington, 2000) was used in an effort to gain insight from individuals who were most knowledgeable. The sample size was deliberately kept small in order to engage in an in-depth investigation of the issues and avoid presenting superficial results. The larger the number of cases, the greater the volume of data which would have been generated and needed to be analyzed. The time limit for submission of the study would not have facilitated the amount of time that would have been necessary to accomplish this. I therefore decided to use eight teachers – four from each of the two schools in the sample, in order to better manage the study as interviews and observations are very time consuming. Consequently, only teachers in Reception through Infants A (4-6 age groups) selected from two of the seventy-nine primary schools in the island participated in the research.

Limitations of the Study

Limitations refer to situations over which the researcher has no control but which may place restrictions on the conclusion of the study (Best and Kahn 1998). This study is limited in that the selected sample is small due to the type of method which was selected and the timeframe in which the research had to be completed. A subjective approach was used but this will not guarantee that the interviewees will be totally honest in their responses (Pervin and John, 2000). However, in order to control this variable and check the consistency of answers along with the main research question I also used probing questions which were detail-oriented probes, elaboration probes or clarification probes. As a result of these probes I gained a high degree of confidence in the authenticity of the responses. This study, though limited to one Caribbean island, is likely to hold implications for educators further afield since there are several similarities among the Caribbean islands.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND DISCUSSION OF DATA

I will begin this chapter by presenting, analysing and discussing data from the first round of interviews. This will be followed by what I have learnt from the teaching observations and finally I will report on the post-observation interviews. The italicised sections of texts are quotes and the attributions with the quotes are pseudonyms.

Presentation of Data – Research Question One

The first basic research question was: **'***What are particular Barbadian teachers' perceptions about the rationale for adopting learner centred instruction in the context of Early Childhood Education in Barbados'?*

The following two items contributed to this question.

****

The rationale in the Barbadian revised ECE Curriculum states that the Curriculum "is child-centred" or "learner centred"

1. What does the term learner centred instruction mean to you?
2. Why do you think the learner centred approach was adopted for use in Early Childhood Education in Barbadian Primary Schools?

****

The following sample of responses to **Item 1** came from **School (A)**.

- *I understand it to mean that the child plays a very dominant role in its learning. The teacher does not dominate the class. The child is given the opportunity to discover, investigate and create and take part in its own learning.* (Jean)
- *The term . . . means that the focus is on the child. The teacher . . . plans lessons with the child entirely in mind . . .* (Sandy)

The two other teachers focused on establishing and utilizing Learning Centres.

The following response from **School (B)** reflected the views of Lisa and Polly.

- *The focus is on the child in the classroom...we encourage them to discover their own learning ...we don't tell them everything but we get them to use their senses to discover what is going on in the lesson (Lisa)*

Genevieve was the sole teacher who stated that she did not really understand what was meant by the term but she mentioned Learning Centres where there is *bedlam and playing*. Cherry also referred to Learning Centres where children benefitted from the *manipulation of materials and activities.*

The following response to **Item 2** was representative of the view of the total sample from **School (A)**.

- *Instruction before used to be the teacher standing in front of the classroom and delivering instruction which we have discovered is not the ideal way for the child to learn...the ideal way for the child to learn is to involve the child in an active way in learning.* (Sandy)

Lamonte added the need for pupils to:

- *interact with each other*

In **School (B)** Polly and Genevieve attributed the change to '*somebody'* who *'thought that the methods were too directly related to the teacher and needed to be more directly related to the child. (Polly)* and would be of *'benefit to the children'. (Genevieve)*

Lisa's reply was:

- *We recognize that certain methods are more beneficial to the students as opposed to the traditional way which was basically chalk and talk. The exposure to more knowledge and more information has caused us to change to something that is more effective.*

Cherry stated:

- *We need children to think for themselves...to learn things not just by rote but by practise and experience and it would be more meaningful for them. So if we allow them to construct their own learning it allows them to be better able to apply the information, relate to it and even share it with others and help another child who is a little weaker in an area.*

Analysis and Discussion - Research Question One

The responses to the first research question '*What is the rationale for adopting learner centred instruction in the context of Early Childhood Education (ECE) in Barbados'?* indicated that the interviewees had varying degrees of understanding of the term 'learner centred instruction'. This ranged from reasonably good depth to none at all. This was evident by the responses which revealed that most of the interviewees highlighted one or two main features of LCI as identified by the literature. These were:

- active individual construction of knowledge (Yilmaz 2008, Ministry of Education, Youth Affairs and Culture 2000)
- learning occurs in social situations and therefore knowledge is discovered through interaction with people and things (Brooks and Brooks 1993 cited in Paris and Combs 2000)

It is of significant import however that the respondents did not include another critical feature of LCI, which is the development of real life skills. According to An and Reigeluth (2011, p.54) these skills include "collaboration, higher-order thinking and problem-solving skills. . ." Teaching which promotes the fostering of these skills leads to the development or enhancement of critical thinking skills. This requires students to think rather than learn by rote.

This omission raises the question as to whether the participants considered this feature to be unimportant or were unaware of its significance in LCI. It also begs the question as to whether this verbal omission also translates into omission during teaching, and hence is responsible for the consistent general lack of evidence of these skills over the

years in the Barbados Secondary School Entrance Examination (BSSEE) in both Mathematics and English (The University of the West Indies, Cave Hill Campus, 2010).

Challenges in the BSSEE results in Mathematics were again highlighted in 2013 by the Minister of Education Mr. Ronald Jones. He stated "Mathematics suffered a marginal decline in the national mean". . . "It means that we will have to look as well to how it is delivered to our students and their acceptance of how it is taught. . ." (Cummins, K. 2013).

The data also seemed to suggest that the respondents held the view that LCI referred to teaching which had the pupils as the main focus. Statements from the teachers such as '*the focus is on the child'*, (Lisa) '*the teacher plans lessons with the child entirely in mind'* (Sandy) and '*the child plays a very dominant role in its learning'* (Jean) echoed the literature by Elen et al. (2007) which state that pupils' learning takes centre place in the LCI classroom.

Emerging from the respondents of both schools was that LCI was adopted for use in ECE in Barbadian Primary Schools by education officials because the traditional method of teaching in which the teacher assumed the dominant role was deemed to be ineffective. In this method, the teacher taught primarily through 'chalk and talk' while the pupils' assumed the role of passive recipients of knowledge. They further pointed out that such a change would afford pupils the opportunity to be involved in their own learning, to learn through practise and experience rather than through rote, to use the play-way method, to think for themselves and to interact with each other.

This view of the respondents bears a resemblance to that of Jia (2010) who explained that in traditional teaching, teachers are more actively involved than the pupils while the converse pertains in LCI which has its roots in constructivist pedagogy.

Summary

The responses of the participants to the first research question '*What is the rationale for adopting learner centred instruction in the context of Early Childhood Education (ECE) in Barbados'?* revealed that the respondents from both schools had a similar general understanding of the meaning of the term 'learner centred instruction'. In both

schools, two of the four participants stated that the focus of teaching is on the children, who are to be actively and independently involved in their learning. The other two participants in both schools specified children's independent use of manipulatives in Learning Centres.

All of the respondents referred to something other than teacher-centred teaching. Five of the eight revealed some explicit awareness of pedagogy which was non-didactic while the other three stated what the children might be actually doing in LCI, but did not reveal knowledge of an underlying rationale.

The general consensus of the respondents was that LCI was adopted in the context of ECE in Barbados because this approach was deemed to be more effective than the traditional method of teaching. Exact reference was made to the traditional method by two of the respondents while five of them itemized ways in which the children would benefit from LCI. The benefits identified were all in consonance with the literature.

Presentation of Data – Research Question Two

The second research question inquired: '*What is Barbadian teachers' understanding of the term learner centred instruction in the context of ECE'?* It was guided by the following two items:

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3(a) In your view, how might understanding learner centred instruction affect teaching?

3(b) In your view, how might understanding learner centred instruction affect learning?

****

The views of the respondents from both schools to **Item 3 (a)** seemed to suggest that they believed an understanding of the term learner centred instruction might result in an improvement in teaching.

The following responses were from **School (A).**

- *This approach has caused me to work in smaller groups, so that I am able to identify the problems that some children are having. I am able to work with the slower group and change the different type of technique that I am using.* (Lamonte)
- *Learner centred instruction helped me to understand the needs of the children. . . and think of their abilities* (Jean)
- *It improves the teaching methods* (Rose)
- *The teacher has to do a lot more planning.* (Sandy)

The following comment embraced the views of all respondents from **School (B)**.

- *It is going to affect the way in which the teacher approaches various subject areas, various concepts. It is going to determine what kind of activities she is going to use, whether those activities relate to paper alone or whether they will relate to things that the students would be able to move and manipulate.* (Polly)

I found it helpful to categorize the data generated from both schools to **Item 3 (b)** under academic domain and social/emotional domain. Following are the views from **School (A)** which I related to the academic domain.

- *It improves learning....it helps the slower ones* (Rose)
- *It would help them to be able to explore and investigate, find out things for themselves which would help them to remember even longer.* (Jean)
- *It affects learning because the child becomes an active participant* (Sandy)
- *This approach sort of delays them from their writing activities. According to our Attainment Targets Infants A and Infants B have to do more practical and written work than Nursery and Reception, so it entails more work in the upper Infants* (Lamonte)

The following views from **School (A)** which I related to the social/emotional domain encapsulated the view of the other two respondents.

- *It would help them to become more socialized* (Jean)
- *The child is excited about learning and interested in coming to school because the child now becomes a part of the learning process* (Sandy)

I related the following responses from **School (B)** to the academic domain.

- *The techniques would . . .help pull up the ones at the bottom* (Genevieve)
- *It can allow the children to understand concepts better* (Lisa)
- *Going to the Centres help them to put things into perspective. . . gives the slower child the opportunity to manipulate or do something with his senses* (Cherry)
- *I think that it will more affect children who don't learn by book, children who generally have a problem with maybe Reading or looking at things on paper . . .When it comes to the brighter ones, honestly I don't think it might make a big difference for them because they would learn either way.*(Polly)

The following response from **School (B)** which I related to the social/emotional domain captured the position of the other three respondents.

- *It can allow the children to . . .have a better teacher-student relationship and student-student relationship* (Lisa)

Analysis and Discussion - Research Question Two

Research question two was: '*What is Barbadian teachers' understanding of the term learner centred instruction in the context of ECE'?* The responses of the participants indicated to me that they shared a common view, namely: understanding the term learner centred instruction would result in an enhancement in teaching as well as in learning. The areas in teaching which they specified would reflect improvement were:

- grouping pupils

- considering pupils' needs and abilities
- improved lesson planning

The respondents also felt that the pupils' learning would be positively affected in both the cognitive and social/emotional domains. The specific areas they identified were:

- academics of pupils whose learning was slower
- understanding concepts through practical activities
- learning through exploration and investigation
- interaction

Emerging from the respondents is a resemblance to the thoughts of Mvududu and Thiel-Burgess (2012); Jia (2010) and Wasik (2008) who suggest that teaching is enhanced when children are taught in small groups since there are opportunities for interacting, co-operating and communicating with others.

The respondents also articulated the belief that the pupils' academic and social needs would be addressed through use of practical activities in Learning Centres. Comments worthy of note were *'I would be able to set up Centres whereby children can manipulate different activities'* (Cherry) and '*the use of manipulatives would allow for interaction with other classmates'* (Polly). Similarities exist between the views of the respondents and that of Wasik (2008) and Henniger (2005) who explain that a developmentally appropriate classroom would be one in which children will be interacting with persons and materials. The teachers also echo the view of Jia (2010) who opine that teachers should create an interactive teaching environment for pupils where they can discover new knowledge and co-operate during learning.

One respondent felt that using an approach which included play had its challenges. The specific statement from the respondent was '*this approach sort of delays them from their writing activities'* (Lamonte). The reason for such an opinion is explained by Fromberg (2006) and Chen (2008) who noted that some teachers exclude play if they are working in schools that place priority on high-stakes tests. However Wood (2009) states that play contributes to and supports children's learning and

development in several areas including creative thinking and problem-solving. This is of significant import since problem-solving is one of the skills which promotes critical thinking and this is the skill which evidence reveals is consistently lacking in the BSSEE which is written by Barbadian pupils.

With regards to lesson planning, statements from the teachers such as having *'to do a lot more planning*' (Sandy) and planning *'more strategically'* and being *'more creative'* (Lisa) echo research by Kostelnik et al. (2011). These researchers contend that "planning is a key element of *high-quality* early childhood programs" (ibid, p. 71) and is critical for successful teaching.

It is of significance however that the respondents failed to mention that lesson plans should also be contextual in nature and should not be a "one size fits all" (Kostelnik et al. 2011, p. 72) but be suitable for pupils' ages, interests, needs and attainments. These exclusions beg the question as to whether the participants planned generic lessons for their classes as opposed to planning specifically for the pupils, and whether they considered it imperative to prepare learning experiences based on the particular type of environment in which they were teaching.

Another common thread in the responses of the participants was that there would be improved intellectual performance especially by the pupils whose learning was slower. In their view, this would be achieved through providing opportunities for the pupils to use their senses and be involved in independent practical activities such as exploring and investigating. This view is shared by Le Grice, Mabin and Graham (1999 cited in Mvududu and Thiel-Burgess 2012) who point out that research shows that low achieving Maths and English students who were taught using constructivist approaches showed improvement in their test scores and had more permanent retention of the material.

One respondent who agreed that the slower progressing pupils would be the ones to derive the most benefits added that there would be no significant effect on the learning of pupils who had not exhibited any major learning challenges. According to her, these pupils learn in spite of the strategies which are employed by their teachers. It is troubling that the respondent held this belief, since such teachers may consider it unnecessary to implement LCI strategies with children whom they regard as being

'bright,' and may instead resort to using 'chalk and talk'and having the pupils mainly use 'pencil and paper'. Furthermore, MacDonald (1997) in explaining how all children learn does not make a distinction between "brighter pupils" and "slower pupils". She specifies that children learn through sensory activities, repetition, interaction with materials and people relevant to their life experiences, trial and error and modeling.

The participants however did not express the view that teachers would probably place greater emphasis on the interests and strengths of the pupils, on how children develop and learn or on the social and cultural contexts in which the children live. According to Kostelnik et al. (2011, p.72) these are all components of "Developmentally Appropriate Practices" (DAP), "the major elements" of which "are derived from constructivist principles" (Jones, Lake and Dagli 2005, p. 166).

One other notable area which the participants did not mention was that of authentic assessment. In LCI assessment is based on the application of knowledge and skills and features a variety of strategies such as observation, questioning, verbal feedback, checklists and rubrics (Kostelnik et al. 2011; Henniger, 2005). It is crucial that teachers use knowledge gained from these methods to aid them when making decisions about their teaching.

These exclusions raise the question as to whether the participants were of the opinion that understanding LCI would not result in improvements in these areas, or whether they were unaware that these were also critical components of LCI. It also begs the question as to whether these areas are addressed by the teachers during their implementation of the ECE Curriculum.

Additionally, the respondents did not include that teachers would be likely to put greater emphasis on the use of technology in the classroom. Chen (2008) in commenting on educational reform opines that technology can be used to engage pupils in "activities of problem solving, critical thinking, and collaborative learning. . ." (p. 73) skills that are essential in LCI (An and Reigeluth, 2011; Jia, 2010; Wood, 2009; Snyder and Snyder, 2008).

This therefore raises the question as to whether this omission may be due to the existence of barriers which may be preventing the teachers from considering integrating technology in teaching and learning. These barriers may be first-order such as lack of resources or second-order such as teachers' "attitudes, beliefs, knowledge, and skills" (Ertmer 1999 cited in An and Reigeluth 2011, p.56).

Summary

The responses to the second research question '*What is Barbadian teachers' understanding of the term learner centred instruction in the context of ECE'?* revealed that the eight participants were of the general consensus that understanding LCI would positively affect the performance of teachers in the classroom. Two respondents specifically stated that teaching would improve while the other six each gave examples of how this would be evident. These included teaching pupils in small groups, addressing pupils' needs and attainments, in-depth lesson planning, and practical teaching through the use of Learning Centres.

With regards to the impact on learning, seven respondents expressed the sentiment that the pupils would experience positive effects cognitively and socially/emotionally. One of the seven respondents stated explicitly that learning would improve, while three others gave examples of how this could be determined. Their responses included the pupils being actively involved in lessons, using their senses, exploring, discovering and investigating. Additionally, four of the seven participants reported that while all pupils might experience some improvement in their learning, the low achievers would be the ones who would derive the greatest benefits.

Nevertheless, not all of the participants felt that learning would be totally improved from an understanding of LCI. One expressed concern about the delay in pupils' ability to engage in writing and the possible concomitant effects in the upper Infants. She also expressed the view that there would most likely not be any significant improvement in the learning of pupils who experienced no major learning difficulties, since these children learn well regardless of the teaching strategies by which they are taught.

In terms of the pupils' social/emotional learning, one respondent specifically stated that the pupils would become more 'socialized.' Six others each gave examples of the

kinds of social/emotional activities in which improvement would be seen. They all embodied some form of pupil interaction with either materials, peers, adults or the environment. One participant although identifying an academic benefit did not include any social/emotional benefit.

Presentation of Data – Research Question Three

The third research question asked: '*What are the Barbadian teachers' reported pedagogical beliefs about learner centred instruction in the context of ECE'?* The items were:

****

4 What do you perceive your role to be in a learner centred instruction environment?

5 What do you consider to be the role of pupils in a learner centred instruction environment?

6 How do you think the children of the 4-6 age groups construct knowledge?

7 (a) Have you implemented learner centred instruction in ECE with your students? If so tell me how you went about doing the implementation.

7(b) What factors influenced the decisions you made?

****

The following two quotations were from **School (A)** in answer to **Item 4**.

- *I perceive my role as a teacher to guide, observe and give any assistance where necessary. (Jean)*

- *I am the facilitator. . . My role is to make it easy for the children . . . answer their questions and just make learning exciting for them. (Sandy)*

Sample responses from the respondents of **School (B)** were**:**

- *To me the role would be more of facilitating in the students' learning . . . not telling children exactly what to do but just giving guide lines and letting them think for themselves. (Polly)*

- *To guide my lessons, help them to discover information for themselves, help them to be responsible somewhat for their own learning. I also consider my role to be instructor . . . to instruct the children . . ." (Lisa).*

- *Ensure that what they are trying to discover or figure out for themselves you are a part of it (Genevieve)*

Two themes emerged from **School (A)** in response to **Item 5**, active independent learning and social interaction.

The position of active independent learning was summed up in the following views:

- *They are to observe, experiment, listen and take an active part in learning. (Sandy)*

- *To be able to use the Centres intelligently. There should be that independence so that they can work on their own. (Jean)*

The notion of social interaction was reflected in the following quotation:

- *They are to work with each other, interact with each other and discuss what they have been doing with the teacher and with the students. (Lamonte)*

The answers offered by the participants of **School (B)** seemed to fit under two themes, namely: active independent learning and construction of knowledge.

Some of the quotations reflective of the theme of ‘active independent learning’ were:

- *To be involved in the lesson and to basically use their senses to look, listen, observe and participate. (Lisa)*

- *The child’s role then is to . . . manipulate the activity that you may have set up for them, so that they are able then to associate what you are saying in the classroom with their own personal experiences (Cherry)*

One sentiment which embodied the theme of ‘construction of knowledge’ was:

- *The child’s role is to increase their critical thinking skills . . . learn on their own, use the knowledge they have to come up with new ways and new things, new ways of going around the particular situation.(Polly)*

The responses from **School (A)** to **Item 6** were that children construct knowledge:

- *through play activities and observation (Sandy)*

- *by seeing, imitating and mimicking what they see others do. They also do so by practical activities, by trial and error and by experimenting. (Lamonte)*

- *through guided discussion, the Project Method. (Rose)*

The responses from **School (B)** were:

- *They construct knowledge based on their senses (Lisa)*

- *It is a matter of using what they know (Polly)*

- *In some cases it comes with even going on tours, bringing in resource persons . . . their own experiences, experimenting or self-discovery. (Cherry)*
- *They have information that they have already been given or acquired by themselves overtime and they build on it. (Genevieve)*

The answers from respondents of **School (A)** to **Item 7 (a)** as reflected in the following responses focused on establishing Learning Centres, out-door exploration and related follow-up activities.

- *I have implemented learner centred instruction with my class. All the "Corners" were set up for them, they had Dressing Up Corners where they would dress up, talk about what they were dressed up as, they construct sentences in imaginative play. They also used the sand and water play activities where they measured and talked about how much sand is in this container, how little is in this one, so they were doing measurement in the sand and in the water. We also used the building blocks. . . . (Sandy)*

- *What we normally do is that we go to the beach and we look for the material there like sand on the beach. Then they would come back and sort these materials, discuss the materials, make booklets on them, make collages and do drawings, paintings and so on. So yes, I have implemented learner centred instruction. (Rose)*

Samples of sentiments expressed from **School (B)** to **Item 7 (a)** specified use of pupils' prior knowledge, discovery, technology and concrete materials. They were:

- *I try whatever lesson I am doing wherever possible even if it is something like a picture to relate it to something that they know already . . . The children discover things for themselves . . . they get to touch things, look at them, feel them, see how things move. . . and brainstorm (Cherry)*

- *I get them to think rather than tell them everything. We don't get to use as much manipulatives as would be ideal but whatever little I have I try to use with them. I try to use the computer sometimes with them . . . (Polly).*

- *I am not using chalk and talk. . . I use concrete materials. . . I allow them time for guided discovery. (Genevieve).*

The following answers from two respondents (Jean and Lamonte) of **School (A)** to **Item 7 (b)** were subsumed under classroom-related factors such as peer interaction, grouping and tests and one teaching- related factor, namely Principal guidance.

- *I found that children like to interact, to be with each other in groups, to work together. . . I thought that this would be a good idea to provide the Centres where they can go and work together.(Jean)*

Other responses were:

- *From the time I started to teach the 3-4 group I was introduced to it by a Principal of mine . . . . From that time onwards I have always used that method because I find it works. (Sandy)*

- *I am accustomed doing the Project Method . . . We do book work too because we have to do the Language and Maths because for the Criterion Referenced Test you must have a foundation. We do Learning Centres as well to help build on their knowledge and so they won't do all book work which becomes boring after a time. (Rose).*

Responses from **School (B)** to **Item 7(b)** revealed that two of the participants identified teacher training as one of the factors which influenced their decision while other respondents highlighted different factors such as teacher training, mentorship, teaching experience as well as classroom – related factors of pupils' differences and involvement.

One participant added mentorship:

- *The person that I was placed with at the time . . . that helped me and then going to College* (Polly)

Another respondent highlighted teaching experience:

- *I think it is the years in the Nursery . . . and then going to College (Genevieve)*

Pupil differences were specified by another of the interviewees. She responded:

- *There are different children in the class . . . different abilities in the classroom so everyone doesn't learn at the same rate . . . (Cherry).*

Another participant acknowledged that:

- *the more involved the children are, the more you grasp their attention (Lisa).*

Analysis and Discussion - Research Question Three

The responses to research question three '*What are the Barbadian teachers' reported pedagogical beliefs about learner centred instruction in the context of ECE'?* revealed that the participants shared a similar way of thinking and their beliefs were to some extent congruent with the literature. However, these answers seemed to generally indicate that the teachers possessed a superficial, rather than an in-depth understanding of their roles and the roles of the pupils in LCI. On the other hand, their answers displayed a reasonably good depth of knowledge about how pupils construct knowledge and how learner centred instruction should be effectively implemented.

With respect to their role in a learner centred environment, the interviewees confirmed that they believed it is multi-faceted, in that they are to function as guide, facilitator, observer and participant in learning. One comment which summed up the

sentiments of the teachers in relation to their role was *'My role is to guide and help . . . '* (Rose). This statement is reflective of the view of Jia (2010) and Isikoglu (2008) who explain that there is a change in the role of the teachers in that they are now to aid pupils in forming connections between their "previous knowledge" and "new knowledge" (Jia 2010, p. 198) in order to foster their development.

It is however striking that although the participants identified one of their roles as 'guide', they gave no explicit explanation of what this role entailed as is outlined in the literature. It therefore causes me to question whether they are aware of specifically what this role entails or if they were merely able to identify the role by name. It further raises the query as to what would have prevented them from acquiring a clear understanding of this role. Could it be that the requisite information was not conveyed to them during the initial phase of the launch of the Curriculum? Was it that they did not grasp all the facts that were disseminated during the launch or was this the concomitant result of lack of specific training?

A very interesting view was provided by one of the participants. While stating her role was *'to guide my lessons'* she added '*I also consider my role to be instructor . . .*' (Lisa). The response from this teacher seems to indicate that while she held the belief that she should function as a 'guide' she felt that she should also 'instruct' the children. It therefore seems to me that she was attempting to combine the constructivist approach with the traditional method of teaching, which she might have been accustomed to using and with which she might be more comfortable. This is not a unique situation, for in research conducted by Ertmer (2005) on the implementation of technology in the classroom, she reported that some teachers were implementing the innovation "in ways that might best be described as representing a mixed approach" (p. 29), a combination of the constructivist and traditional methods.

The belief of the participants that one of their roles is *'facilitator'* strongly reflects the view of Mvududu and Thiel-Burgess (2012); Powell and Kalina (2009); Wakefield (2008) and Paris and Combs (2000) who all describe the teacher as 'facilitator' whose duty it is to facilitate pupils' knowledge construction (An and Reigeluth, 2011; Kumar 2011) by placing responsibility for learning on them. In this regard Beck et al. (2000)

explain that teachers are to provide opportunities for the pupils to discuss their new ideas with their peers, understand the ideas presented by the other pupils and be reflective about all the ideas.

While seven of the eight respondents identified facilitator as a role, three of them went on to explain what they believe it encompasses. They were as follows: *'to make it easy for the children . . . to answer questions . . . and just make learning exciting for them.'* (Sandy) *'to facilitate, provide material and time to allow them to discover'* (Genevieve) and *'the role would be more of facilitating in the students' learning so whatever I do it would be a way of helping them to learn. . .'* (Polly).

These articulated beliefs of the meaning of a facilitator, bear little resemblance to the literature. Doolittle and Hicks (2003) in addressing the notion of teachers as facilitators, state that the teachers must be able to reflect on their pedagogy and select and employ effective approaches to assist pupils with overcoming their misconceptions. Earlier research by Rallis (1995) identified some of the activities which should be evident in the classroom where the teacher is a facilitator as questioning and probing to help the pupils make meaning, and modelling ways for them to interact with each other while Kostelnik et al. (2011) itemized the roles of the teacher as gatherers of information, goal setters, instructional designers, organizers, evaluators and writers.

The data generated suggested that none of the teachers detailed any of the specific activities that the literature suggests they should engage in while fulfilling their role as facilitator. Only one teacher alluded to her interaction with materials when she stated that she would '*provide material . . .'* (Genevieve). Since the teachers were able to identify the role of facilitator but unable to articulate precisely how they would fulfil this function in their classrooms, it seems safe to conclude that they may have held a rather superficial and narrow view of the role.

This therefore begs the question as to whether the teachers believe that they have a thorough understanding of their role as a facilitator and if they are aware that it entails much more than just providing materials. It would also lead me to wonder how this

role is fulfilled in the ECE classroom since "practitioners must connect what they know with what they do" Kostelnik et al. (2011, p.44).

This sample response of the teacher revealed the belief that an additional role of the teacher is an observer: '*observe and give any assistance where necessary'* (Jean). This position was endorsed by Henniger (2005) who opined that teachers should carefully observe children as they engage in different activities in order to learn about their development, progress and needs and help them to construct their own knowledge.

It is worthy of note that the espoused beliefs of the teachers revealed that they had only a basic understanding of their role as an 'observer'. Whereas they were able to suggest generally what they would do as they observed the pupils, they failed to state specifically when they would be observing and on which educational issues they would focus.

One of the interviewees believed that a 'participant in the pupils' learning' was a role of the teacher. Her view was expressed as: *'ensure that what they are trying to discover or figure out for themselves, you are a part of it'* (Genevieve). This assertion seemed to imply that the teacher was aware that she was to be a "co-constructor of knowledge" (Ebbeck and Chan, 2011). This involves participating in the pupils' learning and helping them to "construct their own learning in a seamless, integrated and holistic way" (Ebbeck and Chan 2011, p. 458). As such the opinion of the teacher showed some commonality with the literature.

Based on the replies of the participants on the role of pupils in a learner centred environment, I concluded that their answers seemed to indicate that the pupils had to perform three main functions: *'active independent learners'*, *'socially interactive'* and *'constructors of knowledge'.*

Some of the noteworthy statements expressed by the interviewees in relation to the pupils being 'active independent learners' were '*they can work on their own'* (Jean). '*They are to observe*, *experiment, listen and take an active part in learning'* (Sandy). These comments reveal that some similarities exist between the belief of the

participants and that of Iran-Nejad (2001) and Ebbeck and Chan (2011) who opine that children should be actively and independently involved in their learning through exploring their world and constructing their own knowledge about it.

The interviewees seemed to share the belief that in order for the pupils to be actively involved in their learning, they only need to be using their senses and engage in some form of practical activity such as observing and experimenting. However they failed to identify the main activities in which the pupils should be engaged and which would result in their development of critical thinking skills. This is worth highlighting since these are the skills which local research in Barbados reveals need to be fostered in pupils of Barbadian primary schools (The University of the West Indies, Cave Hill Campus, 2010).

Furthermore, it is significant that although the respondents from both schools confirmed that they believed children should be active, independent learners, only one from each school specifically communicated that the pupils should be involved in outdoor activities, interact with real life objects and engage in real-life experiences. This is somewhat surprising since these are critical components of ECE classrooms and based on my personal experience as a teacher of ECE these activities are usually prevalent in the early years classrooms. The question therefore arises as to whether most of the interviewees provide these learning activities for the pupils and if not, why not.

Another expressed view of the participants is that one of the roles of the pupils is to be 'socially interactive'. This belief, expressed as: "*they are supposed to work with each other and discuss what they have been doing with the teacher and with the students'* (Lamonte), was similar to that of Perkins (1999) who proffers that knowledge and understanding are very social and are co-constructed through conversations with others. It also reflects the view of Speaker (2001, p.613) that classrooms should "encourage interaction" . . . "sharing of ideas, questions and solutions." The implication for this is that every opportunity should be afforded for pupils to interact with their peers.

In responding to how pupils of the 4-6 age groups construct knowledge, the teachers held varying views which were congruent with the literature. One response *'mainly*

through play' (Jean) alludes to the views of Kumar (2011); Doolittle and Hicks (2003) and Terwel (1999) who maintain that knowledge is constructed individually and socially. While stressing the importance of interaction Terwel (1999) however offers the caveat that the emphasis should be on the quality rather than the amount of interactions.

Another response *'They construct knowledge by applying themselves to resources or activities . . . going on tours, bringing in resource persons . . .'* (Cherry) was consistent with Essa (2011, p. 327) who maintains that "children have to construct knowledge for themselves" by interacting with materials and persons which are of interest to them. Henniger (2005, p. 85) also asserts that it is through these interactions and the manipulation of real life objects, that children construct their own knowledge of the world around them".

The opinion of the respondent with regards to pupils constructing knowledge *'by practical, by trial and error and by experimenting'* (Lamonte) reflects the belief of Morrow and Dougherty (2011). These researchers assert that knowledge is acquired when pupils interact with the world by using real-life materials, playing, experimenting, using language and constantly changing and reorganizing their own knowledge.

The foregoing information indicates that there are implications for teachers who promote the construction of knowledge by pupils, namely: provision should be made for the children to engage in a wide variety of experiences, to interact with people, real-life objects and materials based on their interests.

Another participant proposed that in constructing knowledge *'It is a matter of using what they know, what they learnt'* (Polly). This assertion alludes to the views of Tafrova-Grigorova, Boiadjieva, Emilov and Kirova (2012); Mvududu and Thiel-Burgess (2012); Jia (2010); Sert (2008); Snider and Roehl (2007) and Terhart (2003) who all agree that new knowledge is individually constructed by pupils and is based on their prior knowledge, or beliefs, life experiences, cultural practices and backgrounds. The educational implication is that it is essential for teachers to discover and give serious consideration to the pupils' existing knowledge and provide ample opportunities for the integration and utilization of additional knowledge.

It is of significant import that there was a common opinion which was included in the responses of three of the participants, namely that children construct knowledge through observation or what they can see. Should the 'observation' or 'seeing' to which the teachers referred be of the passive kind, then it is not substantiated by research. Conversely literature by researchers such as Tafrova-Grigorova et al. (2012) Mvududu and Thiel-Burgess (2012) and Morrow and Dougherty (2011) corroborates the belief that the construction of knowledge is an active mental process including but not limited to physical activity.

In response to the question of if the participants had implemented LCI; three of them indicated that they had done so partially, one said she made attempts to do so, while four gave an affirmative answer. The responses by the four teachers, who failed to confirm that they had fully implemented the reform, raise questions as to the main reason for the teachers' lack of full compliance and if there was the possibility that it could be attributed to their lack of understanding and acknowledging the need for change. Was it a case of being unsure as how to actually carry out the implementation or were their actions connected in any way to their experiences and beliefs?

Consideration must be given to the connection between teachers' beliefs and their actions, for in explaining the link that exists, McCombs and Whisler (1997) proffer that teachers' beliefs and assumptions affect what they do in the classroom. It stands to reason that in order for a reform such as LCI to be successfully implemented, teachers must be persuaded about the importance of change, be reflective of their fundamental beliefs and be open to innovations (Lim, 2007).

With reference to the four teachers who gave a positive response about the implementation of LCI, it is noteworthy that literature (Polly and Hannafin, 2011; Schneider, Krajcik and Blumenfeld, 2005) reveals disconnects between teachers' enacted and espoused practices in that while they indicated they were implementing learner centred instruction, they were observed to be actually using didactic teaching during their lessons. The following question must therefore be answered: Has a change really taken place or is it just "the noise and motion" that "give an appearance of fundamental reform?" (Cuban 1990, p.10)

An examination of the answers from the participants, with regards to how they went about implementing learner centred instruction, revealed that the varied submissions were generally consistent with literature. This was evidenced by the examples which were given of the activities in which the teachers and pupils were involved.

In their responses two of the interviewees highlighted the inclusion of children in decision-making and the provision of opportunities for their intellectual and social development. Samples of the activities were allowing the children to *'help to set up the Centres, say what they would like to have'* (Jean) and '*deciding on a theme with the children'.* (Sandy). These activities gain favour with McCombs and Whisler (1997) who attest that pupils' learning is improved when they are partners in their learning and therefore they should be included "in the setting of learning goals" (ibid, p.26).

When compared with literature by McCombs and Whisler (1997), the foregoing responses of the teachers seemed to suggest that they provide the recommended learner centred experiences for their pupils. The use of Learning Centres should facilitate the pupils' choice of activities, their learning preferences, needs and "responsibility for their own learning" (ibid, p.10). Their involvement in decision-making would suggest that they are given "acknowledgment, and respect" by their teachers (ibid, p. 83).

Emerging from the respondents was also the importance of using developmentally appropriate activities and interacting with the pupils. Quotations worthy of note were: *'I am not using chalk and talk. . . I use concrete materials. . . I allow time for guided discovery'* (Genevieve)

'*I allow the children to go into certain Learning Centres and I go to each Centre. . . and discuss what they are doing'* (Lamonte).

These espoused practices of the participants acquire support from Speaker (2001) who identifies some developmentally appropriate practices which enhance the children's ability to learn. They include "providing children with concrete learning experiences, creating environments which enable children to learn through active exploration and interaction, and designing appropriate activities for different ability levels" (p. 611).

When the participants indicated that they use concrete materials, facilitate guided discovery and establish Learning Centres, they revealed that they believe in using appropriate learner centred practices. Additionally, visiting the Learning Centres to examine and discuss the activities of the pupils facilitates teacher-pupil interaction as well as the monitoring of the pupils' progress and their holistic development.

A response from one of the teachers with respect to how she implemented learner centred instruction was: '*I try to use the computer sometimes with them'.* (Polly). This stance is a resemblance of the thoughts of Hermans, Tondeur, Braak and Valcke (2008, p.1500) who cite Hannafin and Land (1997) as expressing the view that "technology provides opportunities for access to resources and tools that facilitate the construction of personal meaning by relating new knowledge to existing conceptions and understanding".

Fletcher (2006) adds weight to the issue by affirming that the formative years are important for the learning of technology and Morrison (2012) proposes that it should be integrated in the ECE curriculum as it can aid pupils in developing higher-order learning through facilitating "critical educational and cognitive processes such as cooperative learning, group and individual problem solving . . . and critical thinking. . ." (p. 379).

From my experience I believe that effective integration of technology in Barbadian primary schools is vital since it would promote higher order thinking. This skill needs to be developed from an early age so that by the time the pupils reach age 11+ they would be able to master the higher order questions which are included in the BSSEE and which over the past years have proven to be consistently challenging.

Based on the data generated from **Item 7 (b)** which questioned the respondents as to what factors had influenced their decision to implement LCI, I realized that though varied they could be grouped under two main headings: **Classroom Factors** and **Teaching-related Factors.**

Classroom Factors

Snider and Roehl (2007) refer to research conducted by Duffy and Anderson (1984) as proposing that teachers base their instructional decisions on classroom factors or the socio-cultural conditions in which they work. The classroom factors which I identified from the responses of the teachers were: pupils' differences, pupils' love of activity, peer interaction, grouping, and the Criterion Referenced Tests.

Emerging from the respondents was the belief that their instructional decision was influenced by the differences which were exhibited by the pupils. One teacher pointed out '*there are different children . . . different abilities . . . everyone doesn't learn at the same rate . . .'* (Cherry). The opinions of the interviewees echo the view of Chan (2010, p. 9) that "students learn in different ways, with a mix of motives, beliefs and perceptions of the contexts they are in" and these characteristics affect how they learn and hence their attainments. The data were also congruent with literature by Morrison (2012), Kostelnik et al. (2011) and Hsiao and Yang (2010) who indicated that consideration should be given to pupils' learning needs as individuals rather than as groups.

Another factor which was considered by one of the participants was pupils' love of activity. She remarked *'They learn better when they are actually taking part in an activity'* (Lisa). This view is echoed by Hyslop-Margison and Strobel (2008, p.73) who note that "active participation by learners" results in "improved attention to the subject matter and correspondingly improves learning".

Peer interaction and grouping were other influential factors identified by the respondents. This was confirmed by the following statement: '*I found that children like to interact. They like to be with each other in groups, they like to work together. . . '* (Jean). This comment is in accord with Brown (2003) who submits that opportunities should be provided daily for group work and positive interaction since this would result in academic motivation. Additional support for pupil interaction comes from Jones, Lake and Dagli (2005) and Yilmaz and Sahin (2011).

Strikingly enough, one of the respondents cited the Criterion Referenced Tests as a reason for implementing LCI. She was of the opinion that since the pupils of the 6-7

age group were required to write this national test in Language Arts and Mathematics she had to provide her 4-5 year old pupils with '*a foundation'*. This she said was achieved by using Learning Centres '*to help build on their knowledge and so they won't do all book work which becomes boring after a time'* (Rose). The respondent appeared to express the belief that she needed to not only engage her 4-5 year olds in written work in order to prepare them for the tests, but she also needed to provide them with practical activities through use of Learning Centres.

The issue of written work versus play is addressed by Riley and Jones (2010) and Emfinger (2009) who assert that pupils need to be serious and focus on academic work rather than engage in play. However, while not refuting the importance of reading and writing activities (Brown, 2003) the need for young children to engage mainly in play and hands on activities so as to extend their "intellectual understanding" (Henniger 2005, p. 126) is consistently underscored by literature (Essa 2011, Kostelnik et al. 2011, Sherwood and Reifel, 2010; Wood, 2009; Wasik, 2008).

Teaching-related factors

With regards to teaching-related factors, I determined that these were teacher training, teaching experience, teacher mentorship and Principal's guidance.

Two of the respondents (Polly and Genevieve) stated they were influenced to implement LCI *'from going to . . . College'*. The respondents' submission is rather interesting when compared with the literature. Firstly Cohen (1993 cited in Mansour 2009, p. 36) advances the view that when teachers complete formal training and become in-service teachers they employ either contemporary or traditional strategies. Secondly, Chan (2010, p.15) maintains that the beliefs and views of pre-service teachers about learning and teaching are subject to change depending on various factors such as how strong their beliefs are, the extent to which constructivism was used and encouraged during their training and their overall teacher training experiences.

The response of the interviewees seems to suggest that due to the influence of their teacher training they had given up their conventional beliefs of didactic teaching and embraced the curriculum reform. This would imply that the teachers had "a paradigm shift" (McCombs and Whisler 1997, p. 16) since their educational beliefs affect "their

instructional planning and practices" and "the potential success of educational reforms" (Sang et al. 2009, p. 363). There is also the implication that they were influenced by the teaching methods used during their training. This is striking since based on my personal experience during my teacher training I did not experience being taught using the constructivist approach, and as far as I am aware it does not influence the teaching methods which are used to date. This therefore raises the question as to what would account for the apparent change in the teachers' beliefs since "beliefs are static" and "are more powerful than knowledge in influencing the way in which [teachers] teach" (Nespor, 1987 cited in Mansour 2009, p. 27).

'*I think it is the years in Nursery'* (Genevieve).was another reported factor. This view is substantiated by Mansour (2009) who asserts that sources of teachers' beliefs include both their formal and informal experiences.

One participant singled out '*the person that I was placed with at the time. . . '*(Polly). She indicated that she had benefitted from the other teacher and I termed this teacher induction or mentoring. This stance gains full support from Sosik, Lee and Bouquillon (2005, p. 94) who cite Wanberg, Welsh, & Hezlett (2003) as maintaining that benefits have been derived in "informal mentoring relationships which develop naturally between individuals." Furthermore Kardos, Johnson, Peske, Kauffman and Liu (2001) posit that during mentoring the protégé receives assistance with what instructional approaches are to be promoted and which are to be suppressed.

'I was introduced to it by a Principal of mine' (Sandy). This participant articulated that her influencing factor was guidance from a Principal. This observation receives support from Sergiovanni (2006, p. 269) who admonishes that "principals must be directly involved in the teaching and learning life of the school" and need to provide opportunities for teachers to enhance their teaching skills. Cordeiro and Cunningham (2013, p. 10) further explain that principals need to possess "a deep understanding of curriculum, instruction, assessment and adaptations to unique contexts" so that they can support, motivate, coach and mentor staff. By so doing the administrators would be fulfilling another of their critical roles, that of instructional leader.

It must be noted that whereas the respondents identified classroom and teaching-related factors which influenced their decision to implement LCI, they did not include

some of the other crucial factors which were highlighted in the literature. These included shifts in international pedagogical strategies and the need to promote critical thinking. In respect of the need to promote critical thinking, Snyder and Snyder (2008, p. 90) stress that "merely having knowledge or information is not enough" and in order for pupils to lead effective lives they "must be able to solve problems to make effective decisions" . . . and "think critically".

Summary

The data generated from the third research question '*What are the Barbadian teachers' reported pedagogical beliefs about learner centred instruction in the context of ECE'?* revealed that there were varied beliefs among the eight respondents. This was in relation to their role as teachers, the role of the pupils and how the pupils construct knowledge. Additionally, the participants expressed diverse opinions as to how they had implemented learner centred instruction and what factors had influenced their decision to put this innovation into practice.

The responses seemed to show that the interviewees believed they had various functions to perform as teachers in a learner centred environment. In this regard they identified their roles as guide, observer, facilitator, and participant in pupils' learning. Seven of the eight participants communicated that they were to function as a guide as well as a facilitator. Three participants from School (A) and all four from School (B) identified the role of facilitator while four from School (A) and three from School (B) specified the role of guide. Three of the eight respondents shared the opinion that they had to fill the role of observer while only one of the interviewees expressed the belief that she was to be a participant in the pupils' learning.

The respondents suggested that as a guide they were to help the pupils improve in their activities, aid them in discovering information for themselves and being responsible for their own learning. As an observer, the teachers' general thinking was that they were to observe the children at work, see where they were going wrong and guide them correctly. In respect of the role of facilitator, the espoused belief of the interviewees was that they were to make learning easy and exciting for the pupils, answer their questions, provide assistance where necessary, and provide them with material and time for discovery. The sole respondent who believed that the teacher

was to function as a participant in the children's learning, indicated that this would be achieved by the teachers ensuring that they were a part of whatever the pupils were trying to discover.

In terms of the role of the pupils, the participants conveyed the belief that the pupils had three main roles to perform, namely: interact socially, be active independent learners and constructors of knowledge. Three of the respondents from School (A) specified social interaction and suggested it could be done by the pupils working with each other and discussing their activities with their peers and the teacher. According to six of the eight respondents, as active independent learners, the pupils would be involved in their lessons as evidenced by their manipulating activities in Learning Centres, using their senses to perform activities such as listening and observing and experimenting. Three interviewees from School (B) felt the pupils were to be constructors of knowledge and indicated this would be revealed by the pupils using prior knowledge in order to find new ways of doing things, arriving at new knowledge, and relating information which they gained from teachers to their own personal experiences.

The interviewees seemed to embrace the belief that children of the 4-6 age groups construct knowledge in several ways. Two of the eight participants, both from School (A) shared the belief that the children construct knowledge through engaging in play and a similar number from School (B) expressed the view that knowledge was constructed through pupils' building on prior knowledge. The other participants submitted responses such as through observation, guided discussion, the Project Method, experimenting, trial and error, practical activities, use of their senses, interacting with resource persons and going on tours. These responses appeared closely linked with the beliefs of the respondents in respect of what they considered to be the roles of the pupils.

With regards to pupils constructing knowledge through play the respondents cited examples of using block and sand play to develop mathematical concepts and involving the children in dramatic play activities to promote language skills. An in-depth explanation given by one interviewee was that participating in play would

enable the pupils to exercise their minds and bodies, enable them to think, use language, and learn about themselves and their environment.

On the matter of implementing LCI, three participants from School (A) and one from School (B) confirmed that they had put the innovation into practice. However, the other four respondents acknowledged that they had done the implementation in varying degrees and thus gave answers such as ‘not fully’, and ‘to some extent’.

In response to how they had implemented LCI, the most frequently espoused belief from the participants, both directly and indirectly, was that it had been done through the establishment and use of Learning Centres. This answer was provided by six of the eight interviewees who were mainly from School (A). Additional submissions from two other respondents of School (B) were that they had put the innovation into practice by using the pupils’ prior knowledge, engaging them in self-discovery and out-door exploration and by integrating technology in lessons.

In sharing their belief as to what factors had influenced their decision to implement LCI, the respondents from School (A) stated that their action was based mainly on classroom-related factors while the participants from School (B) identified teaching-related factors. The classroom-related factors were peer interaction and grouping, love for activity, pupils’ differences, and the Criterion Referenced Tests. Two of the eight respondents cited peer interaction and grouping, one identified the Criterion Referenced Tests and one each specified pupils’ differences and pupils’ love of activity. The teaching-related factors were mentorship, teacher training, teaching experience and guidance from a principal. Two of the eight respondents identified teacher training, and one each specified mentorship by a teacher, teacher experience and guidance by a principal. In sum, it seemed that the number of participants was equally influenced by the two groups of factors. This is evidenced in that five of the eight participants expressed the belief that they were influenced by classroom related factors and a comparable number also communicated the conviction that they were influenced by teaching related factors.

All in all, the responses from the interviewees seemed to suggest that they held a multiplicity of pedagogical beliefs about LCI in the context of ECE, some of which were grounded in the literature.

Presentation of Data - Research Question Four

The fourth basic research question was: **'***How do the pedagogical beliefs of Barbadian teachers influence their implementation of learner centred instruction in the ECE curriculum'?*

The following three items contributed to this question.

****

8 (a) Describe the process you use for lesson planning.

8 (b) What consideration do you give to the learner centred approach while you are planning your lessons?

9 Can learner centred instruction be extended outside of the classroom? Explain

****

Samples of the responses of the participants from **School (A)** to **Item 8 (a)** are:

- *I think about the needs of the children . . . suitable materials . . . objectives that are practical and meaningful and suited to the children's ability. I try to use the Project Method because this enables children to be able to find out. With the assessment I can observe, use teacher made test, checklist or Portfolio.* (Jean)

- *I think about the children . . . their age, interest and ability. I would use grouping . . . select materials according to the abilities of the children . . . and use observation, illustration or dramatization in order to access the children.* (Sandy)

Following are representative quotations of the participants of **School (B)**.

- *I think of a topic and what is the best way I can teach it so that the children can grasp the concepts . . . I decide the best way to assess the particular topic . . . sometimes orally, sometimes written.* (Polly)

- *I basically follow the template of the lesson plan that was given to me . . . research interesting things that they would enjoy and do my assessment based on that. Also our curriculum involves a lot of writing and testing so then I would also use that method. . .* (Lisa)

The responses from the participants of **School (A) to Item 8 (b)** ranged from 'giving consideration in some lessons to the learner centred approach' to 'putting it foremost in planning'. The quotations which follow reflect this range of opinions.

- *I make provision for it in some lessons . . . Language Arts and Mathematics (Lamonte)*

- *It is foremost in my mind. (Sandy)*

- *I consider the learner centred approach a lot. (Rose)*

- *I think about the materials which would be suitable for the theme . . . how best these would be used to meet the needs of the children. (Jean)*

The replies from the participants of **School (B)** varied from not giving 'really much consideration' to being 'very important in planning'. The following quotations reflect this spectrum of views:

- *Well not really much because I don't know much about it . . . (Genevieve)*

- *I try to think of the ones at the bottom especially . . . (Polly)*

- *I consider the approach because I think it is more effective to have the children as the main focus of lessons (Lisa)*

- *The approach is very important so in my planning I try to find ways and means where children can have things to touch, go to Centres, or have an activity that they can manipulate in different groups. (Cherry)*

A typical response which encompassed the views of the respondents from **School (A)** to **Item 9** as to whether learner centred instruction could be extended outside of the classroom was:

- *Yes it can. We do a lot of it outside the classroom because we have parents involved a lot in our lessons. Community workers are also involved a lot . . . fishermen . . . vendors and carpenters. They come into the classroom and they share their knowledge with the children. We have visited the fish market, the vendors, and gone . . . on a glass bottom boat. We have also gone out into the community.* (Sandy)

One quotation which subsumed the opinions of the respondents from **School (B)** was:

- *Yes it can be. You can always bring resource persons to the class . . . a dentist would be able to show the children some of his tools, uniform, those sorts of things . . . We can also take them on tours (Cherry)*

The data generated from both schools to **Item 9** seemed to fall naturally under four main headings, namely: educational tours, visits by resource persons, school environs and parental involvement.

Analysis and Discussion - Research Question Four

The fourth basic research question was: **'***How do the pedagogical beliefs of Barbadian teachers influence their implementation of learner centred instruction in the ECE curriculum'?*

The responses of the interviewees seemed to reflect that their beliefs affected the implementation of learner centred instruction in the ECE Curriculum with regards to their planning of lessons, the consideration given to LCI during their planning and the extension of LCI outside of the classroom.

With specific reference to the process used for Lesson Planning, much commonality was seen among the responses from the participants. This could be attributed to the fact that they all received their teacher training from the same Teachers' College in Barbados and would have been taught to prepare lesson plans using one particular

traditional format. This design is referred to as the Tyler model, an objectives-based linear model which has four main components, namely: instructional objectives, activities related to the objectives, sequencing of the selected activities and appropriate assessment procedures which are aligned to the objectives (Ko, 2012).

Five of the eight participants included all of these areas in their process of lesson planning. All eight respondents mentioned "materials" and "assessment", seven of them named "teaching method" "procedure" or '*learning experience'* while five included "objectives." Two of the eight interviewees each listed "activities" and "topic".

An interesting emergence from the data was that three of the respondents stated that the first thing they did when planning lessons was to consider the pupils' needs, age, interests and abilities. Specifically, two of the participants (School A) noted: '*I think about the children that I am going to teach . . . their age, interest and ability'* (Sandy). *'I think about what are the needs of the children . . . what information I should pass on to them and how I should go about it . . .'* (Jean). These views are in congruence with that of Kostelnik et al. (2011) who posit that specific needs of individual children should be addressed during planning. Henniger (2005) adds that activities and experiences selected by the teacher should be based wherever possible on the interests of the children. Five of the eight respondents did not report that they focused on the needs, age, interests and abilities of the learners.

On the matter of including objectives in lesson plans, five participants acknowledged that this was part of their planning process. One of the five respondents explained that she selected objectives which are *'practical and meaningful and suited to the children's ability'* (Jean). Kostelnik et al. (2011) point out the importance of objectives by explaining that they are the specific observable learning behaviours which pupils are helped to display because of their participation in a lesson. The implication of this is that teachers should first be aware of the needs of the pupils and then select appropriate goals for the lesson. This will allow the educators to select their instruction and assessment strategies more purposefully. Furthermore, since all pupils cannot be expected to achieve the same goals in the same time frame, by identifying the outcomes towards which they are working, teachers and pupils would

be better able to address the "unique needs of specific children" (Kostelnik et al. 2011, p.72).

There were four respondents who seemed not to stick slavishly to the objective-first linear model, since they focused first on either content or activities and then prepared related objectives. One sample statement was: '*Sometimes I think of my activities first and then I base my objectives on those activities'* (Lisa). This is not a unique situation, for Ko (2012) makes reference to research in which the participants revealed that they did not prefer the objective-first lesson plan and hence focused primarily on the content which they had to teach, the instructional activities and the materials. A preference was shown for a nonlinear method of lesson planning which provided the respondents with "unlimited opportunities to go back and forth among the stages as often as necessary" (Ko 2012, p.96).

It is my view that while there is no single correct design for lesson planning, what is critical is that teachers should engage in consistent, meticulous planning that makes provision for addressing the needs of the pupils and for their active participation in learning rather than merely focusing on the transmission of content. Dorovolomo, Phan and Maebuta (2010, p. 448) confirm that plans which are "thorough and specific" result in lessons which are "valuable and productive" while "sporadic and haphazard planning results in unfocused and unproductive learning experiences". They further stress that successful lessons are "process-oriented and student-centred" while less successful ones are "procedurally vague and teacher-oriented" (p. 448).

Strikingly, three interviewees did not indicate that they include objectives in their lesson plans. This raises the question as to why this was the case seeing that objectives are so critical to the learning outcomes of each child. It also causes me to wonder how these teachers would proceed with a lesson since "each part must relate to and support the other parts" (Kostelnik et al. 2011 p. 82). Furthermore appropriate assessment procedures are usually aligned to the objectives (Ko 2012). This begs the question as to whether there is any alignment in the plans of these teachers. Moreover, this leads me to wonder if the reason for the omission of objectives could be that the respondents focus more on content knowledge and sequencing of activities and

materials or whether it is that the administrators who evaluate the lesson plans stress the procedural features rather than the objectives.

The data generated suggest that seven of the eight participants mentioned procedure/methods, which include the lesson introduction, development/learning experiences and conclusion. This was noteworthy since this component of the lesson plan "outlines the instructional strategies the teacher will use to support children's achievement of each objective" (Kostelnik et al. 2011 p. 79) and it is also where "teachers combine their knowledge of child development and learning with their understanding of effective instruction to determine what teaching strategies are best suited to the lesson and the children involved" (Kostelnik et al. 2011, p. 79).

One participant identified the specific method and activities which she employs in the following words: *'I would try to use the Project Method . . . take them on Nature Walks or educational tours. They can ask questions of adults or other teachers.'* (Jean) This view is fully supported by Katz (2007) who is one of the proponents of the Project Method and advances the view that provision should be made for young children to have "frequent opportunities for active firsthand investigation and direct observation" and there should also be "ample opportunity for interactive experiences with the human, as well as material environment of the children" (Katz 2007, p. 35).

An examination of the data also revealed that all eight of the respondents identified '*materials'* as being a component of lesson planning. Materials refer to every necessary item needed by the teacher and the children "for the setup, implementation, and cleanup phases of each activity" (Kostelnik et al. 2011, p. 79) in each particular lesson. Some of the participants closely echoed the literature in stating that: *'Not everyone would get a grasp of the concepts from just listening to them so we use a lot of charts and materials'* (Rose)

'I use materials according to the abilities of the children and the activity they are doing' (Sandy)

Mazgon and Stefanc (2012) uphold the inclusion of materials in lesson planning and stress that when the teacher selects appropriate materials, pupils' motivation to learn increases and therefore they "must be prepared in such a way that they help the

teacher with quality planning and carrying out of the teaching process and students with their independent learning . . .” (p. 174.

The stance of the respondents also reflects the view of Varol and Farran (2006) who posit that effective instruction in the early years incorporates the use of concrete materials and an adequate supply may have a major effect on students’ academic success.

The articulated views of the respondents with regards to pupils learning through different senses and hence the need for different kinds of materials to be available in the lessons gains support from Turel and Varol (2012, p.18) who opine that “materials can facilitate students’ learning by addressing [these] senses during instruction.”

The opinion of the participants that materials are a critical component of lesson planning also receives support from Essa (2011). She proposes that a rich variety of play and learning materials should be available in every early childhood classroom, be developmentally appropriate, promote active involvement and exploration and enhance the children’s imaginations and problem-solving skills. Kostelnik et al. (2011) also maintain that each plan should contain a full list of the materials which are required to execute it effectively and these materials should support hands-on experiences. Teachers should be cognizant that in some instances the pupils may not be able to perceive the relationship between materials and concepts and therefore discussion and co-operative activities with peers and teachers would be necessary (Varol and Farran 2006).

The use of physical instructional materials has been emphasized for use in classrooms with young children for decades. However, due to the present technological era, I wish to suggest that it would be worthwhile to give some thought as to whether hands-on activities must of necessity be conducted with physical materials. This is worthy of some consideration since there are “new generation electronic materials which contain elements such as simulation, interactivity, and virtual reality” (Turel and Varol 2012, p.32) that may be beneficial to young children.

With regards to assessment, all eight of the interviewees listed it as a component of lesson planning. According to Kostelnik et al. (2011, p. 81) assessment aids the

teachers in assessing "the accuracy of their observations, the lesson content, [and] the effectiveness of teaching methods." It also makes provision for the teacher to revisit the intended learning outcomes that were selected for the lesson and to determine the degree of success that was achieved in helping the pupils to accomplish these outcomes. Varol and Farran (2006) further emphasize that assessment enables teachers to acquire information about the pupils' skills and potential, provides constructive feedback for the pupils and aids the teacher in improving teaching.

Essa (2011) quotes the Council of Chief State School officers (2008) as defining assessment as "a systematic procedure for obtaining information from observation, interviews, portfolios, projects, tests, and other sources that can be used to make judgments about characteristics of children or programs" (p. 166). The participants' suggestions as to the types of assessment which they included in their lesson plans bear perfect resemblance to the fore-going definition in that they listed '*observation, illustration, dramatization'* (Sandy), *'observation, checklists, portfolios' (Jean), 'oral answers'* (Polly) *'teacher-made pencil and paper tests'* (Lisa).

All strategies highlighted by the respondents, except the teacher-made tests, allow for the recording of naturally occurring behaviours of the children as they engage in their daily routines and are in consonance with the beliefs of Bagnato and Ho (2006); Kostelnik et al. (2011) and Essa (2011). While the respondents indicated that they used mainly contemporary forms of assessment, they also included the traditional mode of pencil and paper tests. While these may be used when appropriate in learner centred classrooms, they should not be the only form of assessment (Bagnato and Ho, 2006; McCombs and Whisler 1997). The respondents did not clarify the purpose for which they use assessment, for example if it was diagnostic assessment. If it is so, then they are being consistent with LCI.

A comment from one of the interviewees which deviated from all the others and hence captured my attention was: *'My lesson planning usually starts by finding someone else with a plan . . . or I take one of my early Nursery plans and I beef it up. . . '* (Genevieve). This position is quite contrary to literature by Williams, Evans and King (2012) who point out that teachers need to prepare lesson plans based on the

pupils' specific characteristics and needs rather than prepare plans for large group instruction and then adjust them to suit specific pupils.

In response to the question of what consideration the respondents gave to the learner centred approach while they were planning their lessons, four of them gave '*foremost consideration'* (Lisa, Cherry, Sandy, Rose); one indicated she did so in '*Language Arts and Mathematics'* (Lamonte), another revealed that she concentrated on preparing especially for the ones '*at the bottom'* (Polly). One other respondent opined that she focused specifically on *'materials'* (Jean) and one said she did not give '*really much'* (Genevieve) consideration to it as she did not know much about the approach.

The four respondents who indicated that they gave foremost consideration to the learner centred approach while planning lessons, had their position endorsed by McCombs and Whisler (1997) who postulate that learner centred teaching should take into account the diverse and distinctive needs and learning styles of the pupils. The implication then is that the teachers would have to plan their lessons appropriately in order to adequately cater to each pupil while teaching or interacting with them.

The statement by one respondent that she made provision for the learner centred approach in only Language Arts and Mathematics raises questions as to why the other subjects are not included. This is of concern since early childhood teachers are responsible for teaching all subjects in the curriculum. A possible explanation for this could be that some teachers place greater emphasis on these subjects because they are the ones that are assessed in the Criterion Referenced Tests at ages 6-7 and 9-10 and in the BSSEE at age 11+. It may therefore be that the teacher was seeking to ensure that the pupils had a solid foundation in preparation for these examinations. It is also likely that because primary schools in Barbados are rated according to the performance of pupils in these assessments, some teachers seek to ensure that they do all in their power to ensure that the pupils perform creditably. It must be noted however that Kostelnik et al. (2011, p. 192) caution that there is an "erroneous assumption that high scores on standardized tests equal high rates of learning by the children taking the tests."

If the probable reasons as to why the respondent did not consider the other subject areas for learner centred instruction are accepted, then the view of Bagnato and Ho (2006) must be acknowledged. They warn that high-stakes testing result in teachers teaching to the test rather than ensuring that the pupils improve in all areas.

The view advanced by one of the participants that while planning lessons she thinks about all the children, especially those at the bottom seems to imply that the participant focused on all pupils in the classroom. This view strikes a similar chord to Morrison (2012); Kostelnik et al. (2011); Hsiao and Yang (2010) and Henniger (2005) who concur that all children regardless of their attainments should be provided with appropriate learning activities which should be included in the teachers' planning.

In respect of the respondent whose reply emphasized 'materials', it seems to me that her focus was mainly on resources rather than on the children. The inclusion of teaching and learning materials in lessons is crucial for young children (Mazgon and Stefanc 2012; Turel and Varol 2012; Essa 2011; Varol and Farran 2006) but according to Kostelnik et al. (2011, p. 71) it would be erroneous for educators to assume that learner centred instruction in early childhood education is about "simply putting out materials for children to use."

Emerging from one interviewee in particular was that she did not give much consideration to the learner centred approach during planning her lessons because she did not know much about the approach. This acknowledgement is a cause for concern, since all teachers of the Infant Departments of primary schools are required to teach using this approach. If the teacher admits to not knowing much about this approach then it is very likely that her planning will not reflect the developmentally appropriate strategies which should be used with her pupils. The resultant effect could be that the children may be provided with inappropriate tasks for which they are not developmentally prepared and consequently be lacking in the development of the relevant knowledge and skills which are critical for their age. It was highly reassuring to see that this respondent was comfortable enough during the interview to reveal this.

In addressing this matter, Henniger (2005, p.83) stresses that it is important for teachers to have "an understanding of the overall patterns of child development and

learning" since the more they know and understand about "normal child development and variations from these typical patterns," the better able they are to "plan appropriate learning experiences" for their class.

An examination of the answers from the interviewees in respect of whether LCI could be extended outside of the classroom revealed that they all responded in the affirmative. Their articulated views receive full support from Essa (2011) and McCombs and Whisler (1997) who agree that although learning in learner centred classrooms occurs mostly in the classroom, it often extends beyond the walls of the classrooms to other areas in the building or to places in the community.

The replies of the respondents as to how the learning could be extended outside of the classroom fell naturally under four headings: educational tours/field trips, visits by resource persons, school environs and parental involvement. It must be noted however that these learning environments do not on their own guarantee LCI. One of the interviewees explained that the pupils '*have firsthand experiences when they can go out and view things for themselves'* and Kostelnik et al. (2011) explain that the younger the children, the more beneficial are firsthand experiences.

One participant explained: *'We have parents involved a lot in our lessons. Community workers are also involved a lot . . .'* (Sandy) Strong support for this view comes from McCombs and Whisler (1997) as they stress that the community can be a significant component in the classroom since members of the community can serve as guest speakers and share their expertise and experience or work informally with the pupils either in small groups or individually.

One response which struck a chord was:

'You can always bring resource persons within the class . . .' (Cherry). Interestingly, this view is identical to that of Henniger (2005, p. 189) who opines that "community helpers such as doctors and dentists can come into the classroom and share information with children . . ." and also to that of Essa (2011, p. 242) who proposes that "community professionals can be invited to visit [the classroom] and share information and tools of their professions with the children."

Based on the data, two of the participants believed that the school environs could be used for learning as an extension of the classroom. Using examples from Science lessons they stated '*if we are doing parts of the tree, we take the children outside, let them view a tree and name the parts'* (Lisa) *'We went out and let them gather insects from outside. Then they came back and drew the insects and placed some of them in bottles . . .'* (Rose). These two reports receive affirmation from Essa (2011) who suggests that similar to field trips, the pupils can be taken on walks to extend their learning. These activities have the potential to support LCI but the teachers' guidance and enquiring approach as opposed to a 'telling' approach are vital.

Five of the eight respondents endorsed parental involvement. Commonly they proffered: *'The parents can be involved . . .'* (Jean)

This comment bears some semblance to that of Henniger (2005) who advances the view that it is crucial that teachers involve parents and families in the educational process both in the classroom and at home since they can provide schools with "support, insights, and skills" (p.169).

It must be noted that although the respondents acknowledged ways by which learner centred instruction can be extended outside of the classroom, they omitted to mention a very important but often overlooked way, which is through use of the outdoor school environment. In commenting on this matter Henniger (2005) emphasizes that there is a need for teachers of young children to accept playgrounds as "an extension of the indoor environment" which "with proper equipment and planning" contain the potential to "stimulate all aspects of children's development and be a valuable opportunity for learning" (p.272). The teachers' role outdoors is similar to that of indoors as it

> includes setting up a stimulating environment, providing for each child's individual needs, guiding children's behaviour, providing a variety of experiences, taking opportunities to clarify concepts, and encouraging exploration and problem solving (Essa 2011, p. 225).

Summary

Data from research question four **'***How do the pedagogical beliefs of Barbadian teachers influence their implementation of learner centred instruction in the ECE curriculum'?* indicated that the respondents' beliefs influenced their actions in varying degrees with regards to the reform. This was in light of the process which they used for lesson-planning, the consideration which they gave to LCI while preparing lesson plans and their view as to whether LCI could be extended outside of the classroom.

There was much similarity among the respondents in terms of the components which they included in their plans. All eight interviewees identified materials and assessment. Other areas which were referred to by participants from both schools were teaching methods, lesson objectives, introduction and conclusion. Areas mentioned by School (B) which were not included by School (A) were learning experiences/discussion and topic.

One striking point was that three respondents from School (A) first mentioned areas specifically related to the pupils, namely: their needs, age, interests and abilities and these were then followed by areas related to lesson content such as teaching methods, materials, activities and assessment. On the other hand, interviewees from School (B) only mentioned areas connected to the content of the lesson and not on particular pupil related areas.

On the matter of the consideration which participants gave to LCI while planning lessons the participants from both schools shared some similarity in their positions. Two respondents from each of the schools indicated that they gave great contemplation to LCI while planning their lessons. One teacher from each school gave no specific answer as to if they considered LCI, but highlighted their specific concerns, namely the selection of appropriate materials to meet the needs of the pupils and the effectiveness of the approach for pupils who were performing below average respectively. A slight variation was that while one teacher from School (A) confirmed that she considered the use of LCI in only two main subject areas, one participant from School (B) admitted to not giving much thought to it during her planning.

In respect of whether learner centred instruction could be extended outside the classroom, the eight participants all answered in the affirmative. They explained that this could be achieved through school/community partnerships. Three respondents from School (A) and four from School (B) mentioned educational tours while three interviewees from School (A) and two from School (B) suggested parental involvement. One respondent from School (A) as compared to two from School (B) identified visits by resource persons as yet another means by which LCI could be extended from the classroom, while exploring the school environs was mentioned by one teacher from each of the two participating schools.

In sum, the responses from the interviewees seemed to indicate that the majority of them employed an accepted process for planning lessons and gave some consideration to LCI during their planning. All were firm in their belief that LCI could be extended outside of the classroom. The majority of their espoused beliefs were strongly supported by literature.

Presentation of Data - Research Question Five

Research question five asked: '*What are the contextual factors affecting Barbadian teachers in the implementation of learner centred instruction in the ECE curriculum'?*

Five items were designed to provide data for this question. These were:

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10. Have you experienced any challenges in implementing learner centred instruction? If so, how have you dealt with these challenges?
11. How would you describe the culture of a learner centred school?
12. How might the culture of the school affect the implementation of the learner centred approach in ECE?
13. Is learner centred instruction supported by the administration of your school? If so how is it supported?

14. What training did you receive in learner centred instruction prior to its implementation?

****

In response to **Item 10** the participants from **School (A)** stated:

- *The biggest challenge is space. Lack of materials can be a challenge as well. I ask the Principal for materials and there are fund raising activities. We also ask the parents . . . and they willingly give. (Sandy)*

- *We do not have enough space . . . I have to leave the class and go on the platform because some of the activities are on the platform. (Lamonte)*

- *There is a lack of space. We have to go outside, do a lesson and then come back in. (Rose)*

- *My main challenge is obtaining materials. I borrow and buy. (Jean)*

Following are the views which were expressed by the participants from **School (B)**:

- *Having the right amount of resources . . . having the equipment needed. I ask parents . . . plan ahead and try to connect with somebody who has what I need. . . Also making materials. . . (Cherry)*

- *We have limited materials. . . I try to make some or create charts . . . (Lisa)*
- *Being able to acquire stuff. So I try to make stuff . . . the classroom is cramped. I try to use what space I have. (Polly)*

- *Having somebody to come around to check behind the teachers and ensure that the techniques are being incorporated. . . It is easier to just put*

them in a book, correct it and if they get it wrong just put an x. . . . Materials are difficult to get . . . but if we show parents what we are doing . . . we can get materials . . . (Genevieve)

Item 11 asked the participants 'How would you describe the culture of a learner centred school'?

The responses from **School (A)** were:

- *It is a school with a rich environment, plenty of materials that are suitable to the age group and needs of the children . . . grouping, children actively taking part in their learning process and not the teacher dominated classroom. I expect to see children exploring, discovering, investigating, finding out things for themselves and using that knowledge to help themselves and their peers and much learning taking place. . . (Jean)*

- *It is active and friendly, a classroom that is vibrant with colourful charts and the children's work and see the children actively involved in some activity. . . The teacher would be assisting them; going around making sure each group is working well and guiding the children. (Sandy)*

- *I find the children are always eager to come to school, play, do projects . . . get their parents involved. I would expect to see the children playing with sand, water, manipulatives, colouring and drawing, moving from station to station without the teacher saying sit here, don't move. (Rose)*

- *You should be able to see different Centres . . . teachers interacting with the children and guiding them along. The children should be interacting with each other, and not be sitting dormant . . . moving around quietly and orderly from Centre to Centre. The teacher should be assessing the children as she goes around from each group . . . (Lamonte)*

The participants of **School (B)** stated:

- *I believe it should be fun, very interactive, cater for independent learning (Cherry)*

- *Lots of manipulatives, charts, technology as well as different Centres.(Lisa)*

- *Children are bent on positive interaction . . . interested in learning because there is an interest in learning which is encouraged . . . teachers who would be more willing to interact with the students. In a lot of ways the teacher can learn from the students . . . a 'friendly' culture. (Polly)*

- *Everybody has to have the vision in their head . . . and know we can't get it done if everybody is not on board. (Genevieve)*

Item 12 queried 'How might the culture of the school affect the implementation of the learner centred approach in ECE'?

Sample views of **School (A)** were:

- *If the teachers are resistant to the learner centred approach it is going to be difficult to implement it. You will need to have the teachers on board with it, understanding it and being a part of it, otherwise it won't work. (Sandy)*

- *I believe that if both teachers and children see the need for learning or the importance of it then there would not be a problem setting up Learning Centres. On the other hand if the environment is negative, if there is a lackadaisical approach to teaching and learning then teachers would not have that desire to put up Learning Centres and so that kind of negative behaviour would be passed on to the children. . . There should be a positive*

attitude coming from the teachers so that it can be passed on to the children. (Jean)

The views of the participants of **School (B)** were:

- *If you have teachers who are bent on chalk and talk and set in their ways then there would be difficulty implementing because teachers would not want to change their ways . . . But if persons are more open and more willing the easier it would be at the school. (Polly)*

- *I think the implementation of it requires ensuring that everybody is on board and everything is in place. (Genevieve)*

- *It has a lot to do with the Principal or the Management of the school. If learner centred instruction is their focus then they would foster it. Other factors that I think may have an effect may be lack of materials and lack of training of teachers. (Lisa)*

- *If everybody is not fully on board the school would be at a standstill in terms of going forward with this approach. If one or two persons try to implement it they would not get the support or resources that they may need and many times the encouragement may not be present. (Cherry)*

Item 13 asked **'**Is learner centred instruction supported by the administration of your school? If so, how is it supported'?

Two assertions which reflect the views of the participants from **School (A)** were:

- *Yes I would think it is supported because the Principal tries her best to provide us with materials. The Early Childhood Co-ordinator does her best. She meets with teachers on a weekly basis and especially with the untrained ones and has a one to one talk, finds out what their needs are. If they need help in any area she takes time to make Aids to help them.(Jean)*

- *It is supported here. Everybody is on board with learner centred instruction at this school. It is encouraged by the Principal and the management team. As the Early Childhood Co-ordinator, my role is to ensure that the programme functions well. One of the things I do is to hold meetings with the members of staff in my Department and we share information. We have a mentorship programme where the more experienced teachers guide the younger less experienced teachers . . . I attend workshops held by the Ministry of Education and I share that information with the other members of staff. . . The Principal acts in a supervisory role. She gathers information from me the co-ordinator to ensure that the programme is functioning well. (Sandy)*

The following quotations to **Item 13** were from the interviewees of **School (B)**.

- *Yes it is supported by this school. We are given materials . . . We also take the children on educational tours . . . I do get support which is mainly mentorship. (Lisa)*

- *I should say yes. Our Principal always tries to give the children more opportunities to express themselves . . . There is also a petty fee system where the parents are encouraged to give the teacher at least fifteen dollars for the year to help them buy materials for the class. I believe that would be her [the Principal's] initiative to provide materials for the children. (Cherry)*

- *I would say to some extent because although it is encouraged by administration, materials are needed and we all know that it can be put down to availability of funds. (Polly)*

- *I think it is supported on paper. But I don't think the infrastructure is in place to ensure that it is going on everyday . . . I think that the general support is there. I have free rein to do whatever I feel like. . . . She [the Principal] approves whatever you are going to do.(Genevieve)*

Item 14 asked 'What training did you receive in learner centred instruction prior to its implementation'? The participants from **School (A)** responded:

- *I have not received any training. It is just by observation and practice over the years. (Jean)*

- *I have not received any training in learner centred instruction.(Lamonte)*

- *I learnt a lot from going to different short courses and I did a lot of courses with . . . the Early Childhood Education Officer.(Rose)*

- *I don't know if the training was formal as such. I was introduced to this method as a very young teacher and then I got some training . . . through the Teachers' Advanced Professional Certificate in Early Childhood Education. (Sandy)*

The respondents from **School (B)** stated:

- *I did not receive any training in learner centred instruction.(Lisa)*

- *I went to Teachers' College and picked up some from there. I had to do a lot on my own. I would have heard and talked to more mature persons but it was not direct training.(Polly)*

- *I would say there was no real specific training. I went to Teachers' College, did my Diploma in Education there, so I know it would have been mentioned to us or talked about and it would have been encouraged. (Cherry)*

- *Nine years in Nursery class and five years at Nursery school so my training was more practical than theoretical. (Genevieve)*

Participants were asked the following open-ended question- '*Do you have any other comments about learner centred instruction'?* All four participants from **School (A)** gave responses:

- *I think learner centred instruction is important in the Early Childhood Programme.* (Sandy)
- *I believe learner centred instruction is a step in the right direction for Barbadian schools. It provides the children with the opportunity to be involved in their learning, to be able to socialize, to interact with each other, to observe and discover, create and investigate. This can only benefit them in the long run.*(Jean)
- *I believe that learner centred instruction is one of the most important instructions for children in Early Childhood Education especially those in Nursery and Reception classes. The hands - on approach is the one that those early childhood children need. They learn by observing, by touching, by doing and they remember most of what they see, do and touch. It is lifelong learning.* (Lamonte)
- *I find that learner centred instruction is very good. It helps build on the interest of the children, stimulates something in the children, motivates them to learn, more so than just by the chalk and talk.* (Rose)

Three of the four interviewees from **School (B)** stated they had no additional comments but one replied:

- *I think it is a good approach. It causes the teacher to not be as they would say the sage on the stage but it allows the child to be guided by the teacher who facilitates learning. I believe at the end of the day it is more beneficial to both involved, because the teacher now feels a sense of satisfaction that this child is able to think on his own and the child gets enjoyment from exploring and developing his own skills and abilities and recognizing he is not a shell. It encourages creativity and that is something we don't want to lack. It is just sad to know that we don't have enough resources. So I think that makes it even more challenging. . .* (Cherry)

Analysis and Discussion - Research Question Five

Research question five sought to elicit the participants' espoused beliefs as to the *contextual factors which affected their implementation of learner centred instruction in the ECE Curriculum.* The data generated from the participants reflect the findings from a study which was conducted by Yilmaz (2008) specifically with teachers of Social Studies. These teachers reported that they experienced difficulties which were mainly related to the organizational and structural nature of the schools where they worked. Although the sample in the research by Yilmaz (2008) was from secondary schools, their views were echoed by the respondents from the two primary schools participating in this present study.

In response to **'***Have you experienced any challenges in implementing learner centred instruction? If so, how have you dealt with these challenges'?* the responses from the participants were summed up as shortage of materials, lack of space, and time constraints in relation to teacher induction and mentorship.

The matter of the dearth of materials was an issue for six of the eight participants and summed up as follows '*the main challenge is obtaining materials.'* (Jean)

Literature is replete with the view that the use of materials in ECE is vital to the development of young pupils and hence the availability of these resources would indeed be critical. In addressing the importance of the availability of materials in constructivist classrooms, Watson (2001) asserts that "direct physical interaction with materials is often effective in enhancing pupils' thinking, especially as many do not spontaneously use verbalisation". (p.141). She further affirms that when young children handle "physical materials" it "extends their sensory experience, is relaxing and satisfying, and may facilitate mental reasoning" (p.141). Henniger (2005, p. 290) concurs and opines that "understanding during the early childhood years is best-gained through hands-on manipulation of materials". It must however be emphasized that "more materials does not have the same impact in all situations, either across cultures or at home and in school" (Prochner, Cleghorn and Green 2008, p.196) and therefore the emphasis should not be only on the availability and amount of materials but rather on their effective use. It is noteworthy that the respondents stressed the availability of materials but did not emphasize that they should be effectively utilized.

A solution which was employed by three of the interviewees to counteract the problem of the paucity of materials/resources was to make their own charts. This stance echoed the view of Henniger (2005) who although making specific reference to the saving of money by teachers, posited that several teachers created their own materials and this was advantageous in that the teacher-made materials were designed with specific children in mind. In agreement with this were Essa (2011) and Durmusoglu (2008). One of the respondents indicated that her solution was to '*buy materials where necessary'* (Jean). While this is not condemned by Essa (2011) she opines that "some of the best early childhood materials are not purchased commercially but are ones that an energetic teacher or parent constructs" (p. 213).

It is therefore interesting that while three of the participants specified that they requested donations of materials from parents in order to increase the limited supply in their classrooms, none of them stated that they utilized the recommendation of Henniger (2005) or Durmusoglu (2008) that adults and children can create materials or some can be found in the school's environs.

This begs the question as to why the respondents did not make use of these readily available avenues. From my personal experience over the years, there are indeed parents and other family members of the pupils who have skills in the construction of teaching materials and who are willing to assist in creating these for their children's classroom. What I have found however, is that many of these individuals will not volunteer their assistance, but when asked, they acceded to my request and produced very aesthetically pleasing and educationally valuable materials.

Two of the interviewees stated that they resolved the problem of obtaining materials by '*borrowing them from other teachers*' (Jean, Cherry). This speaks well about the relationship that exists among the teachers, because it is my belief that in order for this to occur, there must be collegial relationships among the staff. The notion of collegial relationships among teachers receives support from Shah (2011) who posits that when they are strong and healthy, numerous benefits are derived.

Six of the eight respondents identified their problem as a lack of classroom space. Their view was encapsulated in the following comment *'The biggest challenge I find at this school is space'.* (Sandy).

This issue has been comprehensively addressed in literature under the heading of the school's physical environment and researchers Essa and Burnham (2001) cited by Prochner, Cleghorn and Green (2008) identified it as one of the facets of high quality ECE programmes. Emphasis has also been placed by Tanner (2008) on the need for adequate space to be provided to facilitate the several activities that occur in the classroom.

With respect to the issue of the lack of space, the common solution coming from three of the respondents was that they taught some lessons away from their classrooms. Support for teaching lessons outdoors comes from Kostelnik et al. (2011) who express the belief that there should be "outdoor space where children can gather comfortably in the shade for demonstrations and discussions" (p. 125). Essa (2011); Durmusoglu (2008) and Henniger (2005) also agree that appropriate areas outside the classroom should be utilized for teaching.

In sum, the consensus in literature is that the boundary of the learning environment does not have to be confined to the four walls of a classroom but can be extended into the outdoors or any appropriate place where teaching can effectively occur. Interestingly, while the participants indicated that they used the outdoors as a solution to lack of space indoors, it is important to note that they did not underscore the point that the outdoors is a critical part of LCI and should be used for lessons whether or not there is adequate space inside the classroom.

A problem expressed by one of the participating teachers in this study, was constraint of time with regards to induction or mentorship for new teachers. Her remarks were that there was *'no time to even pick the brain of older teachers about things they would know about learner centred methods . . .'* (Genevieve). This opinion bears resemblance to literature which highlights the challenges of beginning teachers (Gordon, 2009) and hence the need for them to be involved in induction or mentoring programs (Ingersoll and Smith, 2004). Further support comes from Clark and Byrnes (2012, p. 43) who espouse that some teachers only receive from colleagues "a few harried minutes at lunch, before or after school" (p. 43).

Rather surprisingly, the participant acknowledged that her solution to the problem of lack of mentoring was to teach how she considered was the easiest way '*just put them*

in a book, correct it and if they get it wrong just put an x. . .' (Genevieve). This solution which the teacher chose is however not in keeping with the literature. For example, research by McCann (2001) reveals that difficulties will be experienced by beginning and novice teachers but does not recommend that they resort to methods which are easier but not beneficial to the pupils. Rather, the researcher advocates that they should engage in a "series of reflective conversations" that would help them to understand "how experienced teachers make decisions, complete their planning and adjustments, anticipate problems, and cope with difficulties" (McCann 2001, p. 26).

Item 11 queried '*How would you describe the culture of a learner centred school'?* The responses of the participants are partly in congruence with the stance of McCombs and Whisler (1997) who explain that a learner centred school would be identifiable not only by its physical features but also by "a feeling or spirit of vitality and caring" (p. 123-124).

Four of the respondents spoke specifically about the significance of various kinds of interaction. Two sample comments were *'They would be accustomed to interacting with each other and with the teacher as well*' (Polly), '*Teachers are supposed to be up and around and moving between the children and interacting with them. The children should be interacting with each other'* (Lamonte)

This notion of classroom interaction receives support from Speaker (2001, p.613) who posits that interaction in classrooms should be fostered through sharing ideas, asking questions and offering solutions. Opportunities should also be provided for pupils to form relationships between objects and events. Perkins (1999) also proffers that pupils should engage in a collaborative or cooperative learning process which involves working harmoniously in groups with their peers. Adding credibility to the importance of social interaction and collaboration with people and their environment are Faulk and Evanshen (2013); Tafrova-Grigorova, Boiadjieva, Emilov and Kirova (2012); Jia (2010); Gordon (2009); Sert (2008); Snider and Roehl (2007) and Coke (2005).

One of the participants submitted '*I expect to see grouping. . .'* (Sandy) The importance of grouping is supported by Mvududu and Thiel-Burgess (2012); Jia (2010) and Wasik (2008). Their general consensus is that when children work in

groups they benefit from their peers' knowledge and skills, engage in interaction and receive support.

One of the participants stated that a culture of a learner centred school would be evidenced by teachers *'assisting . . . going around to each group and . . . making sure each group is working well, guiding the children'* (Sandy).

To my mind this would be evidence of a caring attitude and a genuine interest in teaching the pupils. This stance is borne out by Mc Combs and Whisler (1997 p. 124) who stress that teachers would exemplify "committed learners who care passionately about a subject and are willing to share that passion with their students." However, rather than controlling the lessons, they engage in questioning and probing the pupils so as to guide them towards constructing their own understanding and learning.

In respect of the element of learning some noteworthy responses were '*I would expect that there would be much learning taking place'* (Jean). *'Children would be interested in learning because there is an interest in learning which is encouraged. In a lot of ways the teacher can learn from the students* (Polly) '*Children would be eager to come to school, eager to do projects . . . eager to get their parents involved'* (Rose).

These views are in congruence with those of Rallis (1995) who confirms that in learner centred schools "all inhabitants of the school are students" (p.128). Furthermore, differences in pupils and their attainments are appreciated and each child is offered many opportunities to learn (Rallis 1995, p. 226)

Four of the respondents were in agreement that the children would be observed participating in their learning and this involvement would occur mainly in Learning-Centres. One comment which summed up the views of the respondents was '*I would expect to see the children playing with sand and water, playing with manipulatives . . . They would be able to move freely from Centre to Centre'* (Rose). This opinion is also in congruence with that of Gordon (2009) and Rallis (1995) who maintain that learning is not a passive activity.

Kostelnik et al. (2011) also support the views of the respondents. They submit that one way of providing pupils with experiences to encourage participation in learning is through the provision of Learning Centres. These areas are designed to provide pupils

with opportunities to participate in hands-on learning through interaction with a wide range of materials.

Another respondent specifically stated that she would expect to see the pupils *'exploring, discovering, investigating, finding out things for themselves and using that knowledge to help themselves and to help their peers'* (Jean). This view closely echoes that of Perkins (1999) who opines that pupils should be discussing, debating, hypothesizing, investigating and collecting different points of views and not merely listening, reading, and completing routine exercises. He further maintains that such "active engagement in learning may lead to better retention, understanding, and active use of knowledge" (p.8). Other researchers who concur that learning should be actively constructed and meaningful include Yilmaz (2008) and Beswick (2007).

One respondent explained that as part of learning there should be '*the introduction of technology'* (Lisa). Support for this comes from Fletcher (2006) who asserts that the formative years are important for the learning of technology and Morrison (2012) who agrees that children's learning can be improved in all domains through the use of technology and therefore advocates its integration in the early childhood learning environment. Chen (2008, p. 73) specifically cites that there would be improvement in "problem solving, critical thinking and collaborative learning" and Durmusoglu, (2008) recommends that early childhood settings should be improved by equipping them with technological tools. Along with computers, he recommends that a range of peripherals be used to allow for the continuing development of technology. Websites that contain high quality activities and which can stimulate the multiple intelligences of young children and can be navigated independently by them is another option (Rettig 2005).

In all learning activities the *'teacher should be assessing the children as she goes along from each group or each Centre*' (Lamonte). This expressed opinion was consistent with the view of Varol and Farran (2006) who remark that through assessment teachers are able to gain information about their pupils' skills and attainments, provide necessary feedback and help improve teaching.

A very interesting submission by one of the participants was '*everyone has to have the vision in their head . . . and know we can't get it done if everybody is not on*

board' (Genevieve). This remark speaks to the importance of collegiality, collaboration and a shared vision among teachers and administrators and receives strong support from literature. Sahin (2011) asserts that "teacher collaboration is evaluated as the most positive [element] in school culture" (p. 1923) and therefore "administrators should provide opportunities for teacher collaboration, sharing of leadership and professional development in order to create a positive and collaborative school culture" (ibid, p. 1924). Waldron and Mcleskey (2010) and Coke (2005) also support a culture of collaboration, pointing out that it is very beneficial to all persons in the school and to the implementation of curriculum reform and consequently it should be fostered.

The data generated from five respondents revealed their belief that the culture of a learner centred school would be recognizable by the physical environment and resources. One precise comment which echoed the literature perfectly was:

'*...a school with a rich environment, a school with plenty of materials that are suitable to the age group and the needs of the children'.* (Jean)

This submission is endorsed by Essa (2011); Kostelnik et al. (2011) and Henniger (2005) who all postulate that ECE classrooms which promote LCI should be adequately stocked with a wide variety of materials appropriately selected to cater to the holistic needs of all the pupils.

One participant declared: '*I would expect to see a classroom . . . that* [*has*] *children's work . . .*' (Sandy) This view is in accord with that of Woolner, Hall, Higgins, McCaughey and Wall (2007, p. 59) who cite Maxwell (2000) as stating that the display of children's work is beneficial in that it makes "the school more welcoming." Woolner et al. (2007) further cite Killeen et al. (2003, p. 60) as arguing that such displays "increase feelings of ownership and involvement, leading to improved motivation" and help the pupils to develop positive feelings about their school.

Two of the interviewees indicated that the culture of a learner centred school would be: '*friendly*' (Lisa) and '*fun*' (Cherry). These opinions though expressed in different words, were congruent with those of Jalongo et al. (2004) who maintain that "it is imperative that the learning experiences offered to the very young respect their

natural, playful style of learning rather than impose rigid and tedious approaches to mastering academic skills" (p. 145).

While the participants identified at least four elements of the culture of learner centred school, it is noteworthy that at the time they did not include what I consider to be another very critical element, also supported in the literature. This is commitment or openness to change. Rallis (1995) asserts that learner centred schools expect and embody change since they value "individual and organizational growth" (p. 229). Consequently in order for schools to successfully implement changes there must be openness to and embracing of change.

With respect to '*How might the culture of the school affect the implementation of the learner centred approach in ECE'?* the respondents were all in agreement that the culture that exists at a school might affect the implementation of the learner centred approach. They expressed the view that a school which had a positive culture in that teachers and children recognized the importance of learning, were interested and actively involved, would find it easy to implement LCI. Other factors which they felt would promote the implementation of LCI were open-mindedness, willingness, understanding of the approach, support from the Management team, and all teachers being on board with the innovation.

On the other hand, the participants were emphatic that if there were negative school cultures, in that teachers were resistant to the approach, had no or little knowledge about it and generally had a lackadaisical approach to teaching then there would be challenges with the implementation.

Pointed remarks which reflected the views of all interviewees were *'you will need to have the teachers on board with it . . . otherwise it won't work'.* (Sandy)

'*It has a lot to do with the Principal or the Management of the school'.* (Lisa)

'If persons are more open and more willing the easier it would be at the school'. (Polly)

Emerging here from the articulations of the respondents is a strong resemblance to the thoughts of Lindahl (2011) who emphasizes that where there is

> a highly fragmented culture with few deeply shared values, a weak, non-inclusive, or non-supportive leader . . . and a lack of collegiality or collaboration among the staff there is little hope of successful school improvement (p.22).

In responding to the query *'Is learner centred instruction supported by the administration of your school? If so how is it supported'?* the eight respondents all answered in the affirmative to the first part of the question. While seven of them gave fully positive replies, one indicated that the support was given *'to some extent'* (Polly). It is noteworthy that with regards to the term 'administration' the participants referred not only to the Principal but also made specific mention of the ECE co-ordinator and the Management Team thereby alluding to the concept of distributed leadership. In this regard, Morrison and Cooper (2008/2009, p. 112) cite research by Elmore (2000) which suggests that "although principal leadership is a necessary prerequisite for curriculum reform, it is recognised that distributed leadership is essential for sustained change" as "the task is too monumental for the principal alone". Ash, Hodge and Connell (2013) and Waldron and Mcleskey (2010) are in congruence that shared leadership is vital for successful school reform.

In respect of how the support was given, the common responses from the interviewees were through the provision of materials, mentorship and professional development and collaboration. Comments which were reflective of the views of the sample were:

- *Yes it is supported by this school. I do get support which is mainly mentorship. (Lisa).*
- *Yes, the Principal tries her best to provide us with materials. She tries to find out what we need.* (*Jean)*

These expressed opinions strongly reflect the role of the principal and administration as outlined in the literature. According to Ash, Hodge and Connell (2013, p.97) they "ensure the availability of essential resources for teachers, students, and classrooms so that implementation of learning opportunities is optimized for all students".

Another issue which emerged from the data was teacher professional development and collaboration. A summary of one of the responses was:

- *Everybody is on board with learner centred instruction at this school. It is encouraged by the Principal and the management . . . As Early Childhood Co-ordinator . . . I hold meetings with the members of staff in my Department and we share information. We have a mentorship programme . . . I attend workshops . . . and then I share that information with the other members of staff . . . (Sandy).*

This view is strongly supported by Morrison and Cooper (2008/2009) who declare that principals should "establish the internal coherence necessary to sustain educational reform" (p. 115) and Ng (2009) who affirms that staff development sessions should be implemented or strengthened based on the specific needs of the teachers as it is crucial to successful curriculum innovation. Also necessary is the enhancement of "communication and collaboration among teachers, middle managers and school heads so that they have a better understanding of each other's roles". . . (Ng 2009, p. 201) and know how they can best cater to pupils' needs.

The data generated from the question *'What training did you receive in learner centred instruction prior to its implementation'?* revealed that five of the participants admitted they had received general teacher training while three indicated that they had not received any training. Of the five participants, three explained that they had received teacher training from the Teachers' Training College when they pursued the Diploma in Education Primary but this training was not specific to learner centred instruction. One respondent confirmed that she had pursued a Teachers' Advanced Professional Certificate in Early Childhood Education also from the Teachers' College. The other respondent stated that she had attended *'different short courses '*. . . (Rose).

One of the three participants who remarked that she had not received any training stated that her knowledge had been acquired '*just by observation and practise over the years . . .'* (Jean) while the other two each lamented '*I did not receive any training in learner centred instruction'* (Lisa and Lamonte).

The importance of training teachers for reform is strongly emphasized by Ng (2009) who explicitly states that "prior to initiating reforms, teachers should be provided with sufficient professional development training in various areas" (p. 201). Tafrova-

Grigorova et al. (2012) and Kumar (2011) further add that teachers would be more likely to teach using a constructivist approach if they were exposed to this approach during their teacher training.

The entire sample was invited to make general comments in respect to their beliefs about learner centred instruction. The following quotations reflect the thoughts of the five participants who offered remarks:

'I think it is a good approach' (Cherry)

'*I believe that LCI is one of the most important instructions for children'* (Lamonte)

'I think LCI is important' (Sandy)

'I find that LCI is very good' (Rose)

'*I believe that LCI is a step in the right direction for Barbadian schools . . .'* (Jean)

The participants also identified reasons for their approval of LCI which were mainly that the pupils would derive several benefits. These included fostering creativity, hands-on learning and opportunities to socialize, interact, observe, discover, create and investigate. These views are summed up in literature by researchers such as Morrow and Dougherty (2011) who explain that in learner centred classrooms, a child-centred curriculum is utilized since it is based on the interests of the children. Additionally, the classrooms are "rich with materials and activities" which provide opportunities for the children "to explore their interests and learn through purposeful play." They further point out that there are also "different content areas where children can experiment with the materials" some of which are real-life (ibid. p.5).

Summary

Data emerging from the fifth research question '*What are the contextual factors affecting Barbadian teachers in the implementation of learner centred instruction in the ECE Curriculum'?* showed that the participants, while expressing their opinions in different ways displayed commonalities in their answers. This was in respect of the challenges and solutions which they experienced while implementing LCI, the culture of a learner centred school, and how school culture might affect the implementation of the innovation. In addition the respondents expressed varying ways by which they

believed their administrators supported the change and spoke of their personal experiences in respect of professional training prior to having to implement the reform.

Responses seemed to indicate that challenges were a reality for all participants as they sought to implement LCI. Six of the eight interviewees cited their greatest problem as a lack of materials while four of the respondents acknowledged that classroom space was an issue. Only one of the respondents expressed a concern in respect of the opportunities for teacher induction/mentorship.

The solution identified by three participating teachers, with regards to obtaining materials, was to request donations from parents. Two other respondents stated that they created their own items or borrowed from their colleagues while one admitted that she requested items from the principal. Another confirmed that she used her personal funds to make purchases.

In respect of a solution for the lack of classroom space, four of the interviewees explained that they utilize areas outside of the classroom or simply used their classroom space as best as they could. For the teacher who identified mentorship as an issue, her decision was to resort to doing what was easiest, which was using the chalkboard and allowing the pupils to use their exercise books.

With respect to the description of the culture of a learner centred school, the sample identified the following elements: interaction, teaching, learning, assessment, shared vision and collaboration and the physical environment and resources. The data generated from the respondents revealed trends of thought commensurate with those expressed in the literature on the identified elements.

Three of the interviewees suggested that in a learner centred school there would be evidence of pupils learning. This would be observable when pupils were working independently, in small groups and using technology. One participant explained that learning would be reciprocal in that teachers and pupils would be learning from each other. Two participants stated that interaction would be visible not only among pupils and pupils but also among pupils and teachers. Another respondent also noted that the pupils would be assessed as part of the teaching process. While three of the

participating teachers shared the belief that the physical environment would contain a wide variety of several manipulatives and charts and there would be an atmosphere of fun and friendship, one pointed out that there would be shared vision and collaboration among administrators and teachers.

Based on further interview data, the entire sample conveyed the belief that a school's culture could affect the implementation of LCI either positively or negatively. In their various ways, they held to the philosophy that in a culture in which teachers and administrators were all 'on board' and 'interested' in implementing LCI, there would be successful implementation of the innovation.

Contrariwise and consistent with the views of Fullan (2001) the respondents articulated that where there was "resistance to change" in that teachers were "set in their ways" and "bent on the chalk and talk" there would be challenges. They also expressed the sentiments that lack of "support", "materials" and "teacher training" would all have an adverse effect on the implementation.

In respect of support acquired from the administration of the respective schools for LCI, the eight participants subscribed to the view that it was forthcoming in different ways from the principal, management team and ECE co-ordinator.

Five of the eight participants confirmed that they received support in the form of materials and three of the eight acknowledged they also received verbal support. Two of the eight interviewees affirmed that they obtained mentorship and a similar number stated that opportunities were provided for the pupils to be expressive and engage in other whole school activities. One each of the interviewees admitted that their support came through staff meetings, staff development sessions and opportunities to freely engage in various activities. Interestingly one respondent although affirming that the principal gave approval for the undertaking of different activities related to LCI, went on to express the view that she felt the reform was only supported on paper but not enforced practically.

Two of the eight respondents asserted that they received guidance from the ECE Co-ordinators and the same number acknowledged that meetings were conducted by these middle managers. One interviewee revealed that she obtained mentorship, and another

verified that assistance with the creation of teaching aids was also forthcoming from the Co-ordinators.

On the matter of training prior to the implementation of LCI, five of the participants stated that they had received teacher training. Three of them explained that this was through pursuing the Diploma in Education (Primary) at the Teachers' College but it was not 'specific training' in LCI. The other two shared that they had obtained training through short courses in ECE and through an Advanced Certificate Course in ECE respectively. The other three teachers in the sample conveyed that they had received no training in LCI prior to the implementation of the innovation. None of the interviewees reported having experienced LCI themselves.

In an invitation to share their overall general beliefs about LCI, five of the eight participants offered responses which were all supportive of the strategy. The respondents, strongly reflecting the views of researchers (Essa 2011; Kostelnik et al. 2011; McCombs and Miller 2007; Katz 2007) opined that LCI "is important in the ECE program" since it is "hands on" and is "life-long learning". Adding that the pupils would be the main persons to acquire advantages from the implementation, they identified some of the benefits as fostering creativity, hands-on learning and opportunities to socialize, interact, observe, discover, create and investigate. The only lament was the scarcity of resources and how this hindered active independent learning, the development of critical thinking skills and full implementation of LCI.

In sum, the responses from the participants indicated that they held common views about the contextual factors which affected them in the implementation of LCI in the ECE curriculum and these were strongly congruent with the literature.

After the initial interviews I engaged in classroom observations. Following is a specific description of each teacher's classroom, a summary of their observed lessons based on the items in the two prepared checklists and an analysis and discussion of the classroom observations. The detailed descriptions of all sixteen observed lessons are included in Appendix J.

CLASSROOM OBSERVATIONS

SCHOOL A

Description of Lamonte's Classroom

Lamonte's classroom was located beside the main door of a one-storey stone and wooden building. There were five other classes in this open room known as "the hall" and they were each separated by two three-feet cupboards. Several louvres and three doors provided adequate lighting and ventilation. At the front of the hall was a platform with Learning Centres of Music, Language Arts, Mathematics and Puzzles containing interactive and developmentally appropriate materials. These were available for use by pupils in all classes in "the hall". At the side of the classroom were two Learning Centres: Reading and Housekeeping. Each contained small amounts of developmentally appropriate materials such as picture books and kitchen items. Outside the classroom's door, was a Sand/Water play Area with items such as buckets, shovels and plastic moulds. The classroom measured 4m x 5m and the pupils' desks were arranged in a non-traditional fashion in that they were organized in four sets of twos. This arrangement allowed the sixteen pupils to sit in four groups of fours. The teacher's table occupied the centre space at the front of the class.

The physical contents of the classroom were culturally relevant and were reflective of things that might be interesting and appealing to the pupils. These were in the form of commercial as well as teacher-made charts on the walls and three-dimensional objects in the learning-centres. Pupils' work was prominently displayed on bulletin boards and the wall.

In terms of technological equipment there was one chalkboard on the wall at the side of the room and a television on a display stand at the back of the room. On each occasion I visited, the pupils seemed to be engaged in specified learning experiences which were teacher-directed.

Summary of Lamonte's Lessons

Lamonte's lessons commenced as whole class sessions with all pupils sitting facing her while she stood in front of the chalkboard. She routinely began the lessons by asking the pupils to "*put your hands in your laps*" and "*look at me"*.

Through use of the prescribed checklist I observed and recorded whether the specified characteristics of learner centred instruction were evident or not. Following are my findings.

Three of the four lessons were integrated with one other subject. Mathematics was integrated with Language Arts and the Social Studies and General Science lessons were each integrated with Art. However, there was no evidence of the use of cognitive terminology such as 'classify', 'predict' or 'create' (Brooks and Brooks 2001, p.104) in any of the lessons.

In each lesson there were instances when the teacher enquired about the pupils' "understandings of concepts before sharing" her "own understandings of those concepts" (Brooks and Brooks 2001, p.107). In two subjects, namely Mathematics and Social Studies, she sought elaboration of the pupils' initial responses. A prominent feature of the four lessons was the posing of factual questions by the teacher which only required the pupils to give simple answers. However, in the Mathematics and General Science lessons there were occasions when questions were asked to stimulate pupils' thinking beyond recall. Lamonte always provided wait time after posing questions but there was evidence in only the Social Studies lesson of opportunities being provided for teacher and pupils to share their experiences. The general trend was for the teacher to ask all the questions in order to elicit the information which she required and for her to provide detailed information and explanations. I did not observe any occasion of pupils asking or being encouraged to ask questions.

Generally speaking, the activities in which the pupils engaged were purposeful and afforded them some opportunities to develop their creative and critical thinking. The materials which the teacher used coordinated with the respective lessons and the pupils were able to purposefully use materials. The needs of the pupils were addressed in varying degrees through the instructional strategies and methods which were employed by the teacher and they also allowed for pupil involvement.

Social interaction by the teacher was evident in each lesson and there was some measure of social interaction among the pupils in all lessons as they participated in structured conversations with the teacher. They also engaged in unstructured

conversations with their peers. However, pupil interaction was not fully endorsed by the teacher as she encouraged the class to pay attention and listen. Conversations were not entertained except when she required answers to questions which she posed.

In all lessons the assessment activities were interwoven with teaching and based on each pupil's progression as each was required to apply her/his own knowledge and skills rather than merely recall facts. In at least one lesson provision was made for the differences in the current attainments of the pupils through the assigning of different activities and they were not compared with each other.

Lamonte's teaching revealed that nine of the sixteen indicators of learner centred instruction as itemized in the checklist were evident in all four lessons. In spite of the fact that these features were visible, the lessons still seemed to be mainly of the traditional type. This was evidenced by lengthy teacher-dominated discussions being held during whole class teaching, the delivery of information and explanations, and asking questions and eliciting answers all directed by the teacher. There were also sessions of recall during which pupils showed a lack of interest and excitement. Interactions were mainly teacher-directed with the focus seeming to be mostly on having the pupils acquire factual knowledge, behave well and be quietly attentive. The use of these strategies was of concern to me and this will be raised during the follow-up interview.

Description of Jean's Classroom

Jean's classroom was located in the first of two rooms of a pre-fabricated wooden building. It was approximately 6m x 4m, well ventilated and lit by four large windows and one door. Twenty-six pupils were in the class and their furniture was arranged in a non-traditional fashion. There were two sets of five desks in the middle of the room and two single desks side by side at the back of the room. Eleven children sat at each set of the five desks, while two sat at each of the single desks. The teacher's table always occupied the far corner of the room at the back of the class.

Five Learning Centres were arranged along the sides of the classroom. They were Language Arts, Reading, Mathematics, Music and Puzzles. Each was labelled with its specific name and the two following signs were displayed: '*Reading is Fun' 'Read*

pictures, books, newspapers' and '*Fix a Puzzle'.* All centres contained small amounts of developmentally appropriate interactive materials such as alphabet cards, story books, manipulatives to reinforce mathematical concepts such as colour and shapes, percussion instruments and puzzles.

The physical contents of the classroom were culturally relevant and reflective of things that might be interesting and appealing to the pupils. These were in the form of several teacher-made charts on the walls and three-dimensional objects in the Learning Centres. The charts included Days of the Week and Ordinals 1st to 10th. Commercial displays included pictures of National Heroes and Prime Ministers of Barbados.

In terms of technological equipment, there was one chalkboard on an easel at the front of the room, one desk-top computer on the teacher's table and a television on a display stand at the back of the room. Pupils' work was prominently displayed on all sides of the room. Throughout all four of my observations the classroom was busy and there was organized chaos as the pupils engaged in the specified learning experiences.

Summary of Jean's lessons

Jean's lessons commenced as whole class sessions but employed varied types of introductions which captured the pupils' attention. The pupils always sat in small groups with the teacher standing at the front of the classroom near the chalkboard. By using the checklist I observed whether or not main characteristics of learner centred instruction were evident.

All lessons were integrated with at least one other subject. In three of the lessons, cognitive terminology such as 'predict,' 'sort' and 'construct' were used. In all four observed lessons, the teacher enquired about the pupils' "understandings of concepts before sharing" her "own understandings of those concepts" (Brooks and Brooks 2001, p.107) and sought elaboration of the pupils' initial responses. In each lesson there was evidence of the teacher posing questions to stimulate pupils' thinking beyond recall. She always allowed wait time after posing questions and in all lessons there was sharing of experiences and ideas between pupils and teacher. Some aspects

of all the lessons included discussion and this was guided by the teacher. I observed however that the pupils did not ask any questions. This was done only by the teacher. Each lesson afforded the pupils opportunities to purposefully use the materials, and the activities in which they engaged were purposeful and provided some opportunities to develop their creative and critical thinking. The materials used during the lessons were teacher-made except for one chart, and always coordinated with the lesson.

The needs of the pupils were addressed for the most part through the instructional strategies and methods which were employed by the teacher. Opportunities were also afforded for pupil involvement and the pupils and teacher engaged in social interaction in all lessons. There were whole class and small group activities, structured conversation between pupils and teacher and unstructured conversations amongst the pupils. However the teacher limited the pupils' conversations with each other during teaching sessions by requesting that they *'be quiet'*.

Assessment was interwoven with the teaching and based on the pupils' progression, however during one lesson an element of competition was introduced since the teacher instructed the pupils not to collaborate with each other but to work quietly and independently.

Overall Jean showed a high level of enthusiasm and taught relatively effective learner centred lessons. This was evidenced by all sixteen items in the checklist being present in two of her four lessons and fifteen items being observed in the next two lessons. The pupils were disciplined, cooperative, happy, and exhibited interest in all the lessons and an eagerness and willingness to learn. Their enthusiasm was revealed through their raising of hands to volunteer for activities. I found all this to be very commendable and I will raise it with Jean during the follow-up interview. The children were allowed to engage in both structured and unstructured conversations only when they received consent from the teacher and the teacher often sought to contain their zeal and excitement. This seemed to be the accepted norm within the class as the pupils always promptly complied with the teacher's requests.

CLASSROOM OBSERVATIONS

SCHOOL B

Description of Cherry's Classroom

Cherry's classroom was located on the first floor of a two-storey stone building. It was a separate room of 7m x 6m with the main entrance from a corridor. It was well ventilated and lit by large louvre windows and one door. Twenty-six pupils were in the class and their desks and chairs were arranged in a non-traditional fashion. There were three sets of four tables in the middle of the room and one set of two tables at the back of the room. Eight children sat at each set of the four tables, while two sat at the two tables. The teacher's table occupied a far corner in the back of the class.

Seven Learning Centres were arranged along the walls of the classroom. They were Language Arts, Reading, Mathematics, Blocks, Sand and Water Play, Crayons and Playdough and Puzzles. Two centres, 'Blocks' and 'Reading' were labelled: '*Blocks', 'Books'*. All centres contained small amounts of developmentally appropriate materials such as alphabet cards, picture books, manipulatives to reinforce concepts such as colour and size; a tray of sand, boxes of chubby stump crayons, a container with balls of play-dough and table and floor puzzles.

Some of the physical contents of the classroom were culturally relevant and reflective of things that might be interesting and appealing to the pupils. These were in the form of charts and three dimensional objects. On the eight bulletin boards around the classroom were charts displaying information related to the concepts being taught in the core subjects. The contents which were not culturally relevant were pictures of a police officer, sanitation worker, fire-fighter and mail-carrier all dressed in uniforms of the workers from the United States of America rather than in the uniforms of Barbadian workers. There was no pupils' work on display.

In terms of technological equipment, there was one radio in the classroom. During my visits, the classroom was not busy and there was no organized chaos as the pupils engaged in the specified learning experiences. They were constantly reminded to '*be quiet'*.

Summary of Cherry's Lessons

Cherry's lessons always commenced as whole class sessions. For each lesson the pupils sat in small groups with the teacher standing at the front of the classroom near

the chalkboard. By using the checklist I observed whether or not main characteristics of learner centred instruction were evident.

While Language Arts was taught as a segregated lesson, the other three lessons were integrated with at least one other subject. Cognitive terminology such as ‘predict’, ‘create’ and ‘construct’ were not used in any of the lessons.

In all observed lessons, the teacher enquired about the pupils’ “understandings of concepts before sharing” her “own understandings of those concepts” (Brooks and Brooks 2001, p.107) while in three of the lessons she sought elaboration of the pupils’ initial responses. In each lesson there was evidence of the teacher posing questions to stimulate pupils’ thinking beyond recalling information. She always allowed wait time after posing questions and in all but one lesson sharing experiences and ideas occurred between the pupils and the teacher. The pupils asked a question when they needed clarification and this was encouraged by the teacher who promptly answered their queries.

The activities in which the pupils engaged were to some extent purposeful and afforded the pupils opportunities to develop their creative and critical thinking in some measure. The materials used always coordinated with the lessons and in three of the four lessons, the pupils were afforded opportunities to purposefully use materials.

The needs of the pupils were addressed in some measure through the instructional strategies and methods which were employed by the teacher and opportunities were afforded for the pupils to be involved in the lessons.

Social interaction among the pupils was evident in three lessons while the teacher engaged in social interaction with the pupils in all lessons. However in one lesson, although the children sat in groups, they worked individually as the teacher encouraged them to be quiet and not to help each other. In all lessons the assessment activities were interwoven with teaching and based on each pupil’s progression as each was required to apply her/his own knowledge and skills rather than merely recall facts.

Cherry was very enthusiastic about her teaching and made efforts to implement learner centred instruction in each lesson. This was evidenced by fifteen items in the

checklist being present in two of her four lessons, twelve items being seen in one of the lessons and eleven items being observed in another lesson. All of the lessons were taught for approximately one hour as the teacher sought to provide opportunities for as many pupils as possible to be involved in the lesson.

The pupils' interest in the lessons varied in degrees. The least interest was shown when the pupils were sitting, listening to and repeating information after the teacher while the greatest interest and excitement were displayed when the pupils were engaged in dramatic activities and performing real-life tasks. I noticed that in the Social Studies lesson the teacher did not utilize a resource person although this was an occasion when this was appropriate. I will therefore raise this in my follow-up interview with the teacher.

I also observed that there seemed to be a culture of sharing experiences in this class and the pupils also appeared to be very comfortable asking the teacher questions. I was very impressed with this and will ask the teacher to comment on it in my follow-up interview. She often shared her experiences after listening to those from the pupils and always responded to their queries. However there were times when she requested that they '*be quiet'*, '*don't talk'* '*not make a lot of noise.'*

Description of Lisa's Classroom

Lisa's classroom was located on the second floor of a two-storey stone building. It was a separate room of 7m x 6 m with the main entrance from a corridor, was well ventilated and lit by large louvre windows and one door. Twenty-five pupils were in the class and their desks and chairs were arranged in a non-traditional fashion of four groups of four tables. Six pupils were seated at each of three groups of tables while seven pupils sat at the other set of tables. The teacher's table was positioned to the front of the room slanted to the left side of the chalkboard which was mounted on a wall behind it.

There were two Learning Centres at one side of the room: Reading and Mathematics. They both contained small amounts of developmentally appropriate materials such as story books and manipulatives to reinforce mathematical concepts.

The physical contents of the classroom were culturally relevant and reflective of things that might be interesting and appealing to the pupils. These were in the form of commercial and teacher-made charts and three-dimensional objects and were reflective of lessons being taught in the core subjects. However there was no display of pupils' work. In terms of technological equipment, there was one television in the classroom. During my visits the classroom was busy and there was organized chaos as the pupils engaged in the specified learning experiences.

Summary of Lisa's Lessons

Lisa's lessons always commenced as whole class sessions. Except for one lesson, the pupils either sat or stood directly in front of her. The introductions were varied and always captured the pupils' attention. By using the checklist I observed whether or not main characteristics of learner centred instruction were evident.

The first three lessons were integrated with one other subject while General Science was taught as a segregated lesson. Cognitive terminology such as 'predict', 'create' 'classify' and 'construct' were not used in any of the lessons.

In the four observed lessons, the teacher enquired about the pupils' "understandings of concepts before sharing" her "own understandings of those concepts" (Brooks and Brooks 2001, p.107) and also sought elaboration of the pupils' initial responses. The questions posed by the teacher in all lessons were mostly of a factual nature. However in two of them questions were included to stimulate pupils' thinking beyond recall. She always allowed wait time after posing questions and in all but one lesson sharing experiences occurred between the pupils and the teacher. All questions were asked by the teacher with the exception of one lesson when a child asked a question.

The materials used co-ordinated with all lessons but the pupils engaged in purposeful activities that promoted creative and critical thinking in only one of the lessons. In three of the four lessons the pupils were afforded opportunities to purposefully use materials. The needs of the pupils were addressed in some measure through the instructional strategies and methods which were employed by the teacher. Opportunities were afforded for the pupils to be involved in all lessons. Social interaction among the pupils and with the teacher was visible in all lessons and in

each lesson the pupils were provided with assessment activities which were interwoven with teaching.

Overall Lisa was keen about her teaching and made efforts to implement learner centred instruction in each lesson. This was evidenced by thirteen items in the checklist being present in three of her four lessons and twelve items being observed in one of the lessons. The pupils exhibited great interest and enthusiasm, conversed with each other frequently and seemed keen to learn by actively participating in their lessons. However the teacher seemed to focus mainly on conveying to the pupils the information which she had planned and therefore did not entertain conversations which were initiated by the pupils. In addition she performed all demonstrations rather than allowed the pupils to engage in hands-on activities and create their own learning. Furthermore, in the General Science lesson the pupils revealed that they knew much of the information which the teacher was sharing with them but instead of being allowed to share their knowledge, they were asked to be quiet and listen to the teacher. These areas were of concern to me and will be queried during the follow-up interview with this participating teacher.

Analysis and Discussion of Classroom Observations

Classrooms

In each classroom of the four teachers who were observed, the pupils' furniture was organized in a non-traditional fashion allowing the pupils to sit in groups. Such a setting suggested to me that the teachers' aim was to provide a comfortable work environment that facilitated interaction and the pupils working together (Altinyelken, 2011). I observed pupil interaction in some of the lessons by Lamonte and Jean (School A) and Lisa (School B) but it was mainly teacher-directed. It was in keeping with their espoused views to **RQ3** that one of the pupils' roles was "to interact with each other . . ." (Lamonte) and that interaction was one way by which pupils construct knowledge (Essa 2011; Henniger 2005).

In Cherry's classroom (School B), although the pupils sat in groups, they were constantly reminded to "*be quiet*", and "*do not help each other*". Based on her interview response about the roles of pupils in LCI, in which interaction was omitted,

I concluded that she needs to become acquainted with these roles, re-examine her beliefs and bring her teaching in line with constructivist pedagogy (Adams, 2006).

The controlled interaction and very limited group work which I observed in all classes, was contrary to the respondents' espoused views to **RQ2** that there would be an improvement in teaching methods, and this would be reflected by an increase in group work and improved lesson planning. I contend that it is not enough for teachers to organize pupils' furniture to indicate that there will be pupil-pupil interaction, but the children should actually be allowed to communicate and work in groups as these are critical for "learning and development" (Brooks and Brooks 2001, p. 111).

Jean (School A) and Cherry (School B) positioned their tables at the back of the classrooms in the far corner. This location appeared to communicate that the pupils and their learning activities were the main focuses in the room (Jia, 2010; Elen et al. 2007) and the teachers were not facilitating what Weiss (2007, p. 81) describes as "hierarchal power relationships that preference teacher-centred learning environments."

On the other hand, Lamonte (School A) and Lisa (School B) had their tables positioned at the front and centre of the classroom. The indication might be that these two teachers believed in "hierarchical authority" with the teachers having "power and authority" (Weiss 2007, p. 81) over the pupils and believing that they and not the pupils are at the centre of teaching and the main possessors of knowledge (Oldfather et al. 1999). In such a case there would be a need for these teachers to become fully acquainted with how their functions have been transformed in constructivism (Hursen and Soykara, 2012) and seek to make the necessary adjustments.

All four classrooms contained Learning Centres in different amounts and with various quantities of materials. However, with the exception of one lesson by Lamonte, the Centres were not used although there were occasions when they could have been a component of the observed lessons. This occurred in spite of the fact that in response to **RQ3** the respondents had stated that they had established Learning Centres as evidence that they had implemented LCI.

I interpreted this to mean that the teachers were aware of the need to establish Learning Centres but failed to utilize them for pupils' independent exploration, experimentation, social interaction, improvement of their imagination and problem-solving skills (Essa, 2011). My view is that it is not enough to set up Centres since their presence is not an indication that they are being used, are being utilized effectively or that LCI is being employed. I therefore argue that teachers ought to establish Centres but more importantly they should provide opportunities for pupils to use them in ways that would maximize their learning (Kostelnik et al. 2011).

A cross-section of pupils' work was displayed in Lamonte and Jean's (School A) classrooms. This may convey that these teachers had an interest in the pupils' attainments, valued their work, were interested in motivating them and helping them to feel a part of the school (Woolner et al. 2007). However, all the displays were generally alike. Since only the work described by the teachers as being "the best" was displayed, it could indicate that the pupils, regardless of their attainment levels, were all given the same activities, expected to complete them in precisely the same way, and the finished products were assessed on a competitive basis. Cherry and Lisa (School B) did not have any pupils' work on display. My opinion is that there is a need for all teachers to consider pupils' distinct needs (Muvudu and Thiel-Burgess, 2012) and the importance of allowing each to make sense of her/his own experiences (Kostelniket al. 2011; McCombs and Whisler, 1997). They also ought to accept and place great value on the pupils' individuality, ideas and efforts and use the displaying of their work as one of the ways of conveying this acceptance to them (Darling 1994).

Lessons

During my observations of the lessons I recognized that Jean (School A) integrated all four of her lessons while the other three teachers integrated three of their four. The teachers must be commended as it seems that they were aware that subject integration is important for providing pupils with opportunities to "engage in learning activities that will help them develop deep and elaborate understandings of subject matter" (Windschitl 1999, p. 754) and to make connections between and among different subjects rather than see learning as being compartmentalized.

With regards to the use of cognitive terms these were used only by Jean (School A). This may imply that the other teachers did not consider them to be important for the pupils to hear or use. However to my mind, using such terms encourages the children to pattern their language likewise, to think similarly and serves as a means of improving their critical thinking skills. Additionally, involvement in higher level thinking such as "analyzing, interpreting, predicting and synthesizing are mental activities that require students to make connections . . . and create new understandings" (Brooks and Brooks, 2001, p. 104-105).

As I observed lessons, I realized that the teachers spoke very respectfully to the pupils, a trait which is in accord with LCI. However, their voices were the loudest and heard the most often in the classrooms, as opposed to the pupils primarily sharing their experiences and ideas, the conversations being predominantly between pupils and their peers and learning being multi-directional. This may convey that the teachers believed they were to be constantly in charge of their classes. However, in order for authentic learning to occur, it is important that pupils "are actively involved in their learning" (McCombs and Whisler 1997, p. 91) intellectually and physically (Henniger, 2005) and also communicate with their peers as it is one way for them to benefit from and complement the learning needs of each other (Coke, 2005).

I further noticed that the participants had all planned their lessons and used LCI teaching strategies in varying degrees as they had indicated in response to **RQ4.** Jean (School A) and Cherry (School B) used methods which catered to the needs and interests of the pupils, provided opportunities for them to collaborate and to be involved in purposeful activities which fostered their creative and critical thinking. This might imply that these two teachers believed that in LCI learning is an individual activity in which children must engage in activities, participate in group work, take ownership of their learning (Snider and Roehl 2007) and use personal experiences and social interaction to construct their learning (Jia, 2010).

On the other hand, the teachers who used more traditional methods (Lamonte, Lisa) seemed to aim to keep control and "maintained ownership of the classroom and most of the responsibility" (Rainer 2000, p.8) by focusing more on the pupils' behaviour and doing much more of the talking while the pupils sat still, mainly listened to pre-

prepared information, responded when addressed and engaged in prescribed activities. This might indicate that to some extent these two teachers held the belief that they were "the authority or expert of knowledge delivery" (Chan 2010, p. 14) and responsible for transmitting knowledge to the pupils. It may also seem that their espoused position on **RQ1** that the focus of teaching in LCI is on the pupils and that non-didactic teaching is more beneficial to the pupils was not their observed practice. This was counter to the view of Essa (2011) who posits that knowledge is not 'poured into' the child by an external source but rather children build up knowledge through physical manipulation and transformation of environmental materials based on their personal interests.

During the observed lessons in all four classes, it seemed that the teachers had been affected in varying degrees by some of the contextual factors which they had identified in answer to **RQ5**- limited materials and lack of training specific to LCI. This was evidenced by a lack of enough physical materials for individual manipulation, in some cases the nonexistence of appropriate activities to promote active independent learning and the development of critical thinking skills as well as the absence of full implementation of LCI. It may be imperative therefore for these teachers to revisit their beliefs about their roles, to receive thorough guidance in planning their lessons to reflect LCI and appropriate training in order to fully implement LCI.

With regards to questioning I observed that the questions were mainly teacher-directed, with the pupils waiting until they were called on before responding. Lamonte (School A) and Lisa (School B) emphasized pupils' answering correctly but did not encourage their asking of questions. It therefore seems that these teachers were using the traditional method in which according to Yilmaz and Sahin (2011, p. 75) they shared information with the pupils and then listened for "the correct answer to know whether students learn what is taught". This type of questioning can be described as more teacher-centred than learner-centred, as the aim was to find pupils who could give correct answers. What would be more beneficial is for teachers to pose open-ended "complex thoughtful questions" (Brooks and Brooks 2001, p. 110) and for pupils to be encouraged to do likewise.

In Cherry's (School B) case however, the pupils asked questions frequently. This was also true, though to a lesser extent with Jean (School A). My recommendation is for all teachers to encourage pupils to ask questions as it encourages pupils "to value inquiry" (Brooks and Brooks 2001, p. 110) and develop analytical skills. Teachers can also use such opportunities to challenge pupils' views in order to obtain a greater awareness of their thinking and also to provide immediate feedback so as to reinforce understandings or clarify misconceptions (Kemp and Scaife 2012).

All four teachers provided the pupils with "wait time" after posing questions. This was characteristic of a learner-centred environment, where "thoughtfulness is prized and expected to take time and effort" (Watson 2001, p. 145). Additionally "wait time" affords pupils opportunities for in-depth thinking about issues and concepts and decreases the likelihood that pupils will be mere spectators (Brooks and Brooks 2001). It also conveys to the pupils that teachers believe they have important information to share, they want to hear it, but understand that it may take varied amounts of time for particular children to share their views. Such awareness can encourage pupils to develop more ideas and become more confident and eager to share.

The participating teachers also sought pupils' understandings about concepts first, before they shared their own ideas. This technique is beneficial in that it would encourage the pupils to explore ideas, think through concepts, reduce the urge for them to merely accept what the teachers say without doing any thinking, as well as help the teachers to discover the pupils' true understandings.

The teachers also encouraged the pupils to elaborate on their responses. This strategy allowed the pupils to revisit their initial responses, recognize any errors (Brooks and Brooks, 2001) and make necessary adjustments. It also afforded them opportunities to engage in deep thinking and "classroom talk" which can "extend pupils' levels of understandings" (Watson 2001, p. 144).

In terms of assessment, all four teachers used a form which is highly compatible with LCI, namely diagnostic assessment. This was evidenced by the assessment activities being "interwoven in the lessons" (Brooks and Brooks 2001, p.17) rather than being "separate and distinct" (Brooks and Brooks 2001, p. x) from daily classroom

activities, by pupils having to apply their own knowledge and skills (Kemp and Scaife, 2012) rather than merely recall facts and the activities not being based "exclusively on competitive norms" (Oldfather et al. 1999, p. 74). This type of assessment allows the teachers to discover prior learning, decide what else pupils need to learn and identify appropriate strategies for upcoming lessons (Kemp and Scaife, 2012). Provision is also made for pupils to receive constructive feedback and for the discovering of pupils' learning needs which is critical for helping teachers to improve their teaching (Varol and Farran, 2006).

Conclusion

The classroom environment as well as teaching are components of LCI and hence attention must be paid to both in order to make a determination as to whether LCI is being implemented. My observations indicated that all of the participants, in varying degrees, used a combination of both traditional and constructivist methods of teaching. Jean (School A) and Cherry and Lisa (School B) used more constructivist approaches while Lamonte (School A) used more traditional methods. It also appears that the teachers who hold strong beliefs about LCI used more elements of it in their lessons while teachers whose beliefs are not as strong used fewer features.

Based on the lessons I observed, there were instances when the teachers showed consistency between what they reported during the initial interviews and what they actually practised in their classrooms. At other times however there were variations between their espoused views and their actual teaching. This was evident in that there were many opportunities in which a learner centred approach could have been employed, but it was not.

Wen (2011) summed it up as that there seems to be discrepancies between teachers' beliefs, what they actually do in their classrooms and what they report they do. It may be likely that they may "not be aware of discrepancies in self-reports between what they believe and what they do" since "self-reported beliefs and observed behaviours tend to be less congruent" (Wen 2011, p.948- 949).

A post-observation interview was conducted with the participating teachers after their classroom observations. (Appendix K) An analysis of the interviews will now be

provided. The complete transcriptions of the interviews are also provided. (Appendix L)

ANALYSIS OF POST-OBSERVATION INTERVIEWS

The post-observation interviews provided pertinent information on how the teachers felt they had performed during their teaching and how this synchronized with their expressed views during the initial interview. Although expressed differently, they all shared the view that they believed their teaching was consistent with their stated views about the importance of using LCI and how it should be implemented. This was in spite of the fact that all of them to some degree used strategies associated with traditional teaching. It seems to me that in their responses generally, they offered justifications for their actions.

For example, Lamonte in responding to how her teaching had synchronized with her initial view that children should experience *"a hands-on approach to learning which includes 'trial and error'* stated that *"some of the lessons were follow-up lessons and therefore the 'trial and error' aspects were not seen".* She went on to explain that the pupils engaged in 'trial and error' during the Language Arts lesson when they "*were asked to identify pictures that began with a letter or to identify words that the teacher called which began with the specific letter of the week"*, and also in the Mathematics lesson when they had to "*fold given shapes in half",* and "*cut given items in half on their own."*

Lamonte's reply suggests to me that she was unclear as to the meaning of the term '*trial and error'*. From her response it seems that she interpreted this term as giving an answer or attempting a task and correcting either if incorrect. However this term refers to solving a problem by experimenting with a number of different methods and arriving at the correct answer by learning from the errors.

Similarly, Jean in responding to her earlier point that children should be allowed to *"observe, discover, create and investigate"* stated that in two lessons "*the pupils were afforded the opportunity to discover the contents of an unwrapped package and a gift bag".* This answer suggests a misunderstanding of the terms as used in the context of LCI. When children 'discover' they "make connections and build concepts through

interactions with people and objects" (Kostelnik et al. 2011, p. 88) and use their experiences to arrive at conclusions. This was not the case in Jean's lesson.

It stands to reason then that the lessons of these two teachers would not have contained the specified components since they misunderstood the meanings of the terms. This therefore suggests that if the necessary strategies associated with LCI are to be present in classrooms there is need for a clear understanding of terms by teachers.

Another point which was borne out by both Lamonte and Jean in the initial interview was that pupil interaction was important. During the follow-up interview they both affirmed that this element had been included in their teaching. While in both cases there was some interaction among all persons in the classroom, what was evident was that the children were only allowed to interact when they received permission from the teachers. Neither teacher seemed to realize that for the most part the pupils' interactions were teacher directed. This might be possibly due to the teachers seeking to keep their classes 'under control', a trait which is associated with traditional teaching.

It is noteworthy however that Jean acknowledged she had created a child-centred classroom "*to some extent"*. Her response also confirmed that she had some idea as to the components of LCI in that she identified she had integrated her lessons, provided activities based on children's interests and needs, and facilitated pupil interaction with persons and materials. These she acknowledged had resulted in her pupils exhibiting positive behaviours and good work ethics, a point which is supported by proponents of LCI.

Cherry also sought to justify why there was no dentist to interact with the children during her lesson entitled "The Dentist" in keeping with her expressed view that resource persons should be invited to the classroom. She explained that she *'had invited a private dentist but he said that the dentists working in the public sector should be the ones visiting the schools'.* She further related that when she contacted a dentist in the public sector she was informed that '*their work load did not usually allow them to fulfil such requests, and in cases when they did, their target group was children seven years and older'.* It is my view that if it was a challenge to get a dentist

into the classroom, a field trip could have been organized to either a public clinic or a private dental office.

She also explained that she encouraged her pupils to speak freely because she believed they had ideas and experiences to share. This resulted in them being comfortable expressing themselves and asking questions during lessons. The importance of pupils verbalising is supported by proponents of LCI since it allows pupils to express and extend their understandings.

Lisa in responding to the ways in which her lesson had conformed to her stated view, that the focus of teaching should be on the children, and they are to discover their own learning, remarked that the children '*answered questions correctly'* and '*the assessments were done correctly. . .'* Her answer seems to indicate that she was concerned with what she deemed to be 'correct' rather than on the pupils engaging in activities which would allow them to construct their own learning and display understanding of concepts.

Lisa further indicated that she made efforts to emphasize '*taking turns when speaking'* and the development of *'respect for classmates.'* This was commendable as these traits are important elements of a classroom in which LCI is implemented. However, she added that she had asked the pupils '*to be quiet and listen'* to her rather than share the information which they knew because she wanted *'to maintain an appropriate level of control within the classroom'.* This was a comment which raised some concern, as the idea of 'controlling a class' is associated with traditional methods of teaching and is evidence that there is not a transfer of power from the teacher to the learner (Adams, 2006) as is congruent with LCI.

CHAPTER FIVE

CONCLUSION, IMPLICATIONS AND RECOMMENDATIONS

Conclusion

The main focuses of this study were to explore, investigate and analyze the beliefs, views, challenges and support needs of ECE teachers, in the context of implementing learner centred instruction, in the Barbadian ECE Curriculum. The population for the study was drawn from two Barbadian primary schools and purposive sampling was used in an effort to select a sample from which I would be able to construct a detailed understanding of the phenomenon. Eight teachers comprised the sample - two from the 4-5 age groups and two from the 5-6 age groups of each school.

The study was a qualitative case study which aimed to construct understanding about how the beliefs of teachers affect the implementation of LCI in a revised curriculum and also to assist readers in constructing knowledge about the phenomenon. This approach was appropriate because of its constructivist assumptions and allowed me to understand the relationship between teachers' beliefs and their actual teaching as well as to interpret and compare the stories of the participants. Additionally, data derived from dialogues and observations are difficult to convert quantitatively and are therefore better expressed in verbal statements.

The instruments used to generate the data were a semi-structured interview schedule and two checklists for classroom observations. These were all prepared by me based on the reading of literature and my experiences as a teacher. In an effort to ensure that there was compatibility across the responses of the participants, they were each asked the same broad questions. The observations, which were structured, allowed for the construction of 'rich descriptions' mainly on the effect of teachers' pedagogical beliefs on the implementation of LCI in the ECE curriculum. The teachers were observed for the same pre-determined number of lessons and the same subject areas and I recorded my observations on identical checklists.

The instruments were piloted with teachers of the same age group in the study who were not part of the actual research. Amendments were made and the documents returned to the pilot group prior to their being finalised.

Analysis of the data was based on the constructivist grounded theory methods of Charmaz (2011). This theory includes the simultaneous generation and analysis of data, data coding processes, comparative methods and the integration of the theoretical framework.

Summary of Major Findings: The main things I learnt from conducting the Study

The research data from the interviews and observations revealed to me that the most important finding of the present study is that teachers' pedagogical beliefs are the key factors that determine the implementation of LCI in the ECE Curriculum. Consequently, as I observe teachers' classroom behaviours, I am now aware that to a large extent what they exhibit is most likely based on their fundamental beliefs.

As an educational manager this knowledge causes me to be cognizant that my emphasis cannot only be on providing teachers with several resources or ideas, or on encouraging them to access all available training. Rather, my focus needs to be more on aiding my staff to acknowledge the important role which pedagogical beliefs play in their classroom practice.

Since the notion of teachers' beliefs is not an area which is usually addressed at schools, I have concluded that it would be critical for me to discuss this topic at staff development sessions. My aims would be to guide teachers towards reflecting on their fundamental beliefs so as to help them to determine if and in what ways their classroom practice is influenced by their beliefs and to challenge their beliefs where they appear to be acting as barriers to accommodating research-based educational innovations.

I am also more aware that I have to pay closer attention to the contextual factors which teachers identify as impacting their teaching and make adjustments wherever possible. Finally I deem it necessary to provide further opportunities for collegiality and mentorship among my staff.

Overall Summary of Major Findings:

1. Responses to the **first research question** '*What are particular Barbadian teachers' perceptions about the rationale for adopting learner centered instruction in the context of Early Childhood Education in Barbados?'* revealed that the respondents from both schools shared the view that LCI was adopted because policy makers agreed that this new approach to teaching and learning would be more effective than the traditional methods and hence would be beneficial to the pupils.

The interviewees from the two schools (Jean and Lamonte School A, Lisa and Cherry School B) whose teaching was also observed, echoed the view of Jia (2010) that in LCI it is not the teacher, but the children who are the main focus of teaching and are to play a dominant role in their own learning. The further opinion of the respondents that children should be afforded opportunities to interact with each other and with materials resonated with that of Katz (2007). Lamonte and Cherry also added that one way in which this can be demonstrated is through the use of Learning Centres where pupils independently use manipulatives which they find to be interesting.

During the lesson observations the four teachers demonstrated some consistency with their espoused beliefs. In varying degrees, they all used instructional strategies and methods which were reflective of the pupils' interests, promoted aspects of their development and allowed for their involvement and interaction in lessons as recommended by Kostelnik et al. (2011). However, the interactions only occurred with permission from the teachers and for the most part were teacher directed.

Notably, although Lamonte and Lisa had stated that the pupils were to play a dominant role in their learning this was not always evident in their lessons. They both seemed mainly concerned about disseminating the information which they had prepared and Lisa actually expressed concern that the children wanted to take over her lesson and appeared as though they would not give her a chance to say what she wanted to say. Learning Centres which had been identified by Lamonte and Cherry were used in only one of Lamonte's lessons and in none of Cherry's.

2. The main ideas arising out of the **second research question** '*What are particular Barbadian teachers' understanding of the term learner centred instruction' in the*

context of ECE?' were according to the interviewees from both schools, that it would lead to an improvement in teaching methods and in the pupils' cognitive and social/emotional domains with the slower children being the primary beneficiaries. This would be reflected by pupils being taught more often in small groups (Wasik, 2008**)** and having their needs and attainmnents addressed. Such improvements would be visible in lesson planning and the classroom environment.

Jean felt it resulted in her paying more attention to the pupils' needs and their attainments as well as in her helping them to become more involved in discovering information for themselves by exploring, investigating and socializing. Lamonte of School (A) explained that it resulted in her engaging in small group teaching more frequently, while Lisa of School (B) stated that she was encouraged to be more creative in her planning. Cherry of School (B) stated that she was more likely to establish Learning Centres so that pupils could manipulate different activities (Henniger, 2005) and the slower ones would benefit more by learning through their senses.

During the lesson observations, there was some measure of conformity between what Jean and Lamonte had voiced during their interviews. In keeping with the findings reported by Kostelnik et al. (2011), Jean made efforts to cater to the holistic needs of the pupils, provided opportunities for them to learn by being involved in activities which were developmentally appropriate and often provided opportunities for them to socially interact with her and with each other. However, the pupils were not afforded opportunities to discover information by exploring and investigating. The reason for this as revealed in the follow-up interview was that the teacher had a misunderstanding of the term 'discover'. Lamonte made efforts to use small group activities in three of the four observed lessons but due to a paucity of materials some of the pupils had very little or no opportunity to actually manipulate the objects and were mere observers.

When Lisa's teaching was observed, it seemed that consistent with her response during the interview, she had endeavoured to add some creativity to her lessons by using teacher-made materials and child friendly videos. However Cherry's comments

and her actual teaching did not synchronize as although she had seven Learning Centres established, the pupils were not seen to use any during my visits.

3. The major findings issuing from **third research question** '*What are these teachers' reported pedagogical beliefs about learner centred instruction in the context of ECE?'* were that teachers expressed the beliefs that they and pupils have specific roles in LCI and pupils construct knowledge in different ways. There were also expressed beliefs that the respondents had all implemented LCI though in varying degrees, had demonstrated this in different ways and varied factors had influenced their implementation.

Jean believed that she was to guide, observe and assist the children. This was similar to research findings with other teachers, which had been conducted by Jia (2010); Isikoglu (2008) and Doolittle and Hicks (2003). Lamonte and Lisa both agreed that they were to function as a guide. Lisa's additional view that she was to help pupils assume some responsibility for their own learning and discover information for themselves matched research findings by Powell and Kalina (2009), Wakefield (2008) and Paris and Combs (2000). Cherry shared a different belief which was that her role was to expose the children to as much information as possible in interesting ways.

With regards to the role of the pupils, all four participants expressed the same view although in different words, namely: the pupils were to use Learning Centres independently, interact with their peers and relate what they were learning to their personal experiences (Anderson, 2005).

In relation to pupils' construction of knowledge, Jean stated this was done mainly through play, while Lamonte expressed a similar view to Essa (2011) that it could be achieved through practical activities, experimenting, trial and error and imitating. Lisa voiced that the pupils used their senses while Cherry felt that pupils' application to activities, their own experiences, experimentation and self-discovery, going on tours and interacting with resource persons were ways in which it could be accomplished.

In respect of the implementation of LCI, Jean, Lamonte and Lisa believed they had done the implementation by establishing Learning Centres since children like to

interact with each other, enjoy Learning Centres and this aids their learning. Cherry expressed her evidence of the implementation as allowing the pupils to observe and discover information for themselves through use of their senses.

While observing Jean's lessons I noticed that they showed a general conformity to her espoused views about her role as a teacher. The different seating arrangements in her classroom and the provision of developmentally appropriate and relevant materials for each of the lessons were evidence that she had planned for and was prepared to guide the teaching process. During the actual lessons, rather than lecturing or disseminating information, she made efforts at providing direction and guidance to assist the pupils in gaining new knowledge through their own experiences and in forming connections between prior and new knowledge (Jia, 2010). She observed and assisted the pupils as they participated in the learning activities by moving from group to group, engaged in discussions with them and offered support.

There was also evidence that Lamonte had planned for and was prepared to guide the teaching process but during her actual lessons her role as 'guide' was manifested only in some measure. This was seen in that she made efforts to help the pupils to link prior knowledge with new knowledge. However, she seemed to focus primarily on conveying knowledge to the pupils through lecture-discussion as opposed to guiding them to use their own experiences in order to construct new knowledge.

Lisa's lessons bore some semblance to what she had expressed about her role. Her lessons showed that she had engaged in prior planning, a recommendation of Kostelnik et al. (2011). During her lessons she visited the pupils' tables, interacted with, assisted and guided them. She also provided a few hands-on activities that according to Mvududu and Thiel-Burgess, (2012) allowed for constructing new knowledge and linking prior knowledge with new knowledge. Her emphasis however seemed to be mainly on conveying pre-prepared information to the pupils and hence she told and showed the pupils most things and provided very little opportunity for them to assume responsibility for their own learning and discover information for themselves.

Cherry's lessons revealed there was some agreement with the comments which she had made, as she used a wide variety of appropriate teaching-aids and strategies, in an effort to assist her pupils in acquiring information in interesting ways.

With regards to the role of the pupils, during my observation of Jean's lessons there was no occasion when the pupils used Learning Centres to assist them in their learning. This pertained in spite of the fact that five Learning Centres had been established in the classroom, something which she stated had been done as her way of implementing LCI. On the other hand however, Lamonte who had expressed a similar view to Jean showed a little consistency with her espoused belief in that during one lesson; the children were allowed to work in small groups in three of the established Learning Centres.

Lisa's expressed belief about the pupils' role was visible during her observed lessons, as activities were provided which required use of their senses. Her actions supported her statement that she had implemented LCI by providing manipulatives and having pupils participate in activities.

Two of Cherry's lessons showed some consistency with her view that the role of the pupils is to manipulate activities and relate what they are learning to their personal experiences, as the pupils were able to purposefully manipulate objects and discover some knowledge.

Additionally, during the lessons which I observed, it seemed that Jean's teaching was in conformity with her espoused belief and research findings by Morrow and Dougherty (2011); Wood (2009) and Wood and Attfield (1996) that children construct knowledge through play. This was revealed by her providing opportunities for the pupils to engage in dramatic play and role playing. Lamonte's teaching also showed some evidence of agreement with her articulated belief that children construct knowledge through practical activities. In this regard the pupils were afforded opportunities to manipulate and match shapes, and to participate in an educational tour. However there was no supporting evidence in the observed lessons to bear out her expressed view that children also construct knowledge through experiments, trial and error and imitating.

In reference to Lisa, her lessons all showed some consistency with her expressed belief that the pupils were to be allowed to use their senses to observe and discover information in order to construct knowledge. Cherry's lessons also revealed some reflection of her espoused belief that children construct knowledge by applying themselves to activities and personal experiences (Speaker, 2001). This was evidenced by her allowing the pupils to manipulate items and relate personal experiences pertinent to the topics under discussion. However, there was no evidence of pupils engaging in experimenting, going on field trips, or interacting with resource persons as she had voiced.

4. The data generated from the **fourth research question** '*How do the pedagogical beliefs of these teachers influence their implementation of learner centred instruction in the ECE curriculum?'* highlighted that the participants all engaged in lesson planning, gave some consideration to LCI in varying degrees while planning and believed that LCI could be extended outside the classroom.

Jean and Lamonte (School A) indicated that they included objectives, teaching methods, materials and assessment in their plans while Cherry and Lisa (School B) stated that they included introduction, objectives, materials, learning experiences and assessment.

In respect of the consideration which was given to LCI while planning lessons, Jean's response reflected literature by Essa (2011), Henniger (2005) and Watson (2001) when she commented that she focused on selecting suitable materials to meet the pupils' needs. Lamonte admitted that she only considered it for Language Arts and Mathematics lessons while Lisa indicated that she focused on having the children as the main focus while the manipulation of materials and use of Learning Centres were the focal points for Cherry.

Lamonte and Jean specified that LCI could be extended outside the classroom (Durmusoglu, 2008) through parental involvement while Jean, Cherry and Lisa agreed that educational tours could be used. Cherry also added visits by resource persons while Lisa included the school environs.

While observing the lessons of the four teachers, I noticed that there was some consistency with what the teachers had voiced in the initial interviews and their classroom practice. Their teaching revealed that they had each engaged in planning all of their lessons and that they had given consideration to LCI although in varying degrees. The lessons all had objectives, which were either explicit or implied. All lessons also had introductions which in most cases captured the attention of the pupils. In addition, the selected materials, whether teacher made or commercial always coordinated with the lessons and this was further evidence that prior planning had been done.

The teachers acted in accord with the literature of Snider and Roehl (2007) and Rettig (2005) by using different instructional strategies and methods in order to assist pupils with learning the various concepts. Most of these were developmentally appropriate, allowed for pupil involvement and at times afforded opportunities for their development of creative and critical thinking skills. In some instances the selected learning activities revealed that the teachers had given some consideration to LCI as they had stated. However, there were also instances when it was evident that learner centred instruction could have been employed but teacher-centred methods were used instead.

All the teachers had indicated that they assessed the pupils during their teaching and this was borne out in each lesson which I observed. For the most part the assessment activities were in keeping with research by Kemp and Scaife (2012) who advocated that they should be of a diagnostic nature since the purpose of such assessment is to inform the teacher about pupils' learning needs so that they can be appropriately addressed. Such an approach is highly congruent with LCI. The assessments were interwoven with teaching, required the pupils to apply their knowledge and skills and measured what the pupils knew and could accomplish. However, there was a deviation in that there were elements of competition in the assessment activities in one lesson each from Jean and Lisa.

With regards to the extension of LCI outside the classroom, none of the teachers that I observed implemented any of the suggestions which they had made during the interview. Consequently I did not witness any parental involvement in Lamonte's or

Jean's lessons, no educational tours were undertaken by Jean, Cherry or Lisa, there was no use of the school environs by Lisa and no resource persons were utilized by Cherry. Lamonte did not mention educational tours but she engaged in one during a Social Studies lesson.

5. It was evident from the responses to **research question five** '*What are the contextual factors affecting the implementation of learner centred instruction in the ECE curriculum?'* that the major challenges while implementing LCI were thought by the teachers to be primarily a shortage of materials, a lack of space, absence of specific training in LCI and limited mentorship. The participants identified the elements of a learner centred school as interaction between persons and materials, utilization of recommended teaching methods, appropriate learning activities and a quality physical environment with suitable materials. They felt it would be easier to implement LCI in a positive school culture where teachers have opportunities to be actively involved in various activities, where LCI is understood, there is interest in, appreciation for and willingness to implement it. On the other hand, there would be a negative effect on the implementation in a culture based on teacher resistance to change, where there was a lack of knowledge about and interest in the reform, as well as the absence of support, encouragement, resources and teacher training. In respect of administrative support the four teachers all admitted they received commercial materials or assistance in preparing teacher-made charts, verbal encouragement and as suggested by Ingersoll (2012) some form of mentorship. They also confirmed that while they had received formal teacher training it was not specifically related to LCI and they had not experienced being taught by this approach.

Jean, Cherry and Lisa all stated that their difficulty was the availability of materials while Lamonte identified her problem as a lack of space.

With regards to the culture of a learner centred school Jean felt that it would be evidenced by the availability of developmentally appropriate materials, small group teaching, and pupil participation in lessons through exploring, discovering and investigating. Lamonte spoke of the establishing of Learning Centres, social interaction and assessment. Cherry stated that it would be fun, interactive and cater to independent learning while Lisa identified manipulatives, charts and the use of

technology (Morrison, 2012; Chen, 2008; Fletcher, 2006) as evidence of a learner centred school culture.

In commenting on the effect school culture would have on the implementation of LCI, Jean indicated that it would be facilitated by a positive school culture where teachers and children recognized its importance, whereas a negative environment would be a hindrance. Lamonte felt if an interest was shown from the Infant Department then it would continue into the Junior Department while Cherry and Lisa both stated that all persons including Management would have to be on board. An absence of materials and teacher training (Anderson, 2005; Jalongo et al. 2004) according to Lisa, would also have a negative effect on the implementation.

During my visits to Jean's classroom I observed that she had five Learning Centres established around the room containing only small amounts of developmentally appropriate materials. In addition there were many teacher-made charts on display in the room and during her observed lessons only one commercially prepared chart was used. All other materials which she used were teacher-made. This synchronized with the comment she had shared in the initial interview that in order to counteract her problem of a shortage of materials she made or borrowed charts. Cherry and Lisa had also identified a paucity of materials as their main challenge and this was also visible when I visited their classrooms and observed their lessons. They both used mainly teacher-created materials. Cherry had seven Learning Centres established while Lisa had only two Centres but the commonality was that in both classes each Centre contained only small amounts of developmentally appropriate materials.

I deduced however that when the teachers said they had a lack of materials, they meant commercially prepared posters and items for their Learning Centres because I observed they had appropriate and adequate amounts of teacher-made materials for each of their lessons.

When I observed Lamonte's teaching, I noticed that her comment during the initial interview of her main challenge being space was confirmed. This point which acknowledged the importance of space synchronized with research by Prochner, Cleghorn and Green (2008) and Tanner (2008). The classroom was very small and she

was indeed challenged for space during her lessons. In one lesson she utilized a Learning Centre which was located outdoors.

On the matter of the culture of a learner centred school, each of the four teachers who were observed showed some measure of consistency with what they had expressed during their initial interviews. At School (A) I observed that Jean had materials on display, used some during her teaching and engaged pupils in small group activities. However, there were no meaningful activities to foster exploration, discovery and investigation. Lamonte had specified social interaction, Learning Centres and assessment. These were observed in some measure in each of the four lessons which I observed.

At School (B) there was some evidence in Cherry's lessons to support her statement that there would be fun and interaction. However I did not observe any independent learning. Lisa's view that there would be manipulatives, charts and technology was consistent with what I observed during her lessons.

With regards to training for LCI, all four of the participants admitted that while they had received general teacher training, they had not received any initial training or on-going professional development. I observed that they each tried to adapt their general teacher training in an effort to implement LCI.

6. General Comments

Emerging from the overall study is the idea that teachers' pedagogical beliefs positively and negatively affect the implementation of learner centred instruction in the ECE curriculum in Barbados. Their deep-seated thinking, described as central beliefs, include fundamental values and attitudes and are thus difficult to change. It is on these beliefs that the teachers' decisions about teaching and learning are based and which influence their classroom practice.

It seemed that the teachers from both schools made comparable efforts at implementing the reform as evidenced by their expressed and espoused views. They expressed common beliefs about teachers' role, pupils' role, and teaching and

learning with regards to LCI in ECE. Their beliefs were evident in varying degrees and affected their planning and teaching. They all verbally supported the implementation of LCI and indicated that it was important, relevant and beneficial to both teacher and pupils, with the pupils deriving long-term benefits and experiencing a greater level of motivation to learn. However, their teaching revealed that there were many occasions in which this approach could have been used but it was not.

It was borne out that some teachers hold stronger beliefs about LCI and these are the ones who demonstrated in their planning and teaching that they made greater efforts to incorporate teaching strategies and learning activities which are consistent with LCI.

Whether or not teachers accept an innovation is contingent on their central pedagogical beliefs, the reason for the change and the contextual factors which impact the implementation. Since they are the primary change agents and can hinder or promote reform, it is prudent that matters related to their teaching which concern them should be addressed rather than ignored.

There were contextual factors that the respondents considered to be critical and which might have prevented them from displaying actions which were consistent with their beliefs and probably directly affected full implementation of the reform. These included space, materials, mentorship and training. On the other hand, the culture of the two schools and members of administration supported and encouraged the innovation and seemed to have influenced the teachers into believing that they should attempt to implement it. However, the new beliefs might not have impacted on their central beliefs and be strong enough to change their behaviour. What they probably did therefore was to select and implement information that confirmed their beliefs or implemented only the elements which did not seriously conflict with their deep seated beliefs about teaching and learning or require them to fundamentally change their traditional style of teaching.

The findings from this study reinforce theories about teachers' beliefs and the implementation of reform in classroom settings. The study reveals that implementing constructivism is "divergence from business as usual" (Windschitl, 1999, p. 754) and the challenges which are encountered cannot be resolved by "the one–shot workshop

acquaintance with constructivism" (Windschitl, 1999, p. 754) but there must be a complete reappraisal and redesigning of the traditional classroom activities. If this is not achieved the result may very well be "a corruption of both approaches to learning" (Iran-Nejad, 2001, p. 30).

Implications

The results of this study hold various implications. A strong implication is the recognition that teachers' pedagogical beliefs are a reality and can engender or hinder success of educational reform. This therefore calls for an awareness and understanding of teachers' beliefs about implementing innovations but specifically in relation to methods such as LCI in ECE which require a major change in their classroom practice. Additionally it signals a call for teachers to be reflective about their pedagogical beliefs and determine whether they are peripheral or central and if there is a need for accepting change and implementing current methods of teaching.

Secondly is the importance of thorough teacher preparation through formal training with the use of appropriate LCI approaches by teacher educators. In this way teachers would be able to effectively teach all kinds of children thereby reducing the need for Special Needs schools or units and allowing for greater facilitation of inclusion in main stream schools.

Coming out of this research is also the view that the ECE curriculum needs to be revisited in terms of its scope and content in light of the allotted time for completion. There should not be the expectation for teachers to cover the given curriculum content in the same scheduled time while changing their teaching method from the traditional to LCI. Consideration should also be given to rewriting the curriculum to fully reflect all aspects of LCI. Assessment is a vital component of learning and is embedded in the curriculum. However the current assessment practices are not always in keeping with that which is recommended and hence they need to be revisited and readjusted. Another area to be addressed would be that of teacher-student ratio since LCI requires more small group and individualized teaching. It must be noted that while teacher education to enhance understanding of LCI in general and the employment of diagnostic assessment in particular does not require as much major funding as rewriting the curriculum and teacher-pupil ratio, it also has implications for funding.

The findings of this study also hold implications for a clear understanding of contextual factors which promote or hinder successful implementation of LCI. These must be addressed since they influence teachers' decisions and classroom practice. They include but are not limited to the availability of physical resources such as manipulatives, Learning Centres, posters and technological equipment, the size of classrooms and the size of school buildings. These are necessities for facilitating learning activities that are consistent with LCI.

The results of this research hold important implications for administrators as far as their role in leading curriculum reform is concerned, but more specifically in reference to LCI. Administrators would need to be fully aware about how to effectively implement LCI in ECE so that they can guide and continue to support the teachers appropriately in this endeavour. The type of school culture which prevails would also be crucial for successful implementation of innovations.

Furthermore there are implications for collaboration and collegiality that would foster discussing and sharing pedagogical concerns as well as displaying best practices amongst teachers and across schools.

The importance of societal expectations cannot be overlooked since education is a partnership with families and the community. As such there are implications for the effect on society and pupils in relation to how they have come to believe teaching and learning occurs. Consideration would have to be given to revisiting the method which is presently used for transferring pupils from primary to secondary schools. This is of importance since parents and children have become accustomed to the traditional method of teaching and preparing for writing the one-shot secondary school examination at age eleven plus.

Pupils are of great significance and cannot be omitted from any aspect of education. Thus, there are implications for preparing them for the changes to new teaching and learning approaches. This would be necessary as they would have been familiar with and most likely also be comfortable with the traditional methods of teaching and learning.

Recommendations

Arising out of this study, I would suggest the following recommendations:

Firstly, I would argue that in introducing LCI to teachers, teacher educators should become knowledgeable about teachers' beliefs regarding LCI, select pertinent areas to discuss during training sessions (Isikoglu, 2008) and where necessary guide the teachers towards reconstructing and reforming their beliefs (Feyzioglu, 2012). The trainers should also "consider training teachers to acknowledge how their beliefs influence their practices" (Erkmen 2012, p. 145) This can be done by encouraging teachers to reflect on their teaching with regards to their actions and how effective those actions were, as well as to consider the reasons behind the said actions. Activities to promote this reflection may include "feedback dialogues, self-observation and peer-observation" (Erkmen, 2012, p. 145-146).

Teachers need to undergo formal training prior to entering the classroom since this has never been a requirement. It is critical that this training be specifically geared towards assisting teachers in understanding and implementing the constructivist approach as opposed to it being just general. This would require the teacher educators to have an indepth knowledge and understanding of the constructivist approach and be equipped to teach the teachers in light of this understanding. An awareness of the rationale, practices, procedures and pedagogy as well as student requirements for its successful implementation are vital. Cognitive constructivism should also be modelled in higher education classrooms so that prospective teachers can "experience learning in a constructivist environment", be encouraged "to develop positive beliefs about constructivist approaches" (Aldrich and Thomas, 2005, p.341) and become "equipped to plan and facilitate constructivist activities by their students" (Alesandrini and Larson, 2002, p. 118). It would be useful for experiences to be provided to the student teachers to assist them in understanding and applying the theories of teaching that underpin the approved teaching approaches that are used in early childhood classrooms (Anderson, 2005). Examples of these are "inquiry, interactive, and hands-on activities" (Tafrova-Grigorova et al. 2012, p. 191). In-service teachers will also need extensive on-going professional development in order to fully comprehend constructivist teaching and learning and acquire the knowledge and skills necessary for transforming their teaching (Lim and Chai, 2008).

Secondly, the scope of the curriculum needs to be narrowed in order to alleviate the problem of merely 'scratching the surface' of each topic. It is necessary for Ministry officials to hold discussions with teachers in order to decide which areas should be retained and which removed from the curriculum. Since the last ECE curriculum is still a draft document, it would be timely to engage teachers in consultation about it prior to finalising the document. This would be critical as there can only be successful realisation of reform if it is teacher-led and there is "buy-in". The result would be a feeling of ownership, greater support from teachers and a reduction in resentment and apathy which tends to arise if it is felt that the reform is being thrust upon them. I would therefore recommend that the rewriting of the curriculum to reflect constructivist language, LCI and the provisions needed for its successful implementation are in need of serious consideration. Arrangements for teachers to have adequate time to plan lessons and have more teaching time especially when engaging in small group and individualized instruction would be useful. Likewise pupils could be afforded more time, possibly through the integration of lessons, to construct their own learning.

The focus in assessment needs to be on diagnostic types as they allow the teacher to discover what the pupils have mastered and what else needs addressing. It would therefore be useful for teachers to familiarize themselves with the different types of assessment and their functions so that they can make correct choices regardless of the age group. Class sizes ought to facilitate small group and individualized teaching and therefore a maximum of 15 pupils in the 4-5 age groups and 20 in the 5-6 age groups should be considered.

There must be an equitable distribution of more funds to each school to allow for the purchasing or creating of classroom materials and resources. This is vital since constructivist - based teaching requires "the use of appropriate, modern teaching resources . . . especially multimedia and ICT" (Juvova, Chudy, Neumeister, Plischke and Kvintova, 2015, p.347). This would necessitate primary school administrators being able to submit an annual budget to Ministry officials as do those of secondary schools. Additionally, when new school buildings are being constructed they should include spacious classrooms for the establishment of several Learning Centres and for facilitating pupils' discovering, experimenting and engaging in different types of play

and other small group activities. These schools can be constructed and furnished by charitable organizations and the private sector in conjunction with the Ministry of Education, as has already been commenced, and not left solely for the Government to finance.

Administrators need to have an unambiguous understanding of their roles so that they are better equipped to lead the implementation of innovations. Also vital, would be continuous specific training which would enable them to be prepared for, keep abreast of educational changes and thoroughly understand the specific innovation. Such training should also aid them in becoming aware of how to educate teachers about the importance of change and how to influence their beliefs towards accepting and implementing it. Teachers are the ones who have to actually do the implementation in their individual classes and therefore they have to be fully on board in order for successful educational reform to be achieved. It is important that the facilitation of a school culture which promotes, accepts and implements change be embarked upon as a priority by each leader and efforts made to encourage the staff to embrace such a culture.

Consideration ought to be given to scheduling time on the timetables for teachers to meet weekly and discuss and share pertinent information related to teaching and learning. Such collaboration and collegiality can only be achieved if there is the developing and embracing of a culture of sharing and teachers are open-minded and dispose of the proverbial “egg-crate” mentality.

It would also be essential for teachers to be mentored in constructivist practices through observing teachers at their school or at other schools (Windschitl, 1999) who are dedicated to and skilled in teaching using such methods. This can be done through the assigning of ‘master teachers’ who can be used within a specific school as well as across schools in a district.

Members of the society as well as pupils need to be educated about the change from the traditional to the constructivist classroom since constructivism is quite different from what they would have been accustomed to and there may be concerns that it is a

"laissez-faire approach to learning" (Windschilt, 1999, p. 755). Educational sessions can be convened as town hall meetings across the island with provision for open-discussion and question and answer sessions. Other suggested methods are the use of print, electronic and social media and the distribution of literature, CDs or DVDs. Open Days by schools to allow families to visit and observe teaching and learning activities using LCI would be useful, as well as demonstration lessons at Class Level or PTA meetings and sessions by the National Council of PTA where pertinent information is provided for families. The provision of various opportunities for all pupils to learn through LCI would definitely be another area to be addressed as well as the transfer of pupils from primary to secondary school using continuous assessment as opposed to the "one shot" Barbados Secondary School Entrance Examination.

Suggestions for Further Research

The findings of this study indicate that there are opportunities for undertaking further research. Some suggestions are as follows:

This study can be replicated using a sample that has been randomly selected since for this research the sample was selected purposively. In addition the sample was small in that four teachers from each of two primary schools were interviewed and only two of each of the four were also observed during their teaching. A larger sample of teachers could be used in a greater number of schools.

This research was conducted in two public primary schools. Similar research could be conducted in private primary schools in order to determine if the results are comparable. This would be useful since the dynamics of public and private schools are believed to be different and results in the BSSEE also show a specific trend in favour of private schools.

A longitudinal comparative study using constructivist and traditional approaches could be conducted for approximately five to seven years beginning with pupils of the 4-6 age groups. The pupils' performances at age 11+ could be compared in order to determine if there is a difference and if so if it is significant.

Another suggestion for further research is the concept of teachers' beliefs and how they affect pupils' performances and teachers' classroom practice. Strategies such as lesson observations, organization and use of the classroom environment and pupils' performances could be used in helping to make a determination.

The extent to which LCI has been implemented in Barbadian primary schools and the influence of this on pupils' attainment could be undertaken as further research through an observational study.

A longitudinal study could trace the progress of pupils in a sample of schools where there is the provision of adequate funds, physical resources, well trained teachers, effective leadership, an overall positive school culture and the implementation of LCI.

An investigation could be done to ascertain how other contextual factors apart from those highlighted impact the implementation of reform and education in general.

It is to be hoped that a commitment to enquiry into the practices and outcomes of LCI, through lines of research such as those outlined above, would sustain a culture of education for learning in Barbados.

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APPENDICES

Appendix A: Ethical Approval Letter

The University Of Sheffield.

The School Of Education.

Angela Smith
EdD Caribbean

Head of School
Professor Cathy Nutbrown

Department of Educational Studies
388 Glossop Road
Sheffield
S10 2JA

Telephone: +44 (0)114 222 8115
Email: t.a.earnshaw@sheffield.ac.uk

15 October 2012

Dear Angela

ETHICAL APPROVAL LETTER
How do the pedagogical beliefs of primary school teachers affect the implementation

Thank you for submitting your ethics application. I am writing to confirm that your application has now been approved.

You can proceed with your research but we recommend you refer to the reviewers' additional comments (please see attached).

This letter is evidence that your application has been approved and should be included as an Appendix in your final submission.

Good luck with your research.

Yours sincerely

[redacted]

Dr Simon Warren
Chair of the School of Education Ethics Review Panel

cc Pat Sikes
Enc Ethical Review Feedback Sheet(s)

Appendix B: Ethics Information Sheet

1. **Research Project Title:** How do the pedagogical beliefs of primary school teachers affect the implementation of learner centred instruction in the Early Childhood Education Curriculum? A case study of two primary schools in Barbados

2. **Invitation paragraph**

First of all thank you for taking time out of your busy schedule to read this information.

You are being invited to take part in a research project. However, before you decide whether you would like to participate it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and if you wish, you may discuss it with other individuals. If there is anything that you are not sure about, or if you would like additional information, feel free to ask me. Take time to decide whether or not you wish to take part. Thank you for your attention.

3. **What is the project's purpose?**

As an educator with a genuine love for and interest in Early Childhood Education, I am interested in finding out how the beliefs of primary school teachers affect their use of learner-centred instruction in their teaching of the content of the revised Early Childhood Education Curriculum. This research project aims to gain an understanding of the beliefs of a number of primary school teachers with regards to their use of learner- centred instruction in the 4-6 age groups. The research project is expected to be completed in two years.

4. **Why have I been chosen?**

You have been chosen because you are a teacher of the 4-6 age groups who is required to use learner-centred instruction as is outlined in the revised Early Childhood Education Curriculum.

5. **Do I have to take part?**

It is completely up to you to decide whether or not to take part in the research. If you do decide to participate you will be given this information sheet to keep and be asked to sign a consent form. You may however withdraw at any time if you choose to do so without providing a reason.

6. **What will happen to me if I take part?**

During the period of the research I will be meeting with you for two interviews not exceeding forty-five minutes in each instance at a time convenient to you. I will also be visiting your classroom to observe your learning environment and your teaching of lessons. These visits will be scheduled for during the months of January to March 2013 and will not exceed one hour per visit. I will also invite you to check over my account of our interview to ensure that I have accurately recorded your responses.

7. **What do I have to do?**

There are no lifestyle restrictions as a result of you participating.

8. **What are the possible disadvantages and risks of taking part?**

I am not aware of any predictable detriment to you that may occur as a result of your participation in the proposed research process. There is though, the possibility that my presence in the classroom may be of some inconvenience and discomfort to some teachers and students. If this happens and becomes problematic for you or your students, please bring it to my attention so that we can discuss how to address the situation.

9. **What are the possible benefits of taking part?**

Whilst there are no immediate benefits for those people participating in the project, it is hoped that this work will provide information as to the factors that promote and those which hinder the successful implementation of learning-centred instruction; as well as provide teachers with knowledge as to how to implement the revised Early Childhood Education Curriculum using learning-centred instruction.

10. **What happens if the research study stops earlier than expected?**

If for any reason the research stops earlier than expected you will be informed and provided with an explanation.

11. **What if something goes wrong?**

Should you have any complaints with regards to being treated in an unprofessional or unethical manner during the period of the research, or should a serious adverse event occur during or following your participation in the project, you may contact me in the first instance so that I may address the matter. After that and you believe that your complaint has not been fairly addressed you may contact the University's Secretary using the following information:

Tracey Earnshaw

Programme Secretary

School of Education

University of Sheffield

388 Glossop Road

Sheffield

S10 2JA

UK

Telephone 0114 2228115

Email: t.a.earnshaw@sheffield.ac.uk

12. **Will my taking part in this project be kept confidential?**

Permission will be sought from the participants to audio tape the interviews and permission will also be sought from the parents of the pupils in the classes where I will be conducting the observation, requesting their permission to conduct the observations in the specific classrooms. All data collected during the course of the research will be kept in the strictest confidence and used only in the research project for which it is being collected. You will not be able to be identified in any reports or publications since psuedonyms and codes will be used where appropriate. The data generated will be kept and analyzed solely by me-the researcher. Both will be done privately. No other person will be given access to the audio recordings of the interviews. The tapes will be secured in a private safe.

13. **What will happen to the results of the research project?**

The results of the research project will be published as a Dissertation in 2014 and a copy will be made available to you at that time. You will not be able to be identified in any reports or publications as you will remain anonymous through use of a pseudonym.

14. **Who is organising and funding the research?**

This research is not being sponsored or funded by any organisation or company.

15. **Who has ethically reviewed the project?**

The project has been ethically reviewed by the Education Department's ethics review procedure. The university's Research Ethics Committee monitors the application and delivery of the University's Ethics Review Procedure across the University.

16. **Contact for further information**

Should you wish further information you may contact my research supervisor as outlined below:

Dr. Jon Scaife
The School of Education
University of Sheffield
Tel. (+44) (0) 114 222 8135
Email: j.a.scaife@sheffield.ac.uk

You will receive a copy of this information sheet and a signed consent form to keep.

Thank you for participating in this project. Your willingness to be a participant is greatly appreciated.

Appendix C: Participant Consent Form

Title of Project: How do the pedagogical beliefs of primary school teachers affect the implementation of learner centred instruction in the Early Childhood Education Curriculum? A case study of two primary schools in Barbados

Name and contact information for researcher: Angela M. Smith; Telephone number: (246) 439-7982; Email address: theoysterpearl@yahoo.com

If you agree with the following statements please put a tick in each box

1. I confirm that I have read and understand the information sheet dated *August 22 nd. 2012,* for the above project and have had the opportunity to ask questions. ☐

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐

3. I understand that my responses will be anonymised before analysis. I give permission for members of the research team to have access to my anonymised responses. ☐

I agree to take part in the above research project. ☐

Name of Participant	Date	Signature
(*or legal representative*)		
Lead Researcher	Date	Signature

To be signed and dated in presence of the participant

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project's main record (e.g. a site file), which must be kept in a secure location.

Appendix D: Approval Letter (Ministry of Education)

CHIEF EDUCATION OFFICER
MINISTRY OF EDUCATION AND HUMAN RESOURCE DEVELOPMENT

PUBLIC SECTOR REFORM
MAKING BARBADOS WORK BETTER

Fax: (246) 436-2411
Tel. No.: (246) 430-2709
Ref. No.:

ELSIE PAYNE COMPLEX
CONSTITUTION ROAD
ST. MICHAEL, BB11124

9th November, 2012

Mrs. Angela M. Smith
"Mel-Ria"
Barrows Plantation
Barrows
ST. LUCY BB27170

Dear Mrs. Smith

I acknowledge receipt of your letter dated 29th October, 2012 in which you are requesting permission to conduct research.

This serves to inform you that the Ministry of Education and Human Resource Development has given permission for you to conduct research with teachers of the Early Childhood Education age groups at Primary Schools.

Please contact the Principals of the respective schools and make the necessary arrangements to facilitate this process.

It is noted that your research topic is entitled "How do the Pedagogical Beliefs of Primary School Teachers Affect the Implementation of Learning-centred Instruction in the Early Childhood Education Curriculum? A Case Study of Two Primary Schools in Barbados".

Yours sincerely

[redacted]
Laurie O. King
Chief Education Officer

Appendix E: Research Letter to Principals

Angela M. Smith
"Mel-Ria"
Barrows Plantation
St. Lucy BB27170

Telephone 439-7982

October 29, 2012

The Principal

……..

…….

…….

Dear Madam,

I am pursuing the Doctor of Education (EdD) Programme with the University of Sheffield, England. This programme focuses specifically on education policy and practice in the Caribbean.

Consequently, I have selected as the topic for my dissertation "***How do the pedagogical beliefs of primary school teachers affect the implementation of learner centred instruction in the Early Childhood Education Curriculum? A case study of two primary schools in Barbados".***

I am therefore requesting your kind permission to conduct my research within your institution.

Your facilitation would be greatly appreciated.

Yours sincerely

…….

Angela M. Smith (Mrs.)

Appendix F: Research Letter to Parents

February 11, 2013

Dear Parent/Guardian,

I am pursuing the Doctor of Education (EdD) Programme with the University of Sheffield, England. This programme focuses specifically on education policy and practice in the Caribbean.

The topic of my research is "***How do the pedagogical beliefs of primary school teachers affect the implementation of learner centred instruction in the Early Childhood Education Curriculum? A case study of two primary schools in Barbados".***

In order to collect data for this research it is necessary that I engage in observation of lessons in your child's classroom. I have already requested and received permission from my University, the Ministry of Education and the Principal to conduct this research.

I am therefore seeking your permission to be present in your child/ward's classroom. Should you have any objection to this, please indicate in writing to your child/ward's class teacher within one week of receipt of this letter.

Your kind consideration in this matter is much appreciated.

Yours Sincerely

……

A. M. Smith (Mrs.)

Appendix G: Interview Questions for Teachers

TITLE OF RESEARCH PROJECT: HOW DO THE PEDAGOGICAL BELIEFS OF PRIMARY SCHOOL TEACHERS AFFECT THE IMPLEMENTATION OF LEARNER CENTRED INSTRUCTION IN THE EARLY CHILDHOOD EDUCATION CURRICULUM? A CASE STUDY OF TWO PRIMARY SCHOOLS IN BARBADOS

RESEARCH QUESTION ONE: WHAT ARE PARTICULAR BARBADIAN TEACHERS' PERCEPTIONS ABOUT THE RATIONALE FOR ADOPTING LEARNER CENTRED INSTRUCTION IN THE CONTEXT OF EARLY CHILDHOOD EDUCATION (ECE) IN BARBADOS?

(Lead-in questions)

The rationale in the Barbadian revised ECE Curriculum states that the Curriculum "is child- centred" or "learner centred"

1. What does the term 'learner centred' instruction mean to you?
2. Why do you think the learner centred approach was adopted for use in Early Childhood Education in Barbadian Primary Schools?

RESEARCH QUESTION TWO: WHAT ARE PARTICULAR BARBADIAN TEACHERS' UNDERSTANDINGS OF THE TERM LEARNER CENTRED INSTRUCTION IN THE CONTEXT OF ECE?

(Lead-in questions)

3. (a) In your view, how might understanding learner centred instruction affect teaching?
3. (b) In your view, how might understanding learner centred instruction affect learning?

RESEARCH QUESTION THREE: WHAT ARE THESE TEACHERS' DECLARED PEDAGOGICAL BELIEFS ABOUT LEARNER CENTRED INSTRUCTION IN THE CONTEXT OF ECE?

(Lead-in questions)

4. What do you perceive your role to be in a learner centred instruction environment?

5. What do you consider to be the role of pupils in a learner centred instruction environment?

6. How do you think children of the 4-6 age groups construct knowledge?

7 (a) Have you implemented learner centred instruction in ECE with your students? If so tell me how you went about doing the implementation.

7 (b) What factors influenced the decisions you made?

RESEARCH QUESTION FOUR: HOW DO THE PEDAGOGICAL BELIEFS OF BARBADIAN TEACHERS INFLUENCE THEIR IMPLEMENTATION OF LEARNER CENTRED INSTRUCTION IN THE ECE CURRICULUM?

(Lead in questions)

8(a) Describe the process you use for lesson planning.

8(b) What consideration do you give to the learner centred approach while you are planning your lessons?

9. Can learner centred instruction be extended outside of the classroom? Explain

RESEARCH QUESTION FIVE: WHAT ARE THE CONTEXTUAL FACTORS AFFECTING BARBADIAN TEACHERS IN THE IMPLEMENTATION OF LEARNER CENTRED INSTRUCTION IN THE ECE CURRICULUM?

(Lead in questions)

10. Have you experienced any challenges in implementing learner centred instruction? If so, how have you dealt with these challenges?

11. How would you describe the culture of a learner centred school?

12. How might the culture of the school affect the implementation of the learner centred approach in ECE?

13. Is learner centred instruction supported by the administration of your school? If so how is it supported?

14. What training did you receive in learner centred instruction prior to its implementation?

15. Do you have any other comments that you would like to add?

Appendix H: Checklist for Lesson Observations

These items were designed based on literature mainly by:

- Brooks and Brooks (2001) who provided a set of descriptors of constructivist teaching behaviors which can be used in the classroom. These researchers acknowledge that these descriptors were informed by previous work of researchers such as Sigel, Elkind, Kuhn and Arlin.
- Oldfather, West, White and Wilmarth (1999) who identified characteristics of classrooms whose teachers take a social constructivist stance.

  The comments based on the observations will include exactly what I see, exactly what I hear and an interpretation of what these might mean. My interpretations will also be based on the requirements of the Barbadian Early Childhood Education Curriculum.

THE TEACHING PROCESS

1. The teacher employs an integrated approach to teaching.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

2. The teacher uses cognitive terminology such as ‘classify’, ‘predict’ and ‘create’

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

3. The teacher enquires about the pupils’ understandings of concepts prior to sharing his/her own understandings of those concepts.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

4. The teacher seeks elaboration of the pupils' initial responses.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

QUESTIONING

5. The teacher asks questions to stimulate pupils' thinking beyond recall/rote learning

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

6. The teacher allows wait time after posing questions.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

THE LEARNING PROCESS

7. Shared learning occurs between the pupils and the teacher.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

8. The pupils engage in purposeful activities that promote creative and critical thinking.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

MANIPULATIVE MATERIALS

9. The materials on display coordinate with the lesson.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

10. The lesson provides opportunities for the pupils to purposefully use manipulative, interactive and physical materials.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

INTERACTION

11. The pupils engage in social interaction.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

12. The teacher engages in social interaction.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

STUDENT NEEDS

13. The teacher uses instructional strategies and methods that cater to the needs of the pupils.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

14. Opportunities are provided for the pupils to be involved in the lesson.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

ASSESSMENT

15 Assessment of the pupils is interwoven with teaching.

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

16. Assessment of the pupils is based on each pupil's progression and not exclusively on competitive norms

yes ☐ no ☐

Exactly what I see _____

_____

_____

Exactly what I hear _____

_____

_____

My Interpretation _____

_____

_____

Appendix I: Checklist for Classroom Observations

NO	AREAS FOR OBSERVATION	YES	NO	COMMENT	WHAT MIGHT THIS MEAN?
1	Desks are arranged in a non-traditional fashion (i.e not in straight rows)				
2	Students sit in pairs or groups				
3	The teacher's table is located in an area which is not at the centre of the room				
4	A variety of Learning Centres have been established in the classroom				
5	A wide variety of interactive manipulatives are available in the Learning Centres				
6	The manipulatives in the Learning Centres are developmentally appropriate (i.e they are suitable for the pupils' ages, abilities, skills and knowledge)				
7	Real-life materials are present in the classroom				
8	The physical contents of the classroom are reflective of things that might be interesting and appealing to the pupils				
9	The classroom reflects contents which are relevant to the context in which the pupils' live				

10	Technological equipment is present in the classroom (e.g radio, television, computer)				
11	The classroom is busy and there is organized chaos (i.e the pupils are engaged in the specified learning experiences)				
12					

N.B 12 represents space to add other categories that I may observe

Appendix J: Lessons Observed from Teachers

LAMONTE'S LESSONS

Lesson 1

The **Language Arts** lesson on "Letter and Sounds" was taught to a class of sixteen 4-5 year olds for a period of 40 minutes. The teacher stated that it was a revision lesson aimed at assisting the pupils in recognizing selected letters of the alphabet and associating each letter with its particular sounds. The teacher did not employ an integrated approach to teaching. She started the lesson by taping familiar pictures of objects on the chalkboard. These included a bat, an apple, a hat, a leaf, a fish and a cat. She then displayed a colourful Alphabet Chart on the chalkboard and after asking the pupils to *'put your hands in your lap'* told them they would *"go through the letters"*. She then proceeded to point to and call the name of each letter in the alphabet and have the entire class repeat each one after her.

Afterwards she pointed to specific letters and told the pupils *"if you know the sound of the letter, put up your hand"*. Individual pupils were then selected to give answers. In each case when a child volunteered to answer, he/she gave correct responses. In some instances the teacher chose pupils who had not volunteered to identify letters and their corresponding sounds. When an incorrect reply was given, the teacher immediately invited a peer to provide the correct response.

Cognitive terminology such as 'classify' 'predict' and 'create' was not employed, there was no seeking to elaborate on the pupils' initial responses and no questions were asked to stimulate pupils' thinking beyond recall. Very few questions were asked and they were all factual. For example '*What is this letter'?* and *'C' says what?* At the end of each question the teacher allowed pupils adequate time to answer. As the lesson proceeded, there was no sharing of experiences between the pupils and the teacher as the pupils were not afforded opportunities to ask any questions or share their experiences or ideas.

The pupils' attention was then turned to the pictures which had been taped to the chalkboard and individuals were asked to state the name and initial letter of the object in each picture. The teacher shared her responses only after the pupils had given their answers. During this phase of the lesson the pupils were again only asked factual questions such as *'What letter can you can hear at the beginning of 'bat ?'* and '*What does 'boat' begin with'?* and they were not afforded opportunities to engage in activities that promoted creative and critical thinking.

In terms of the manipulatives which were on display during the lesson, these were well coordinated with the lesson. They included an Alphabet Chart, pictures on the chalkboard and items in the Housekeeping Centre and the Sand/Water Play Area. Opportunities were provided for the pupils to purposefully use manipulative, interactive and physical materials during the assessment activity. This was done by dividing the pupils into four groups and assigning them as follows: Group 1-Sand and Water Play Area, Group 2-Housekeeping Centre, Group 3- Play dough Area, Group 4-Worksheets. The pupils in Groups 1 and 2 were asked to play with the objects in the Centres and also determine the initial letter and corresponding sound of the name of each item. The pupils in Group 3 were told to model objects from the play-dough as well as the initial letter of each object created, while Group 4 was given worksheets to match letters to pictures in order to indicate the initial letter in the name of each object.

During the assigned group activities, the pupils and teacher had opportunities to be involved in social interaction. The children engaged in unstructured conversations with each other and structured conversations occurred between the teacher and the pupils. The teacher first spent some time at the table with the four pupils who had worksheets and through questioning assisted them in completing it. She also visited each of the other groups, asked questions, and provided encouragement and guidance. Examples of the questions posed were *'Tell me something you saw?'* and *'Show me 'C'.* Each group spent approximately fifteen minutes with their specific activity and then reassembled as a whole class to share with their peers the names, initial letters and corresponding letter sounds of the objects with which they had interacted.

The instructional strategies and methods employed by the teacher catered to some extent to the needs of the pupils in that some of their learning levels were addressed, they were allowed to work at their individual pace during the small group assessment activity, and focus was on some of their intellectual needs. Provision was made for pupil involvement in the lesson through answering questions posed by the teacher and through group activities. The varied group activities which were used as a form of assessment were interwoven with the teaching in that they assessed the pupils' abilities in some measure to identify initial letters and their associated sounds. Additionally, they were based on the pupils' progression since each pupil's current level of attainment was assessed as opposed to the pupils being compared with each other.

The teacher concluded the lesson by asking specific pupils such questions as *'What letter did you make for ball?' 'What else did you make?'*

Lesson 2

This eighty minute **Mathematics** lesson focusing on 'Fractions- the whole and half' was integrated with Language Arts and as stated by the teacher, aimed to introduce the pupils to the concepts of 'whole' and 'half'. It was introduced with a story about identical twin girls who had one cookie that their mother required them to share equally between the two of them. During the story the teacher sought to enquire about the pupils' understandings of concepts prior to sharing her own understanding when she posed questions such as *'Do you know what I mean when I say the girls were identical?' 'When I say 'whole' what do I mean?' 'When something is equal what does it mean?'* After the story the teacher used a circle to represent a cookie, discussed it as a whole, then folded it in half and questioned the pupils about how it could be cut in half. She also asked questions such as *'Can we have a bigger half?'* and *'How do you know if the shapes are a match?'* which required the children to think beyond recall. After each question adequate wait time was provided for answers and there was elaboration of the pupils' responses.

Following the story, the teacher distributed a shape to each child and after discussion about it representing a whole, asked them to fold it in half. She told them that each side must be the same and they should make sure that each side is equal. She then

checked the children's shapes to ensure they were correctly folded, and assisted those who were experiencing difficulty by demonstrating the correct procedure. She encouraged the pupils by using complimentary terms such as *'Good',* and *'Very Good'* but no cognitive terminology such as 'classify', 'predict' and 'create' was used and there was no sharing of experiences between the pupils and the teacher as the pupils did not ask any questions or share their experiences or ideas. This was done only by the teacher.

The teacher next introduced a game in which the pupils had to "Find Your Partner". This required each pupil to select half of a shape from a bag and find the peer with the matching half. As the children found their peer with the other half to their shape, they were required to match the two halves in order to ensure an exact match. Afterwards the teacher checked for accuracy. This activity though not encouraging creativity, promoted some measure of critical thinking for these young children.

Following the game, the teacher displayed a whole biscuit and invited a child to divide the biscuit in half. She questioned the remainder of the class as to whether it had been divided in half and queried what they could do in order to be sure. She confirmed the pupils' answer that they would need to match the two parts.

Next the teacher displayed a worksheet with pictures of different shapes and told the pupils they would be required to colour half of each shape and copy the word 'half' from the chalkboard. Each child was provided with an identical worksheet and as they completed this activity, the teacher went from table to table observing and guiding the pupils.

The manipulatives/materials used during the lesson included a basket of circles and halves of circles, a bag with halves of shapes of different colours, a biscuit and worksheets. These coordinated with the lesson and afforded opportunities for the pupils to purposefully use manipulative, interactive and physical materials. The needs of the pupils were addressed through the instructional strategies and methods that were used. They included storytelling, playing games, participating in practical activities answering questions and using manipulatives. Consideration was also given to meeting their intellectual needs with regards to learning the basics about fractions.

There was much social interaction between pupils and pupils and pupils and teacher. The assessment activity, the completion of the worksheet, was interwoven to some extent with the teaching and based on the progression of the pupils as they were required to apply their own knowledge and skills as opposed to the recalling of facts. Additionally pupils' performances were not compared with that of each other.

Lesson 3

This **Social Studies** lesson was a follow-up lesson from an educational tour taken earlier in the week to the Wildlife Reserve and the Farley Hill National Park. On this two-hour tour the pupils had observed animals and birds in their natural habitat. The eighty minute lesson, integrated with Art, was aimed firstly at reviewing the experiences of the tour and then introducing the pupils to three additional birds. During the first part of the lesson the main teaching strategy employed was question and answer in order to have pupils recall their observations while on tour. Hence the questions were primarily factual. Some questions asked were *'Can you tell me some of the names of the animals you saw?' 'What did you see a lot of?' 'What other birds did we see?'* The teacher involved all the pupils in this section of the lesson by asking each of them specific questions about their observations during the tour. As each bird and animal was named by the pupils the teacher recorded it on the chalkboard. Wait time was provided for answers and at times they were asked to elaborate on their initial responses. The teacher often shared her understandings of concepts only after the pupils had expressed their own thinking. Experiences were shared between the pupils and the teacher but no cognitive terminology such as 'classify' or 'sort' was used and no activities were provided to promote creative and critical thinking. The instructional strategies and methods only catered in some measure to the needs of the pupils in that each pupil had the opportunity to be involved in the lesson by relating his/her experiences while on tour and to depict these visually through drawings. However, the lesson was mainly lecture discussion and the pupils engaged primarily in recalling facts.

After approximately forty minutes the teacher displayed pictures of three different birds which were not seen during the tour and provided information about each one as the pupils listened. These were an egret, a heron and a peacock. The pictures

coordinated with the lesson and the session which was mainly a lecture by the teacher lasted for approximately twenty-five minutes.

Finally, the pupils were invited to select '*something'* which they saw on the tour and draw and colour a picture of it. This activity provided an opportunity for the pupils to purposefully use physical materials and for them to engage in social interaction with each other and with the teacher. This assessment activity was interwoven with teaching, and based on each pupil's progression in that it required individual application of knowledge and skills and competition or comparison were not included. During this fifteen minute activity the teacher moved from table to table observing and discussing the pupils' drawings with them and the pupils conversed with each other as they drew and coloured their pictures.

Lesson 4

This was a forty- minute **General Science** lesson about "The Pelican-Barbados' National Bird". It was integrated with Art and according to the teacher its aim was to aid pupils in recognizing the pelican and understanding why it is the national bird of Barbados. The lesson was introduced by the teacher displaying four pictures on the chalkboard: a goose, a duckling, a pelican and a duck. The pupils' attention was drawn to the chalkboard and they were asked to say what was common about the four pictures. After a brief discussion about these birds during which physical characteristics about them were elicited, a question and answer session specifically about the pelican followed. This discussion was facilitated by the teacher. In several instances the teacher enquired about the pupils' understandings of concepts prior to sharing her own understandings of those concepts. Frequently, when any pupil was unable to provide the answer which the teacher required, the teacher gave the response herself. Opportunities were not afforded for other pupils to assist in supplying answers. For example when a child said that the pelican *'has a long beak'*, the teacher immediately said '*It is not a beak. We call it a bill."* She then wrote the word 'bill' on the chalkboard. Occasionally the teacher posed higher-order questions which required the pupils to think beyond recall. For example- '*Why do you think the pelican has strong wings?'* Wait time was always provided after the posing of questions.

After the discussion about the physical characteristics of the pelican, the teacher displayed a picture of the Coat of Arms of Barbados on which there is a picture of the pelican. This was familiar to one boy as he remarked *'we did that already'.* This was followed by a historical discourse by the teacher as to why the pelican is the national bird of Barbados. This involved providing the pupils with information about 'Pelican Island'. Cognitive terminology such as 'classify' or 'predict' was not used, there was no elaboration of pupils' responses or any sharing of experiences between pupils and teacher. However the teacher engaged in social interaction through structured conversation with the pupils.

The teacher then displayed a computer print-out of a pelican and explained to the class that the pelicans fly in the shape of a 'V'. Next she displayed a picture of young pelicans and provided a description of these birds when they are first hatched. While the pictures were appropriate for the lesson they were too small for a whole class lesson. The teacher remarked *'I don't know if you can see this picture'.* All the pupils stood and moved closer to the teacher in an effort to get a view of the picture and the following comment was made by several children *'I can't see'*. The teacher's response was *'If you sit, you will see'.*

For the next activity, the teacher organized the pupils in five groups of threes. She displayed a bag with cut-outs of parts of a picture of a pelican and advised the pupils that one person from each group would select a part of the bird and the group members would tell the class about the selected part. The first group selected a cut-out of wings. The teacher asked them to identify their selection and tell the class why the pelican has wings. After the response was given the teacher taped the wings on the chalkboard. A similar procedure followed with cut-outs of the pelican's head, feet, neck, and bill. The end result was a picture of a pelican being displayed on the chalkboard. This activity allowed the pupils to be further involved in the lesson, to engage in social interaction through structured conversation with the teacher and their peers but did not promote creative and critical thinking or provide opportunities for each pupil to purposefully use manipulative, interactive and physical materials.

However opportunities were provided for the pupils to be involved in the lesson through answering questions, sharing information with their peers and depicting their

understandings through crayon illustrations. Thus the instructional strategies and methods catered in some measure to the needs of the pupils.

For the assessment the teacher first used a question and answer session to review the main points about the pelican. Some of the questions asked were: '*What kind of feet does the pelican have'? 'What can it do?'How many eggs does it lay?''What comes from the oil gland?'* Afterwards the pupils were asked to draw a picture of a pelican, the national bird, and write sentences about it. The assessment activities were interwoven with teaching, based on each pupil's progression since each had to apply knowledge and skills and were not based on competitive norms.

JEAN'S LESSONS

Lesson 1

The forty-minute **Language Arts-Poetry** lesson was captioned "The Seed" and was integrated with General Science. I inferred from my observation that the aims were to have pupils repeat the poem, identify the rhyming words, and interpret the content through dramatization. The teacher began the lesson by asking the pupils to indicate by a show of hands "*all those who like to play games"*. All the pupils raised their hands. The teacher then informed the class that they would play a game in the classroom called 'What's Inside?' and she proceeded to explain the rules of the game. It entailed the pupils passing around a wrapped packet to the music of a tambourine played by the teacher. Each time the music stopped, the child holding the packet was to remove some of the wrapping and when the music started, the passing of the packet was to resume. The pupils played the game amidst much laughter and comments such as '*Open it!'*, *'Another one*?*'* When the object was finally revealed the children eagerly gathered around in order to discover what it was. The child in whose hand it was told her peers '*I have found a seed'* and to the teacher's query as to '*What kind of seed is it?'* she replied *'It is a mango seed'*.

At this point the teacher then displayed on the chalkboard a commercially made chart captioned "Fruits". It showed pictures of some whole fruits as well as some fruits which were cut in half revealing their seeds. The teacher then facilitated a discussion

about the names of the fruits, the characteristics of the visible seeds and uses of seeds. During this session the teacher and the pupils shared their experiences about fruit trees, fruits and seeds. The teacher sought elaboration of the pupils' initial responses and allowed wait time after posing questions. On concluding the discussion, the teacher informed the pupils that they would be learning a poem and invited them to predict what the poem would be about. This was one instance when the teacher used cognitive terminology. Several children in unison repeated "*Seeds"* and the teacher confirmed their answer.

After the discussion, the teacher placed a bold handwritten copy of the poem "Seeds" on the chalkboard and elicited from the pupils that it has a '*title'* which is another word for '*name'*. She told the pupils *"If you think you can read it for me put up your hand".* There was no show of hands. The teacher then instructed the pupils to "*put your hands in your lap"* and she read the poem in its entirety twice. Next, the pupils were invited to "*Stand quietly. Hands behind your back"* and the teacher read the poem line by line and had the pupils repeat in unison after her. This was repeated before the teacher asked the pupils to *"let me see how much you can say by yourself".* The pupils read in unison with the teacher providing assistance as necessary. The teacher then sought to discover if the pupils understood the concepts in the poem prior to sharing her own understandings of those concepts. Some of her factual questions were: *"Where was that seed?' 'What did the sunshine say to the plant?'* and some of her higher-order questions which were geared to stimulate pupils to think beyond recall were "*How do you know it was in the ground?' There's a word that tells us it was deep, what is this word?' 'It said 'wake', so what was the plant doing?'.'Why would it need sunlight?' 'How do you know the plant obeyed?'*

In the next phase of the lesson the teacher informed the pupils that there are words in the poem that sound alike and she elicited from them that these words are called 'rhyming words'. The teacher then read the first three lines of the poem and asked the pupils to identify the rhyming words. One child identified a pair of words and the teacher invited her to select those two words from a set of word cards on the table, spell them and match them to the same words in the poem. This activity was repeated with different children until all rhyming words were identified, spelt and matched.

During the final section of the lesson the teacher informed the pupils that she had something special for them and proceeded to dress two pupils in headbands representing the sun and a seed. She then asked the pupils *'What do you think the others will be?'* to which they responded *'raindrops'*. All other pupils in the class were dressed in headbands representing raindrops. The teacher read the narrative parts of the poem while the pupils read the relevant lines for their respective characters and dramatized the corresponding actions. This assessment activity was purposeful and promoted creative and critical thinking. It was interwoven with the teaching and based on each pupil's progression as it required individual application of knowledge and skills as opposed to recalling facts. It also excluded competition from among the pupils.

The instructional strategies and methods used during the lesson catered somewhat to the needs of the pupils in that while emphasis was not placed on the feelings and perspectives of the children, neither on their psychological needs, the activities were based on their intellectual and physical needs and their interests. The activities were playing a game and reciting and dramatizing poetry. These activities helped to foster pupils' creativity as well as promoted social interaction between pupils and pupils and teacher and pupils. In addition all of the materials co-ordinated with the lesson and provided opportunities for all pupils to be involved in the lesson and to purposefully use and interact with physical materials.

Lesson 2

The **Mathematics** lesson on "Pictographs" was approximately eighty minutes long and was integrated with Reading. The aims as inferred from my observation were to introduce the pupils to the concept of pictographs and involve them in constructing a pictograph. It commenced with a teacher entering the classroom and delivering a plastic bag to the class teacher. The class teacher said she wondered what was in the plastic bag and proceeded to take out a red gift bag. She then asked the pupils '*Who would like to guess what is inside?'* The pupils made suggestions such as 'flowers' and 'a rose'. The teacher told the class they were all going to find out what was in the gift bag and she proceeded to invite individual pupils to come to the front of the class and '*put in your hand and see what you find'*. Four pupils each selected one item from

the gift bag and showed it to the class. They were a birthday hat, a birthday card, a picture of an ice-cream and two balloons. The teacher queried what occasion these items were associated with and selected one pupil to reply. The child's answer was '*a birthday party'*. To the teacher's question as to why they liked birthday parties, responses submitted were '*because they are fun', 'to play with my friends and balloons'* and *'because I get ice-cream.'* The topic of birthday parties allowed for the pupils and teacher to share their experiences and ideas.

A discussion facilitated by the teacher ensued as to which child had celebrated a birthday during the past week and how many other children would be celebrating a birthday during the current month. These children were asked to stand and together the teacher and pupils counted how many children were standing. The teacher subsequently asked the children to each stand when they heard her say the name of their birth month. She asked '*How many months are there in one year?* To which a child replied *'There are twelve months in one year.'* She then proceeded to call the name of each month and the pupils stood according to their birth months. After the completion of this activity, she invited the children to look for individual names of the months of the year which were taped in selected places around the room, find the particular month in which they were born and stand next to it. She then asked the pupils to assist her by counting to find out how many children were born in each month. This activity allowed the teacher and pupils to engage in social interaction as the teacher circulated from group to group and the pupils engaged in structured conversations with the teacher and unstructured conversations with each other. At the end of this activity the pupils were asked to return to their seats, *"sit quietly, put your hands on your lap and listen"*.

At this time the teacher proceeded to display a chart on the chalkboard with the words 'Names of Months' and 'Number of Children.' She also placed on a table two containers with smiley faces of boys and girls. She informed the pupils that as their names are called they would select a smiley face and tape it beside their birth month on the chart. She asked the pupils "*Do you understand that?"* to which they replied in unison *"Yes teacher"*. At this point the teacher asked the pupils to *"place a finger"* and they responded by putting a forefinger on their closed lips.

The teacher called the months in sequence and the pupils completed the assigned activity amidst excited chatter which was met with such remarks by the teacher as: *'Do you see with your mouth?', 'I don't want to hear your voice'*, *'Put a finger, keep it there'* and *'There's nothing to say 'ah' about'*. The completed activity was the construction of a pictograph showing the number of pupils who were born in each month. After the pictograph was completed the teacher had the pupils repeat all the names of the months of the year after her. During this activity the pupils were informed that they were '*becoming restless now'* and were told by the teacher '*Hands on your laps,' 'We will go no further until you're quiet, absolutely quiet, and remain that way unless you are called on'*.

At this point the teacher informed the pupils that they had constructed a beautiful chart but that it has a special name. This was one instance in which cognitive terminology was used. The next question posed to the pupils was *"If you think you know what it is called put up your hand".* Pupils submitted answers such as '*Child Month',* and '*Calendar'.* In probing the teacher asked *'What do the faces look like? A word beginning with p'*. A child responded '*people'.* The teacher told them '*They look like pictures to me. So we call it a pictograph'.* In so doing the teacher enquired about the pupils' understandings of a concept prior to sharing her own understandings of that concept. She then invited the pupils to clap the number of syllables which are in the word 'pictograph' and say how many parts they hear. The pupils completed this exercise and indicated there were three parts. She displayed a word card with 'Pictograph' on it, asked the pupils '*What is the first letter?'* invited them to spell it in its parts after the teacher and to identify the letters in the word which sounded like 'f'.

The teacher posed the question '*What is this pictograph showing us?'* and a child replied '*How many children are born in each month'.* The teacher posted a label over the pictograph stating A Pictograph Showing Birth Months of Children in Infants B and asked individual children to read it. This was followed by an invitation to the entire class to read it with her.

A question and answer session ensued with questions such as '*How many children were born in the month of January?* When the children answered that there were five children, the teacher sought elaboration of the pupils' initial response by asking *'How*

do you know that?' The pupils responded '*by counting'* and the teacher confirmed their answer and invited them to count with her. Together they counted the faces on the pictograph and stated how many children were born in each month. Other questions were *'How many children are in the class today? How would we find that out?'* '*We usually have twenty-six children at school. How many children are absent?'* Such questions required the children to engage in thinking beyond recall and the teacher allowed wait time after posing questions.

For the final activity the teacher asked the pupils to separate the tables from each other so that they were no longer sitting in groups. She then distributed similar worksheets to all the children, guided them in reading each sentence and stated *'construct your own pictograph on your own'*. This was another instance when cognitive terminology was used during the lesson. As the children completed the worksheet, which was an assessment activity some of them began counting as they drew their pictures. The teacher made such remarks as '*You are not to be speaking now*,*'* '*Hush we don't want to hear that counting', 'Please stop the talking', 'No speaking now',* and *'Can you all do your own work?'* This assessment was based on each pupil's progression as it required individual application of knowledge and skills. However, a measure of competition was introduced as they were not allowed to confer with or assist each other. The assigned task required the pupils to engage in creative and critical thinking as they had to construct a pictograph showing the favourite fruits of four children. This included drawing the appropriate and correct number of fruits per child as well as stating who had the most and least number of fruits.

After about 15 minutes the teacher asked the pupils to raise their hands if they had completed the activity. All pupils raised their hands and after collecting the worksheets the pupils were instructed to '*Close your tables quietly'.*

All materials on display and those used during the period coordinated with the lesson and provided opportunities for the pupils to purposefully use manipulative, interactive and physical materials. The instructional strategies and methods used by the teacher catered to the needs of the pupils to some extent in that they reflected the pupils' interests, addressed their intellectual needs and allowed them to work at their own

pace. Overall, opportunities for pupil involvement were provided throughout the lesson.

Lesson 3

The **Social Studies** lesson was taught for a period of forty-five minutes. It was captioned "From Garbage to Goodness", integrated with Poetry and Singing, and by inference from my observation aimed at helping pupils to learn different forms of correct garbage disposal. It began with the teacher taking the entire class outdoors. During her absence another teacher went into the room and threw items such as crumpled paper, snack wrappers and juice boxes all over the floor. When the teacher brought the class back to the room she asked the pupils '*What happened? Who has done this?'* One pupil suggested that it was *'the wind'.* The teacher added '*We have to do something. What must we do?'* The children replied in unison *'We have to clean it up.'* A discussion continued between the teacher and the pupils during which the teacher elicited that litter should be placed in garbage bags or cans. The teacher requested assistance in cleaning the room and all the pupils volunteered. Together the teacher and pupils engaged in cleaning up the items and putting them in garbage bags as they sang "Bits of Paper". The pupils laughed and squealed excitedly as they collected the items and placed them in a garbage bag. This activity resulted in social interaction between the pupils and their peers and between the teacher and the pupils.

At the end of the clean up activity the teacher facilitated a discussion with the pupils about where garbage bags should be placed when they are at home, why they should be placed there, who would collect them, what they should do with their hands after handling litter and how they would recognize sanitation workers. During this discussion the teacher enquired about the pupils' understandings prior to sharing her own understandings of the concepts. She also sought elaboration of the pupils' initial responses and allowed wait time after posing questions. Next the teacher displayed pictures of a nurse and a police officer in uniform and asked the pupils if they were sanitation workers. The pupils replied in the negative but were unable to respond to the teacher's question about what uniform is worn by the Barbadian sanitation worker.

At this time the teacher displayed two pictures of local sanitation workers from Barbados, one male and one female and discussed with the pupils their duties, each piece of the uniform they were wearing and the respective purpose of each. Social interaction occurred between the pupils and the teacher during this session as they exchanged ideas and discussed experiences in relation to the dress and duties of the sanitation worker. Some questions posed were *'What are some of the things we put in garbage?'* '*Why do you think they wear gloves? 'What do you think their boots are made of?'*

The teacher then displayed a label "The Sanitation Worker" and invited a child to read it. This was correctly done. The teacher asked, *'Suppose we put out our garbage and the sanitation worker did not come, what do you think would happen?* This question was an example of one which stimulated pupils' thinking beyond recall. A child responded that '*dogs and cats would take them'.* At this point the teacher placed headbands with pictures of dogs on them on the heads of two boys. This was met with excited laughs and screams and raised hands from pupils requesting headbands. The teacher asked pupils to state other kinds of animals which may gather around garbage. The pupils named cockroaches, rats, mice and flies and the teacher distributed the relevant headbands. All pupils with headbands representing animals were asked to dramatize their specific activities around garbage as well as going into the homes of the other pupils to spread germs on them. At the conclusion of the dramatic activity the teacher reinforced through a question and answer session the duties of sanitation workers and that they have specific collection days for each neighbourhood.

The dramatic activity promoted creative and critical thinking, assessed pupils' understandings and allowed for social interaction among the pupils. The materials all coordinated with the lesson and provided opportunities for the pupils to purposefully use interactive and physical materials.

A poem entitled "The Dustman" was displayed on the chalkboard by the teacher and a brief discussion about the title followed linking it to the sanitation worker. The poem was read twice by the teacher and the pupils repeated after her. This included banging on the desks at the words "Biff Bang! Crash!" The teacher read the poem once more while the pupils dramatized it to conclude the lesson.

No cognitive terminology such as ‘create’, ‘predict’ and ‘classify’ was used by the teacher during the lesson but the instructional strategies and methods catered to the needs of the pupils to some extent in that they reflected the pupils’ interests, addressed their physical, emotional and intellectual needs and allowed them to work at their own pace. Opportunities were also afforded for pupil involvement throughout the lesson. The pupils’ understanding of concepts was assessed during the lesson by questioning and role-playing and this allowed for the assessing of each pupil based on individual levels of attainment.

Lesson 4

This was a forty-minute **General Science** lesson integrated with Language Arts and Singing. The title was ‘Sorting Garbage’ and the aim as outlined by the teacher was to aid pupils in learning how to correctly sort garbage. The teacher used a hand puppet with a garbage bin attached to her called Ms. Jones to engage in a conversation about a litter bug that was not treating her nicely and of a message which she wanted to give to the pupils about the importance of sorting garbage. The pupils’ interest was captured when they saw the puppet and they listened attentively and quietly to the conversation.

At the end of the conversation the teacher told the pupils if they think they know who Miss Jones represents to raise their hands. One child replied *‘Ms Jones is a sanitation worker’* and the teacher immediately asked for a show of hands of those children who agreed. All pupils raised their hands. Elaboration of the pupils’ initial response was sought by the teacher asking ‘*How do you know?* The pupils replied ‘*She has a garbage bin’.* Through discussion the teacher reviewed why Ms. Jones had come to visit her and the content of the message she had relayed. The teacher then asked the children to explain what they understood by the term ‘sort’. This was an instance when cognitive terminology was used by the teacher. Afterwards she shared her understanding of the concept and clarified pupils’ misconceptions. She then informed the class that garbage can be sorted in three groups: ‘paper’, ‘metal’ and ‘plastic.’

At this point the teacher emptied on a table a ‘garbage bag’ containing different items made of paper, metal and plastic. She placed a label with one of these respective names on each of the tables where the pupils were sitting in two groups of nine and

one group of eight and invited them to join her in spelling the words and clapping the number of syllables which they contained.

For the next activity each group was invited to select items from the collection of 'garbage' on the table which corresponded with the label on their group's table. The group members discussed among themselves which items were the correct ones to place on their table, selected them and counted how many they had in all. This activity was a form of assessment which was interwoven with teaching and based on each pupil's progression as it required individual application of knowledge and skills and was not based on competition. It also promoted creative and critical thinking and allowed the pupils to engage in social interaction. The manipulatives which all coordinated with the lesson provided opportunities for the pupils to purposefully use physical materials.

The teacher then displayed the items as selected by each group and the other groups stated if they were correctly sorted. Items which were not in their correct group were correctly placed after discussing the materials from which they were made. Finally the pupils placed the items from their desks in three separate garbage bags according to their respective labels. The pupils were fully involved in the lesson and there was much social interaction at this time between pupils and their peers and between the teacher and the pupils.

The children were then asked the following questions which required them to think beyond recall: '*Why do you think it is helpful to sort our garbage?'* '*How would sorting our garbage help the sanitation worker?' 'What do you think will happen with these three bags of garbage now?'* Wait time was allowed by the teacher after each question and after the pupils gave their responses, the teacher shared her understandings of the concepts and also clarified any misconceptions.

A discussion then ensued during which teacher and pupils shared their experiences and ideas as to how usable items can be made from discarded objects and therefore '*Out of garbage we can have goodness'.* The teacher also provided additional reasons for sorting garbage which included reduction of garbage in the island and using old items to repair damaged items.

At this point the teacher displayed a song written on a sheet of paper entitled "Sort your Garbage". The teacher read the words to the song and the children repeated. The teacher then sang the song twice and invited the children to join in with her. The instructional strategies and methods employed by the teacher reflected the pupils' interests, addressed their intellectual and physical needs and provided them with opportunities to be involved in sorting items, discussing concepts and singing a song.

CHERRY'S LESSONS

Lesson 1

The **Language Arts** lesson on Alphabet Knowledge was taught to a class of twenty-six 4-5 year olds for a period of 60 minutes. The aim as stated by the teacher was to assist pupils in recognizing letter *'H'* and stating its associated sound. The pupils sat in groups facing the teacher while she stood at the front of the class near to the chalkboard. The teacher commenced the lesson by using questions to review the letter which was taught during the past week. She then informed the pupils that a new letter will be done and proceeded to write the letter '*H'* on the chalkboard. She asked the factual questions *'What letter is this? What sound does it make?'* and allowed wait time after posing each question. The teacher confirmed and reiterated the pupils' response that the letter was *'h' and it says 'huh'*. This was one example when the teacher enquired about the pupils' understandings of concepts prior to sharing her own understanding. After this she asked the pupils to raise their pointer finger and prepare to sky write letter *'H'*. She gave oral directions for the formation of the letter which some pupils followed. Other children placed their heads on the table, one sucked her thumb and some looked at the teacher but did not perform the action.

Next the teacher introduced the pupils to a poem entitled "Hurry, Harry, Hurry" by asking them to *'listen and repeat after me.'* She displayed a teacher-made chart with the poem which was well written and colourfully illustrated and repeated line after line with the whole class repeating after her. One of the actions in the poem which the teacher wanted the pupils to demonstrate was hopping. She told them '*I don't want*

you jumping around making a lot of noise so I will choose children.' She proceeded to select four children and invited them to perform the action.

The pupils were then instructed to listen to the poem again and when they heard a word with *'h'* at the beginning they were to raise their hand, tell the teacher the word and she would write it on the chalkboard. The words '*hurry'* and *'hungry'* were given by two children. These were written on the chalkboard and the letter *'h'* was underlined in each. Afterwards the teacher posed the question *'What kind of letter will I write 'Harry' with? Why?* This was one occasion when the teacher asked a question to stimulate the pupils' thinking beyond recall. A child responded *'A capital letter. It is the name of a person'* and the teacher replied '*Harry is the name of a boy'.* She encouraged the children to continue submitting words from the poem which began with the letter '*h'.* The words *'hay'* and *'hen'* were given and the teacher also wrote these on the chalkboard. She then proceeded to read each of the words and asked the children to repeat after her. Some of the pupils complied.

At this point one child said *'Teacher I did not get a chance'* and another child echoed the comment. The teacher did not address the comments but proceeded to state '*I will give you a riddle. You have to give me the word I am looking for. It must begin with 'h,' for example I live on a farm. I run fast. What am I?'* The class as a whole group replied '*horse'.* This answer was confirmed by the teacher and she stuck a picture of a horse on the chalkboard. The same sequence followed to elicit the words *'hen' 'hay' 'hand' 'heart' 'house' 'hat' 'hook' 'hill'*. These riddles allowed the pupils opportunities to engage in a purposeful activity that promoted some measure of creative and critical thinking. The names of the nouns were written under each picture and the teacher posed the question *'h gives us which sound?'* Some of the pupils replied '*h says huh'* while the others sat silently.

The pupils were informed that they would now read some sentences and look for words that begin with 'h'. In order to accomplish this, the teacher stuck four pre-written sentences on the chalkboard and selected two boys and two girls to read a sentence and then circle the word in each that began with letter 'h'. The class was initially instructed '*do not help'.* However in instances where the selected children

experienced challenges in either reading the sentence or identifying the appropriate word, the teacher asked other pupils to provide assistance.

Forty-five minutes into the lesson, there was a further reduction in the number of pupils who were participating orally in the lesson. Some sat quietly while others placed their heads on the tables. At this point the teacher informed the class that they would be placed in groups for the last activity. Two groups of eight pupils received a worksheet and were instructed to find and colour capital 'H' in red, colour common 'h' in yellow and at the back of the paper draw and colour two things that begin with 'h'. The other group of eight along with the two children seated at the set of two tables were given play dough and invited to '*make two things that make the sound of 'h'*. A 'hammer' and a 'hangar' were modelled from play dough by two children and they were complimented by the teacher since these two objects were not mentioned during the lesson. These three activities namely play dough modelling, illustrating and colouring were used as forms of assessment and provided opportunities for the pupils to purposefully use manipulative materials. The assessment was interwoven in the teaching and based on the pupils' progression rather than on competitive norms. In this regard each child had to apply knowledge and skills as opposed to the recalling of facts and there was no comparing of pupils' performances. Additionally, the pupils were given different tasks based on their level of attainment.

In conclusion the teacher asked the pupils '*What letter did we look at this morning?'* to which the class replied 'h'. She then repeated the poem 'Hurry Harry Hurry' and invited the pupils to repeat it after her. The class was next asked to sky write letter 'H' and 'h'. Her final question was '*What sound does letter 'h' make?* The class as a whole group replied *'h says huh'*.

The teacher did not employ an integrated approach to teaching, use any cognitive terminology such as 'create', 'predict' or 'sort' neither did she seek elaboration of the pupils' initial responses during the entire lesson. There was also no evidence of the sharing of experiences between the pupils and the teacher. Rather, the teacher often encouraged the class to listen to her and constantly said '*don't talk'* or '*be quiet'*. All of the materials on display coordinated with the lesson. These were a colourful teacher-made chart with the words of the poem, pictures of words beginning with the

letter ‘h’, sentences containing words with ‘h’ as their initial letter and a worksheet with capital ‘H’ and lower case ‘h’. The instructional strategies and methods catered in some measure to the needs of the pupils. Visual aids, riddles, and pupil demonstration were utilized and these were generally based on the pupils’ interests, and addressed their intellectual needs and various learning levels. Opportunities were provided for the pupils to be involved in the lesson in that four children were allowed to hop, individual children were asked to read sentences and circle specific words, and the entire class engaged in either colouring, illustrating or modelling with play-dough.

Although the children sat in groups they worked individually as the teacher encouraged them to be quiet and not to help each other. Consequently there was no social interaction among the pupils. However there was structured conversation between the teacher and the pupils, and the teacher engaged in social interaction with the pupils. This was evidenced by her visiting all the tables during the assessment activity and engaging in teacher student conferencing as the pupils worked.

Lesson 2

This sixty minute **Mathematics** lesson focusing on number 11 was integrated with Language Arts, Social Studies and Music and Movement. The aim as inferred from my observation was to introduce the pupils to numeral 11. The lesson commenced with the teacher informing the pupils that ‘*We’re going to be looking at Community Helpers, those who take care of us and help us to be healthy*,*’* and asking the pupils ‘*Who are we speaking about?’* Several pupils replied *‘doctors and nurses’*. The teacher confirmed the response and told the pupils that they will be repeating a poem called “I am a helpful doctor”. She repeated each line and had the pupils repeat after her. At this point a child initiated a conversation with the teacher about her experience when she visited a doctor and the teacher conversed with her. This was one example when there was the sharing of experiences between teacher and pupils.

The teacher then placed a picture of a doctor on the flannel board with the name Dr. Daniel Beckles beneath it. She proceeded to ask the children ‘*Where do we find him?* to which the pupils said ‘*a doctor’s office, ‘a hospital’* and the teacher confirmed their responses and added *‘ a clinic’.* She then placed pictures of people of different age groups on the flannel board and told the class that while the doctor was making his

rounds in the hospital he saw some beds. She queried '*Why do you think beds are in the hospital?'* One child answered '*for babies and for sick people'* and the teacher confirmed the response. This was followed by the question '*Who do we call people who are sick?* One child submitted the word '*patients'.* The next question was '*Are children who come to school called patients? What are they called?'* The children offered no answers and the teacher replied *'students or pupils'.* This was one of the occasions when the teacher enquired about the pupils' understandings of concepts prior to sharing her own understandings. She then asked the class to spell the word '*bed'* and asked them to count with her as she placed strokes on the chalkboard to represent beds. An individual pupil was next asked to count the beds. He did this and told his peers there are 11 beds. Four children were seen with their heads on the table at this time.

At this point the teacher placed cut-outs of people on ten of the 'beds' and a child said '*sometimes the doctor puts a hole in your hand'.* The teacher confirmed the response by saying *'yes, to put in drips'.* This was followed by an unstructured discussion among the children about their individual visits to hospitals. The teacher next selected a child to count the number of 'patients'. This was done and the teacher drew the pupils' attention to the fact that there is one empty bed. She posed the following questions *'Where do you think that person has gone? Why do you think he is not there?'* which required the children to think beyond recall and engage in creative and critical thinking. A child replied *'He got better and went home.'* The teacher requested additional reasons and the following were given by three different children: *'He is missing', 'He is in the shower', 'He is using the bathroom'.* The teacher encouraged the children to elaborate on their answers by asking questions beginning with '*why'* and *'how'* and added that the person could have '*gone for an xray'.* A child immediately asked *'What is an xray teacher?'* and she gave the child an explanation and followed it up with the question *'How many persons were in the room at first?'* After the pupils answered '*ten'* she invited them to *'count on your fingers from one to ten'* and '*clap from one to ten'.* The next question posed was '*How many more patients do we need to find*?' the class replied '*eleven'* and were guided by the teacher to conclude that one patient needed to be found and then there would be eleven. The teacher allowed wait time after posing all questions. The

children were invited to '*count to eleven'* and *'stamp feet to eleven'*. She then told the pupils *10 and 1 make 11*and after asking '*How do we write 11?'* and listening to the pupils' responses told them '*We write it 11, standing apart'.* She wrote the numeral on the chalkboard and invited the pupils to read and then sky- write it. The next activity was to engage the pupils in spelling the word 'eleven' using syllabication.

The assessment activity was now introduced. Two groups of four pupils were given craft sticks and rubber bands and asked to bundle ten sticks of the same colour together and add one more of a different colour. The other two groups of pupils received counters of various colours from which they were to select 10 of the same colour and add 1 more of a different colour. They were to place their selection in a circle on the desk which had been drawn by the teacher who visited and assisted each group and told the pupils *'You can help each other'*. This assessment was interwoven with teaching and based on each pupil's progression since each child had to apply knowledge and skills as opposed to the recalling of facts. Additionally, the pupils were given different tasks based on their level of attainment and no competition was involved. The children conversed with each other during the activity and the teacher ensured that each child completed the assigned task. This was evidence of social interaction among the pupils and between the teacher and the pupils.

For the conclusion the pupils were given musical instruments, namely cymbals, shakers and blocks and invited to use them '*to count to 11*'. Each pupil was given an opportunity to participate in this musical activity. Those who made errors were given an opportunity to correct themselves. The entire class was then engaged in singing a song entitled '*Hurray for 11'* after which they were asked *'How do we write eleven?'* and *'How do we spell its name?'*

During the lesson the pupils were afforded opportunities to be involved in the lesson through counting, repetition of poetry, sharing personal experiences and musical activity. All materials coordinated with the lesson and afforded opportunities for the pupils to purposefully use manipulative, interactive and physical materials. The instructional strategies and methods used by the teacher catered to the needs of the pupils for the most part. They were based on the pupils' interests, showed that consideration was given to their intellectual needs, their perspectives and feelings and

various learning levels were addressed. However, no cognitive terminology such as 'create', or 'predict' was used during the lesson.

Lesson 3

The **Social Studies** lesson was taught for a period of sixty minutes. It was about "Community Helpers-The Dentist" and was integrated with Music and Movement and Language Arts. The aim as inferred from my observation was to assist pupils in stating the role of the dentist in keeping their teeth healthy and aiding them in determining ways in which they can take care of their teeth.

The lesson began with the teacher standing at the front of the class while the pupils sat in their groups facing her. She informed them that they have '*a lot to discuss today and a story*.' She then sang a song entitled 'What is my job? and this was followed by a riddle which required the pupils to guess the name of the worker who keeps teeth healthy. The pupils in unison replied 'the dentist'. They were then informed that they would be talking about the community worker who looks after teeth and asked to show by raising their hands if they had ever visited the dentist. Some of the pupils raised their hands. The teacher next proceeded to invite the children to march as she sang a song called 'If you are afraid of the dentist put up your hand.' She then assured the children that they should not be afraid since the dentist is their friend.

For the next activity the teacher read a story captioned 'Christopher Crocodile and his Bad Tooth'. Questions posed at the end of the story included '*Peter Piggy's knees began to knock. How do you think he was feeling?* This question stimulated the pupils to think beyond recall. On completing the question and answer session individual children were selected to dramatize the story. This was an activity that promoted creative and critical thinking.

After the dramatization the teacher facilitated a discussion about where dentists work, the uniform which they wear and her personal experience at the dentist. This was followed by an invitation for two pupils to share their experiences of a visit to the dentist. This activity provided the opportunity for teacher and pupils to share their experiences. The teacher then displayed a picture in which there were some tools used by the dentist and a discussion about them ensued. The following questions were

posed *'What does the dentist do? Do you know?'* '*How does the dentist fill your teeth?'* and she encouraged the class to '*Tell me what you think before I tell you?'* The teacher demonstrated here that she enquired about the pupils' understandings of concepts prior to sharing her own understandings. She always allowed wait time after posing questions and sought elaboration of pupils' initial responses.

The next focus was on foods that can keep teeth healthy. The teacher displayed pictures such as fruits, vegetables and cheese and informed the pupils that these foods were good to eat. One child interjected that he ate lots of fruits so he would have good teeth and the teacher praised him and gave him 'a high five'. She then displayed pictures of other foods such as sweets, ice-cream and cotton-candy and told the pupils these foods were unhealthy for their teeth.

Subsequently the teacher told the pupils there is something which they should do after eating and invited them to state the action to which she was referring. The pupils responded '*brush your teeth'* and the teacher asked them to join her in singing 'This is the way we brush our teeth.' At the end of the song the teacher displayed a toothbrush and toothpaste and encouraged the pupils to imitate her as she dramatized actions such as brushing teeth and gargling. The real-life items as well as the pictures used in the lesson coordinated with the lesson, however no opportunities were provided for the pupils to purposefully use manipulative, interactive and physical materials.

In assessing the lesson the following questions were posed *'Who is the Community Worker we talked about?' 'What foods should we eat to keep our teeth healthy?' 'What other things should we do to keep our teeth healthy?'* These questions required the pupils to recall information which had been discussed during the lesson rather than apply knowledge or skills or assess each pupil's level of attainment. The lesson ended with the teacher and pupils singing and dramatizing the song 'This is the way we brush our teeth'.

The instructional strategies and methods which included storytelling, dramatization and music and movement catered to the needs of the pupils and provided opportunities for them to be involved in the lesson. They also allowed for social interaction among the pupils and between the teacher and pupils. However, during the lesson no cognitive terminology such as 'predict' 'sort' or 'classify' was used.

Lesson 4

The sixty minute **General Science** lesson "Uses of Water" was integrated with Language Arts and as inferred from my observation, aimed to aid pupils in stating and demonstrating different ways in which water is used. It commenced with the teacher inviting the pupils to join her in repeating and dramatizing the familiar poems '1, 2,3,4,5', 'After my Bath,' 'Wash your hands before you eat' and 'Rub-a Dub-Dub'. This was followed by a discussion with the pupils about the contents of the poems with emphasis on how water is used in each one. Elicited from the pupils were that water is used for fish to live in, for people to bathe and to wash hands. During the discussion the teacher asked questions such as *'When you're going for lunch what do you do?' What do you wash them with?*' One question which was used to stimulate pupils' thinking beyond recalling information was '*Why were the dogs trying to dry themselves?'* '*How do you know?'* The teacher always allowed wait time after posing questions and sought elaboration of the pupils' initial responses.

The next session involved the teacher selecting individual pupils to tell the class how water is used in their homes. The answers included '*drinking', 'washing hands', 'showering' 'bathing of animals', 'for animals to drink,'* '*washing cars', 'washing clothes', 'watering plants' 'washing dishes'* and *'making tea'*. The teacher confirmed all answers, complimented the pupils for their *'good ideas'* and shared her own experiences. She enquired about the pupils' understandings of concepts prior to sharing her own understandings and sharing experiences occurred between pupils and teacher.

At the end of the discussion the teacher placed pictures on the table in front of her and informed the pupils that she will pose riddles and select individuals to answer each by choosing the appropriate picture. When correct pictures were selected the teacher taped them on the chalkboard, and in instances where children selected incorrect pictures she asked other pupils to provide assistance. After the fourth riddle the teacher invited the pupils to review some of the things that can be done with water by stating the activity displayed in each picture on the chalkboard. The activities were 'cooking', 'painting', 'cleaning house,' and 'washing hair'. While the pictures

coordinated with the lesson they were small and unidentifiable from the back of the classroom.

After about twenty-five minutes into the lesson, the teacher informed the class that they would work in six groups and use water to perform different activities. These group activities which were used for assessment were as follows: painting with water paints, mixing a jug of drink, bathing dolls, scrubbing a table, filling glasses with water and mopping an area on the floor of the classroom. Each child eagerly participated in the activities and there was social interaction among the pupils and between the teacher and the pupils. The children engaged in unstructured conversations with each other and also with the teacher who went from group to group providing guidance, encouragement and compliments. The six activities provided opportunities for all pupils to be involved in the lesson, to engage in purposeful activities that promoted creative and critical thinking and to purposefully use manipulative, interactive and physical materials.

The children had approximately fifteen minutes to complete their specific tasks after which they were brought back together as a whole class and invited to report on what items they used and what tasks they performed. This assessment was interwoven with teaching, based on each pupil's progression and there was no competition involved. In this regard each child had to apply knowledge and skills as opposed to the recalling of facts and there was no comparing of pupils' performances. Additionally, the pupils were given different tasks based on their level of attainment.

The teacher concluded the lesson by encouraging the pupils to assist their parents with cleaning tasks and reviewed the different ways in which water can be used in homes.

The instructional strategies and methods used by the teacher which included poetry, dramatization and real life activities catered to the needs of the pupils as they reflected their interests, focused on their intellectual needs and addressed various learning levels. However no cognitive terminology such as 'classify', 'predict' or 'create' was used during the lesson.

LISA'S LESSONS

Lesson 1

This sixty minute **Language Arts** lesson which was integrated with Music focused on Homophones. The aim as inferred from my observation was to assist pupils in defining the term homophone and identifying pairs of homophones. The lesson commenced with the teacher standing in front of the class near to the chalkboard and the pupils sitting at their tables facing her. The lesson was introduced with the teacher displaying a bag of flour and asking the pupils '*What is this? What do you make with it?'* Answers submitted by the pupils were flour and it is used to make bread, cake, pancakes, pizza and rotis. The teacher sought elaboration of the pupils' initial responses by further questioning them as to who makes these items, and how and where they are made. She then displayed a flower and engaged the pupils in a discussion about what it is and what is done with it. Sharing of experiences occurred at this time as the teacher and pupils exchanged ideas and personal experiences about the various uses of flowers.

Next the teacher showed the pupils the bag of flour and the flower and posed the questions '*What are these? What do you notice about their names?'* The pupils replied as a whole group 'they sound the same'. They were then invited to spell 'flour' and a label with the word was stuck on the bag. A similar process followed with the flower. The teacher then asked the class '*Do they have the same letters?'* to which the children replied 'only the 'flo' and the 'r' are the same but the rest of the letters are different.

The teacher informed the pupils that she had pictures of other items and she would select individuals to assist her in holding them up. Some examples of the pictures were *male* and *mail*, *son* and *sun*, *pear* and *pair*, *see* and *sea*, *hare* and *hair* and *right* and *write*. In each case the teacher asked the pupils to state what the picture portrayed, the meaning of each word, how they are pronounced and spelt and the differences in their spelling.

For the next activity the teacher distributed to each pupil a card with a word on it and told them she would call the name of a word and the child with that word would come

to the front of the class. Then the child with the word with the same sound would come and meet their partner. All the children were involved in this activity and there was much social interaction among the pupils as they suggested to each other when it was their turn to meet their partner. Some of the pairs of words were *no* and *know*, *blue* and *blew*, *hair* and *here*, *aunt* and *ant*, *deer* and *dear*, *fare* and *fair*. The teacher asked the pupils to explain what the word 'aunt' means. A child said 'niece' and the teacher replied '*No your aunt is not your niece. How does a person become your aunt?'* The teacher allowed wait time after posing each question and after there was no answer she told the pupils '*Let me tell you. Your aunt is your mummy or daddy's sister. Everybody heard that? Now tell me.'* This was an example of the teacher enquiring about the pupils' understandings of a concept prior to sharing her own understandings of the particular concept.

On completing the matching activity, the teacher provided the pupils with a definition of homophones, namely words that sound the same but have different meanings and different spellings. She then sang a song entitled Homophones three times and afterwards invited the children to join with her and sing and clap.

After the singing ended the teacher informed the pupils that '*Everybody will get a paper. You will match the words on one side with the word that sounds the same on the other side.'* The pupils engaged in this assessment task which was interwoven with teaching and required each pupil to apply his/her knowledge. The teacher went from table to table observing and providing guidance. There was structured conversation between the teacher and the pupils and unstructured conversation amongst the pupils. Two boys were seen showing each other their paper and discussing what they were doing.

To conclude the lesson the teacher asked the pupils as a whole class to give the meaning of the word homophone. She assisted them by probing their answer and supplying missing aspects.

The materials used in the lesson, namely a bag of flour, a flower, pictures of objects, name cards, picture cards and worksheet all coordinated with the lesson and were purposefully used by the pupils. The instructional strategies and methods employed included question and answer, explaining, discussion and conferencing. These catered

to some extent to the needs of the pupils as they reflected the pupils' interests and considered their intellectual needs. However various learning levels were not addressed and the focus did not include the pupils' physical, emotional or psychological needs. During the lesson no cognitive terminology such as 'predict', 'construct' or 'create' was used, no questions were asked to stimulate pupils' thinking beyond recall and although the pupils were engaged in different activities none of them promoted creative and critical thinking.

Lesson 2

This sixty- minute **Mathematics** lesson was an introduction to Fractions and was integrated with Language Arts. The aim as stated by the teacher was to introduce the pupils to the concepts of 'a whole' and 'a half'. The lesson commenced with the teacher standing in front of the class and the pupils all sitting directly in front of her away from their tables. She informed the class that she would be telling them a story about two boys whose mother wanted them to share a pizza for lunch with each getting the same amount. She displayed a teacher-made 'paper plate pizza' and queried '*What is this?' 'How many pizzas do I have in my hand?''How many pizzas make a whole?'* Responses from the pupils were 'a pizza', and 'one.' She then told the class that the boys' mother decided to cut the pizza in order to give each boy the same amount and she will cut her 'pizza' to show them the result. The teacher proceeded to cut the 'paper plate pizza' in half with a scissor and to ask *'How is it now?'* A child replied 'half'. The teacher's follow up question was '*How many halves?'* to which another child replied 'two halves'. After posing each question the teacher allowed wait time for the pupils to respond.

At this time the teacher informed the pupils that '*We call it a fraction, and a fraction is a part of a whole'.* She selected two boys, gave each a half of the 'pizza' and asked the class '*How many parts does each have?* The pupils responded 'one'. The teacher then asked the pupils to assist her in spelling the word 'Fraction' so she could write it on the chalkboard. The pupils were encouraged to use their knowledge of letter sounds in order to arrive at the correct spelling of the word. The teacher provided help when the pupils experienced any difficulty.

For the activity which followed, the teacher displayed real objects, namely a lemon and a biscuit. In each case she asked the pupils '*If I want two children to have the same amount, what can I do?'* The pupils said '*break the biscuit in half*'. The teacher completed the suggested action and then distributed each half to two children. With regards to the lemon, a child said 'cut it' and the teacher sought elaboration of his response by asking '*Where should I cut it?'* The child answered 'the middle'. The teacher proceeded to cut the lemon and distribute each half to two other children. She then queried '*When they have an equal amount what do we call it?'* The children replied in unison 'a half'. The teacher told the pupils 'half has a number. I'm going to write it on the chalkboard. The teacher wrote ½ and '*half'* and asked the pupils to spell the word 'half'.

Next the teacher displayed an apple and asked the pupils *'What word do we use for one?'* They replied 'whole' and the teacher wrote the word 'whole' on the chalkboard and invited them to look at the word and spell it. A brief discussion ensued about a whole item and its defining characteristics. The teacher then proceeded to cut the apple in half and asked the pupils to say how 'half' is written. The pupils replied 'one over two' and the teacher confirmed the answer. She then told the pupils she has some circles which she will distribute for them to do an activity. This was met with loud applause from the entire class. The pupils were instructed to return their chairs to their tables. This was done noisily and the teacher informed the class that '*the quietest table will get theirs first'.* After waiting for a few minutes for the noise to subside she distributed a coloured circle and an exercise book to each child and told them 'find *the next empty page and get your pencils. I'm coming around with my glue. You will stick your 'whole' on the glue I put in your book'.* She then proceeded to place glue in the books of the children and asked them to paste their 'whole' on it and write the words 'a whole'. During this activity the pupils excitedly conversed freely with each other and pounded their circles loudly to ensure they were fixed in their books.

The next activity was a form of assessment which was interwoven with teaching and based on each child's progression as it required the application of knowledge and skills as opposed to the recalling of facts. There was no comparing of pupils' performances and the pupils were given tasks based on their level of attainment. The activity required the children to work in pairs. One child was to fold a given circle in

half and the other child was to use a scissor and cut along the fold to produce two halves. This task provided the children with an opportunity to purposefully use manipulative and physical materials. On receiving the shape and pair of scissors one child asked 'teacher we have to cut it?' to which the teacher replied *"you have to fold it and then cut it"*. The children conversed in their pairs as they completed the task. One child was heard accusing the other of folding the circle 'wrong' and the other denying that was so and instructing the partner to 'cut it'. The pupils were then asked to '*Put your half on the next page'.* One child said 'I done, one for you and one for me' in referring to the two halves which he had in his hand. The teacher next told the pupils '*We have two parts. What do we call it?'* and the children replied 'half'. The teacher responded '*half or fraction'*, drew half of a circle on the chalkboard and wrote next to it 'a half'. She then placed glue in the children's books and invited them to paste their half of the circle and write next to it ½ and 'a half'. During this activity the pupils constantly conversed with each other and showed each other their book as they again engaged in social interaction.

At this point the teacher engaged the children in a discussion about 'a fraction'. She enquired about their understanding of this concept before she provided them with her explanation and wrote definitions on the chalkboard for 'a whole' and 'a half'. The pupils were invited to read the sentences and then copy them in their exercise books. When the pupils had completed this task, they received a worksheet from the teacher with pictures of different shapes divided in half. She asked them to read the instructions at the top of the page and assisted them in so doing. She then went from table to table asking each child to write ½ in one half of each of the shapes and colour the corresponding half. For the duration of this activity the classroom was busy and noisy. The teacher interacted socially with the pupils by engaging in structured conversations, answering their questions and circulating amongst them to provide guidance and assurance as they worked in pairs or as individuals.

During the lesson the teacher did not use any cognitive terminology such as 'create' 'predict' or 'construct', did not ask questions to stimulate the pupils' thinking beyond recall, engage in sharing experiences or provide the pupils with purposeful activities to promote creative and critical thinking. However the materials on display which were a teacher made paper plate pizza, coloured paper circles and real food items

coordinated with the lesson. Additionally, the instructional strategies and methods which were employed, namely storytelling followed by discussion, demonstrations with real-life items, a practical activity and completion of a worksheet by the pupils catered somewhat to the needs of the pupils since they were based on the children's interests and intellectual needs. However there was no emphasis on pupils' physical or psychological needs. Nevertheless opportunities were afforded for pupils to be involved in the lesson.

Lesson 3

This fifty- minute **Social Studies** lesson was on 'Popular Beaches in Barbados.' It was integrated with Language Arts and commenced with the teacher standing in front of the class and the pupils all standing directly in front of her. The aim as stated by the teacher was to aid pupils in identifying the names and locations of popular beaches in Barbados. The teacher introduced the lesson by reading a poem entitled 'Seaside' and the children repeated line by line after her. She then asked a number of factual questions which included '*What was the poem about?' 'Where can you find sand?'* '*What is the girl doing with the stick?'* and also asked questions to stimulate pupils' thinking beyond recall. Some of these were '*Why is the writer talking about sandwiches?''What do you think was happening that day?''Why does sand go into your food?''Why do you think a day at the beach would be the best kind of day?'* The teacher allowed wait time after posing each question. The pupils provided answers to all questions and the teacher sought elaboration of their initial responses.

After the discussion about the poem the pupils were asked to return to their seats. The teacher then displayed a map of Barbados and asked the pupils to identify it and say what they know about it. Other questions included '*What is an island?' 'The water that is near to the land what is it called?'* The pupils correctly answered the questions and the teacher confirmed their responses. They then began to excitedly talk with each other about when they visited the beach. The teacher's response to the pupils' interaction with each other was '*I wonder if the children in my class will ever give me a chance to say what I want to say.'* She then asked the pupils to say how many parishes there are in Barbados and read the name of each one as displayed on the map.

The pupils engaged in social interaction by discussing with each other about the parish in which they live and also having structured conversation with the teacher.

The teacher subsequently informed the pupils that they will now talk about beaches where they like to go or '*popular beaches'.* She posed the question '*What is meant by popular? Anybody knows?'* The pupils replied 'No' and the teacher said '*I will tell you. Something that everybody likes'.* This was one example when the teacher enquired about the pupils' understandings of concepts prior to sharing her own understandings of those concepts. At this point the teacher displayed pictures of ten beaches consecutively and invited the pupils to identify each by name and suggest why they think people like to go to them. At this point there was sharing of experiences between the pupils as well as social interaction through structured conversations with the children.

The teacher then informed the pupils that she had labels with the names of each beach and would be selecting children to choose the appropriate labels, stick them on the pictures of each beach and then tape the pictures in the correct parishes on the map. As the pupils began to eagerly discuss among themselves about sticking the names on the pictures of the beaches and then on the map, the teacher told them that she was *'looking for the quiet ones to call on. If you're loud and noisy all the time I won't call on you. I am looking for a quiet child to choose a beach'.* The pupils all became very quiet and the teacher proceeded to select specific children to complete this assessment activity which was interwoven with teaching. She also invited the pupils to assist their peers in deciphering the names of the beaches by using the initial and final letter sounds in the words. While this was an activity in which there was no competition and provided another opportunity for the pupils to be involved in the lesson, like the other activities, it did not promote creative and critical thinking or assess each child's learning.

The teacher next repeated a poem captioned 'I love to go to the beach' and had the pupils repeat it after her.

The final activity was having the children count the number of beaches on the eastern and western side of the map. The teacher posed the question '*Why do you think most beaches are on this side of the map?'* A child replied 'because it is not rough' and the

teacher confirmed the response. Afterwards she placed the labels ‘Caribbean Sea’ and ‘Atlantic Ocean’ on the map and asked the pupils ‘*Which beaches on our map would be best for picnics, swimming and splashing? Let’s name them’.* The teacher elicited from the pupils that those would be the beaches on the side of the Caribbean Sea and named them together with the pupils. To conclude the lesson the teacher invited the pupils to join her in again repeating the poem “Seaside”.

The instructional strategies and methods employed by the teacher included question and answer sessions, sharing experiences, repeating poems and labelling pictures. These catered to some extent to the needs of the pupils since they were based on the pupils’ interests and addressed their intellectual needs. However their feelings, different learning levels and physical needs were not emphasized. The materials on display, namely a map of Barbados, pictures of local beaches and labels with their names coordinated with the lesson but the teacher did not use any cognitive terminology such as ‘construct’ ‘sort’ or ‘predict’ during the lesson.

Lesson 4

This forty-five minute **General Science** lesson focused on ‘Animals that live in the Ocean.’ It commenced with the teacher and the pupils sitting closely together at the front of the classroom and was not integrated with any other subject. The aim as stated by the teacher was to aid pupils in identifying the names and characteristics of animals which live in the ocean. The teacher introduced the lesson by playing a short video called “Commotion in the Ocean” and asking the pupils questions about what they had viewed. The video portrayed colourful child-friendly pictures of sea creatures with their accompanying names. The children read the names as they were displayed but the teacher discouraged this stating ‘*Quiet, you should be looking at the video and listening.’* Two boys smiled at each other and pointed to the pictures. At the end of the video the teacher asked the children if they had liked the story and the pupils loudly responded ‘Yes’. One child said ‘it was awesome’ and another child added ‘it was super’.

The teacher then proceeded to tell the pupils to raise their hand if they could remember the name of an animal which they saw in the video. The majority of pupils raised their hand and the teacher selected individuals to provide answers. The

responses were all correct and the teacher asked '*Where do all these animals live?* The replies were 'sea', 'water', 'salt water' and 'ocean'. The teacher next asked the children '*What do you think we're going to be talking about today? Who thinks we're going to be talking about sea creatures?'* All the pupils raised their hand.

Next the teacher questioned the pupils about the characteristics of some of the animals they had seen in the video and the pupils replied. For example '*How do crabs walk? Show me.'* The entire class excitedly dramatized a crab in motion. '*What sound does the dolphin make?'* The children made a squeaky sound and the teacher confirmed it was correct. Other questions were '*What do turtles do in the sand?''What does a swordfish like to do?''What does the stingray do?'* '*What does it use?'* After each question the teacher allowed wait time.

On hearing this last question a child immediately went over to a chart on the wall without being prompted, pointed to a picture of a stingray and remarked 'the tail is very very flat'. The teacher then facilitated a discussion in which she elicited from the pupils that the animals have different shapes, sizes and colours. She also invited the children to state which animals they considered to be the friendliest, the most dangerous, and their favourite. Elaboration of the pupils' initial responses was sought as the teacher requested reasons for their selections. Creative and critical thinking was also promoted and the pupils engaged in unstructured conversations with their peers about the animal which they liked the best.

At this point the teacher invited the children to look on the wall where there was a commercial chart with pictures of sea creatures. She told them she would touch each one and they would call the names. One of the questions posed which required the children to think beyond recall was *'Why do you think this fish is called a blow fish?'* The children participated loudly and excitedly in this activity and also got out of their chairs and went closer to the chart. The teacher responded to their action with the question '*Are we in our chairs?'* and the children returned to sit in their chairs.

The teacher next told the children '*I am going to talk about four sea creatures today. The first one is fish.'* She then proceeded to tell the pupils where fish live, why they can breathe under water and what their fins look like. She also posed the question *'Why do you think fish needs gill?* and after listening to the pupils' responses went on

to provide a further explanation. This was an example of an occasion when the teacher enquired about pupils' understandings of concepts prior to sharing her own understandings.

A similar process followed with the octopus, dolphin and sea turtle. The teacher provided a description about each of these creatures and their main characteristics. During this session of the lesson, the pupils revealed by their interjections that they possessed a wealth of knowledge about these animals. However, they were not afforded opportunities to share their knowledge but were asked to be quiet and listen and were only allowed to speak when questions were posed by the teacher.

On one occasion when the teacher mentioned that there are animals that can change colour a child said 'camouflage' and the teacher commented that it was a big word and invited him to talk to the children about it. This was evidence of sharing learning experiences as the pupil expressed his ideas and described his experiences. The teacher continued by stating that the dolphin is similar to people in that it drinks milk from the mother and a child asked 'how?' The teacher replied '*They are intelligent. What does that mean?'* to which a child answered 'they know everything'. This was additional evidence of the pupils engaging in social interaction by having structured conversations with the teacher and asking the teacher questions.

The teacher also told the pupils that the sea turtle lives in tropical countries and asked '*What does that mean?'* A child responded 'sunny, hot' and the teacher asked for a different word from 'hot'. The child replied 'warm'. Forty minutes into the lesson the teacher showed a very short video with sea creatures and accompanying sentences about each. At the end of it she asked the pupils to '*tell me one thing you learnt today about any of the animals'*. Four children gave answers.

For the assessment activity the teacher distributed ten pictures of sea animals among the pupils and told them they were to colour their picture and then write a sentence underneath it stating the name of the animal. She wrote the names of each animal on the chalkboard and told the pupils to select the correct one for their particular picture and complete the following sentence 'This is a .....' During this activity the teacher went from pupil to pupil observing their work and providing guidance and assistance as necessary. This was evidence of social interaction by the teacher as well

as the structured conversations which she engaged in with the pupils. The assessment activity was interwoven with teaching and based on the pupil's progression rather than on competitive norms. It was based on the application of knowledge and was one of the activities which afforded the pupils opportunities to be involved in the lesson.

The materials on display which were videos, a chart of sea creatures and pictures of animals which live in the ocean coordinated with the lesson but no opportunity was provided for the pupils to purposefully use manipulative, interactive and physical materials. The instructional strategies and methods employed, namely the use of technology, role-playing and discussion through question and answer catered to the needs of the pupils as they were based on the pupils' interests, focused on their intellectual needs and addressed some learning levels.

Appendix K: Post-Observation Interview Questions

Question for Lamonte

During the initial interview you stated that it was important for children to experience a hands-on approach to learning which includes trial and error, experiments and interaction. How do you think your teaching synchronized with this view?

Questions for Jean

The pupils in your class were disciplined, cooperative, enthusiastic and displayed interest in all of the lessons which I observed. Can you tell me what strategies you used in order to achieve this?

In the interview you said that children should be allowed to interact with each other, and observe, discover, create and investigate. How do you think your lessons conformed to these expressed beliefs?

Questions for Cherry

You indicated in the initial interview that resource persons such as a dentist can be invited to visit the classroom in uniform with his/her tools and interact with the pupils. What was the reason for not doing this during your Social Studies lesson that I observed?

I observed that your pupils were very comfortable asking you questions and sharing their experiences. Can you tell me what strategies you used in order to develop this culture in your class?

Questions for Lisa

During the initial interview you stated that the focus of teaching should be on the children and they are to discover their own learning and not be subjected to a lecture-type environment at all times. You further mentioned that children learn better when they are actually taking part in an activity and the more involved they are, the more their attention is grasped. In what ways did your lessons conform to these views?

I observed that during the General Science lesson the pupils had lots of information which they were eager to share, but you asked them to be quiet and listen to you. Can you tell me your reason(s) for this?

Appendix L: Post-Observation Interview Report

The post-observation interview session was conducted after the lessons had been observed and analyzed. Unlike the initial interviews which consisted of fixed questions, this interview comprised broad areas which emerged from the initial interviews and the lesson observations. Following are the results of these interviews.

I asked Lamonte:

During the initial interview you stated that it was important for children to experience a hands-on approach to learning which includes trial and error, experiments and interaction. How do you think your teaching synchronized with this view?

She answered:

I think that during the teaching sessions some students were asked to identify things they did not know or were not familiar with e.g drawing animals and other things seen at Wildlife Reserve form memory. Since some of the lessons were follow-up lessons the trial and error aspects of the lesson was not seen, e.g letter sounds since students were taught a letter and corresponding letter sound a week they were asked to identify picture s that begin with the letter or to identify words that the teacher called which began with the specific letter of the week. That would be trial and error.

In the Mathematics lesson, having students fold given shapes in half was trial and error. Some were successful while others had to seek assistance after experiencing challenges. The follow-up lesson was the one when trial and error was mostly seen since the children had to cut given items in half on their own.

In the Language Arts lesson, pupils had to interact with each other through the given group activities.

I first asked Jean:

The pupils in your class were disciplined, cooperative, enthusiastic and displayed interest in all of the lessons which I observed. Can you tell me what strategies you used in order to achieve this?

She responded:

I created to some extent an atmosphere in the classroom which was child-centred. I then ensured that the lessons were integrated and the instructional methods reflected the children's interests. I also provided a variety of activities which were based on the children's intellectual and physical needs, which promoted social interaction and facilitated much discussion and pupil involvement. I further ensured that the materials co-ordinated with the lessons and provided opportunities for all pupils to be involved and interact with them purposefully.

I secondly asked Jean:

In the interview you said that children should be allowed to interact with each other, and observe, discover, create and investigate. How do you think your lessons conformed to these expressed beliefs?

She replied:

During the Poetry and Mathematics lessons the pupils were afforded the opportunity to discover the contents of an unwrapped package and a gift bag. The Mathematics lesson also required the children to engage in social interaction with the teacher and with each other and through construction of a pictograph to engage in creative and critical thinking. Likewise the activities used in the Social Studies and General Science lessons resulted in social interaction. I believe that all my lessons provided the opportunity for the pupils to observe which should be an integral part of every teaching and learning experience.

I first asked Cherry:

You indicated in the initial interview that resource persons such as a dentist can be invited to visit the classroom in uniform with his/her tools and interact with the pupils. What was the reason for not doing this during your Social Studies lesson that I observed?

She responded:

I had first invited a private dentist but he said that the dentists working in the public sector should be the ones visiting the schools. When I contacted a dentist from the public sector he responded that their work load did not usually allow them to fulfil such requests and in cases when they did, their target group was children seven years and older.

I secondly asked Cherry:

I observed that your pupils were very comfortable asking you questions and sharing their experiences. Can you tell me what strategies you used in order to develop this culture in your class?

Cherry said:

I encourage a culture of relaxation, openness and freedom to speak rather than the traditional way in which children was restricted. Children have experiences and ideas to share and I believe in letting them know that their opinion counts and in allowing them to build new knowledge on prior knowledge.

I first asked Lisa:

During the initial interview you stated that the focus of teaching should be on the children and they are to discover their own learning and not be subjected to a lecture-type environment at all times. You further mentioned that children learn better when they are actually taking part in an activity and the more involved they are, the more their attention is grasped. In what ways did your lessons conform to these views?

She replied:

Students were generally attentive throughout the lessons and remained on task. They were actively involved in activities and discussions and answered questions correctly. The assessments were done correctly which suggests that learning occurred.

I next asked Lisa:

I observed that during the General Science lesson the pupils had lots of information which they were eager to share, but you asked them to be quiet and listen to you. Can you tell me your reason(s) for this?

She explained:

This was done to reinforce the concept of taking turns when speaking and to develop respect for classmates through listening to them share their experiences. In addition, it was used to maintain an appropriate level of control within the classroom.