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of  
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**Title:** An Evaluation of Educators concerns with regard to the implementation of the Nutrition Component of the Health and Family Education Programme in the Primary School.

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**AN EVALUATION OF EDUCATORS CONCERNS WITH REGARD TO  
THE IMPLEMENTATION OF THE NUTRITION COMPONENT OF THE  
HEALTH AND FAMILY EDUCATION PROGRAMME IN THE PRIMARY SCHOOL.**

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## TABLE OF CONTENTS

<b>Abstract .....</b>	<b>3</b>
<b>Acknowledgements.....</b>	<b>4</b>
<b>List of Tables.....</b>	<b>5</b>
<b>Chapter 1</b>	
<b>Introduction.....</b>	<b>7</b>
Background.....	7
Rationale.....	12
Aim of the Study.....	13
Objectives.....	13
Research Questions.....	13
<b>Chapter 2</b>	
<b>Literature Review .....</b>	<b>15</b>
<b>Chapter 3</b>	
Methodology .....	22
Description of Study Area.....	22
Study Sample and Design.....	22
The Questionnaire & Interview.....	25
Pilot Testing .....	26
Conduct of the Study.....	26
Data Analysis.....	27
Ethical Considerations.....	28
<b>Chapter 4</b>	
<b>Results.....</b>	<b>29</b>
Quantitative Data.....	29
Qualitative Data.....	34

## Chapter 5

<b>Discussion.....</b>	<b>51</b>
Limitations.....	51
Self Concerns.....	51
Task Concerns.....	53
Impact Concerns.....	56
<b>Recommendations.....</b>	<b>60</b>
Training .....	60
Time.....	60
Resources/Resource Personnel.....	61
Administrative Support.....	61
Collaboration.....	62
Parent Involvement.....	62
<b>Conclusion.....</b>	<b>64</b>
<b>References.....</b>	<b>66</b>
Appendices.....	73
Appendix A: Questionnaire and Interview Questions.....	73
Appendix B: Stages of Concern.....	78
Appendix C: Principles of Change.....	79
Appendix D: Cross Tabulation and Chi-Squared test.....	80
Appendix E: Map of Seven Educational Districts.....	82
Appendix F: Sample Permission Letter.....	83

## **ABSTRACT**

The aim of the study was to identify the concerns, perceptions and attitudes of teachers to the implementation of the eating and fitness component of the Health and Family Life Education Programme among in Primary Schools in the St. George Educational District. To evaluate the six year old innovation, a mixed method approach was used, utilizing both qualitative and quantitative data. The study sought to explore three research questions: What were the concerns, perceptions and attitudes of teachers with regard to teaching the nutrition component of the HFLE curriculum in primary schools, how effective was the training that teachers obtained and what do teachers perceive as the facilitators/barriers to satisfactory classroom implementation of nutrition education. Twenty-one teachers from three schools were randomly selected from each level of the school. A structured questionnaire and semi-structured interview were the instruments used to collect data. The findings of the study revealed that teachers mostly had task and impact concerns. The emergent themes with regard to their concerns were training, time, resources, administrative support, collaboration and parental involvement.

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## **LIST OF TABLES**

### **Frequencies**

Table 1: Age of the Sample

Table 2: Number of Years Teaching Experience by Respondents

Table 3: Highest Level by Qualifications Teachers

### **Cross -Tabulation**

Table 4: Cross Tabulation of Respondents Showing who were trained /not trained to deliver  
Eating and Fitness Curriculum of HFLE.

### **Interview Responses**

Table 1.1 Self Concerns - Question 1

Table 1.2 Task Concerns - Question 1

Table 1.3 Impact/Consequence Concerns – Question 1

Table 2.1 Task Concerns – Question 2

Table 2.2 Impact/Consequence Concerns – Question 2

Table 3.1 Task Concerns – Question 3

Table 3.2 Impact Consequence Concerns – Question 3

Table 4.1 Task Concerns – Question 4

Table 4.2 Impact/Collaboration Concerns – Question 4

Table 4.3 Impact/Refocusing Concerns – Question 4

Table 5.1 Task Concerns – Question 5

Table 6.1 Impact/Consequence Concerns – Question 6

Table 6.2 Impact/Collaboration Concerns – Question 6

Table 7.1 Impact/Collaboration Concerns – Question 7

Table 7.2 Impact/Refocusing Concerns - Question 7

Table 8.1 Impact/Collaboration Concerns – Question 8

Table 8.2 Impact/ Refocusing Concerns – Question 8

Table 9.1 Impact/Collaboration Concerns – Question 9

Table 10.1 Task Concerns – Question 10 (a)

Table 10.1.1 Impact/Consequence Concerns – Question 10(a)

Table 10.2 Impact /Consequence Concerns – Question 10(b)

Table 10.3 Impact/Refocusing Concerns – Question 10(b)

Table 11.1 Impact/ Collaboration Concerns – Question 11

## CHAPTER 1

### **Introduction**

#### **Background**

Health and Family Life Education (HFLE) is a continuous process aimed at ensuring that individuals, through guided learning experiences, acquire attitudes, knowledge, skills and values which would empower them to develop healthy lifestyles and make decisions that would impact positively on themselves, their homes and their communities (Ministry of Education, 2001). The genesis of this programme came out of the first international conference on health promotion, the Ottawa Charter on Health Promotion took place in 1986. This conference was one of the first initiatives by Caribbean Ministers Responsible for Health, as a joint framework for health action (Caribbean Charter for Health Promotion, 1993).

The Ottawa Charter on Health Promotion highlighted that education was one of the fundamental conditions and resources for health. At the 13<sup>th</sup> Conference of Caribbean Ministers of Health, persons present discussed how to develop and increase personal health skills. It was their belief that education for personal health must aim to inculcate self-discipline, recognizing the critical importance of early childhood education and take account of the values, beliefs and customs of the community. They went on further to state that the development of these skills are a continuous process and must be facilitated at all stages of life – at home, school, work and leisure.

In October 1994, the CARICOM Standing Committee of Ministers of education was updated on the developments and plans for strengthening Health and Family Life Education. A comprehensive approach by CARICOM and the University of the West Indies gave rise to the

genesis of the CARICOM Multi-Agency Health and Family Life Education (HFLE) Project. By 1996 both Ministers of Education and Health endorsed and reaffirmed their commitment to HFLE as a priority for achieving national development goals and put in place measures to ensure its sustainability. To this end, the way was paved for a new initiative. HFLE was included as a part of the core curriculum of general education at all levels of the primary schools. To date all Caribbean nations have embraced HFLE.

In 2001, Ministry of Education of the government of Trinidad and Tobago developed a national policy on HFLE. By 2006, the National HFLE curriculum guide was developed. The programme targets issues related to four thematic areas as mandated by UNICEF in conjunction with the CARICOM Secretariat, namely Self and Interpersonal Relationships, Sexuality and Sexual Health, Eating and Fitness and Managing the Environment.

The Curriculum guide is organized and outlined in three levels. Level One is designed for Infants- Years one and two, Level Two- Standards one through three and Level Three- Standards four and five. The Ministry of Education describes quality education as education that caters for the holistic development of the individual. The introduction of HFLE therefore represents a positive step toward the promotion of the holistic development of youth and the eradication of the social, psychological and physical ills that plague them (Ministry of Education, 2001).

The theme Eating and Fitness is a module major component of nutrition education. Nutrition education can be defined as any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adaption of good choices and other food and nutrition related behaviours conducive to health and well-being and delivered through

multiple venues involving activities at the individual, institutional, community and policy levels (Contento et al 1995; Society for Nutrition Education 1995, 2009; American Dietetic Association 2003). Contento (2010) describes the major function of nutrition education activities as a means to assist people to eat and enjoy healthful food by increasing awareness, enhancing people's motivations, facilitating the ability to take action and improving environmental supports for action.

The theme Eating and Fitness module constitutes eight components namely, Physical Fitness, Food and Nutrition, Influences on Food Choices, Anatomy and Physiology, Personal Hygiene/Safety, Injury Prevention, Consumer Health and Food Safety. Regional Standards for eating and Fitness have been put in place for the teaching of this component. At the end of the modules children should be able to:

1. Build individual capacity to make healthy eating choices throughout the life-cycle and reduce the risk factors associated with the development of lifestyle diseases.
2. Demonstrate an understanding of fitness, its relationship to good health and the prevention of lifestyle diseases.
3. Analyse the influence of socio-cultural and economic factors as well as personal beliefs and choices related to eating and fitness.
4. Develop action competencies related to eating and fitness for an active healthy lifestyle.
5. Develop knowledge and skills to access age-appropriate sources of information, products and services related to eating and fitness.

According to Celebuski et al,1996, nutrition education in the classroom is intended to accomplish three important objectives:1) to convey information needed or the facts about nutrition so that students are knowledgeable about healthy eating practices 2) to change unhealthy attitudes so students have the motivation to establish healthy eating practices and 3) to teach positive skills to students so they have the tools accomplish their nutritional goals. Martin & Oakley, 2007 reported that the role of nutrition education in the successful management of child nutrition programs is critical. They further stated that nutrition education provides the link between classroom instruction and the healthful foods available on the school campus. The authors described comprehensive school nutrition education programs as a means of actively engaging children and assisting them in the development of knowledge and skills that will contribute to lifelong wellness. Martin and her colleague hold the view that a comprehensive nutrition education program serves a key role in improving children's health.

According to Escott-Stomp & Mahan (2008) the early years are ideal for providing nutrition information and promoting positive attitudes about all foods. The further stated that as children grow, they acquire knowledge and assimilate concepts by leaps and bounds. This type of nutrition is described as natural, occurring at home with parents as role models and a diet with a wide variety of foods (Escott-Stomp & Mahan, 2008). The authors are of the belief that more formal nutrition education takes place in pre-schools and public schools. Formal nutrition education can begin as early as preschool or kindergarden age and smoothly transition throughout the lifecycle. As such, it is a great idea to take advantage of this period to provide and promote nutrition education.

The absence of nutrition education can result in the development of lifestyle diseases such as Obesity. Celebuski et al (1996) reported based on the Child Nutrition Act of 1966,

Section 19(a), proper nutrition of the nation's children is a matter of highest priority. This statement is of extreme importance in light of the increasing prevalence of obesity among children. Childhood obesity is a medical condition that affects children and teenagers (Mayo Clinic, 2010). It is the progression of weight gain levels beyond the energy levels being burned. The Childhood Obesity Foundation classifies children who are at risk for childhood obesity as those who are not physically active each day, live in an environment where healthy eating and physical activity are not encouraged or come from a family of overweight people where genetics may be a factor. Obesity is a serious health concern for children and adolescents (Centers for Disease Control and Prevention, 2010). This is so because overweight children have the potential of becoming obese adults.

Research conducted by the National Health and Nutrition Examination Survey during the period 2007-2008 indicated an estimate of 16.9% of children and adolescents aged 2-19 years were obese. Obesity in preschool aged children (2-5 years) increased from 5% -10.4 % in a two year period (1976-1980). Between 2007 and 2008, obesity among children ages 6-11 increased from 6.5% to 19.6% and adolescents (12-19) from 5% to 18.1 % in one year. The American society is now being viewed as 'obesogenic' (CDC, 2011).

Canada also indicated that they too are in the midst of an epidemic of overweight and childhood obesity. The childhood obesity foundation reported that obesity rates in children has almost tripled in the past 25 years with approximately 26% of Canadian children ages 2-17 years currently were for the year. This statistic accounts for 1.6 million children living in Canada and was presented in 2010. Childhood obesity is also one of Europe's most serious health challenges. The European childhood nutrition group reported approximately 20% of all European children was overweight and approximately one-third of persons were obese. Obesity rates are more than

25% among children aged 4-10 in Chili, Peru and Mexico (Nyam News 2005). A school based intervention contracted in four Caribbean countries reported 16.7% overweight and 14.6% obesity in the children who participated. The prevalence of obesity among five year olds at a St. Lucian school was 9.2% in 2006. Similar findings have been reported for Trinidad and Tobago. According to newspaper report, the Minister of Education reported that 20% of the school children in Trinidad and Tobago are obese (Newsday,2011). This information was sourced from an unpublished working article by the Diabetes education Research and prevention Institute (DERPI).

The World Health Organization (2011) describes childhood obesity as one of the most serious public health challenges of the 21<sup>st</sup> century. Childhood obesity continues to increase its prevalence at an alarming rate. It is therefore the belief of many that the prevention of this non-communicable disease, demands the attention of those who can help. Nutrition education is a powerful tool than can be used to aid in the prevention efforts. The risk of childhood obesity can be reduced if necessary information is passed on to our children.

### **Rationale**

Little is known about educators' perceptions, concerns and attitudes regarding the implementation of the Eating and Fitness component of the HFLE curriculum at the Primary Schools in Trinidad and Tobago. However, research has been done over the years on teachers and their perceptions of nutrition education in the primary schools throughout the world. During an interview Shirley Hord, co- author of the book *Implementing Change: Patterns, Principles and Potholes* said, "We fail almost always to do a check up and see how well teachers and administrators are using a new program or process in the school or classroom in order that we

give them additional information and coaching and follow-up to help them improve what they are doing”. The implementation of a new programme is difficult and thus implementers tend to move on something new if no results are seen. As a result this paper will seek to evaluate the concerns among educators with regard to the nutrition component of the Health and Family Life Education (HFLE) curriculum at primary schools in the St. George East District, Trinidad and Tobago.

### **Aim of the Study**

The aim of the study is to identify the concerns, perceptions and attitudes of teachers to the implementation of the eating and fitness component of the Health and Family Life Education Programme among in Primary Schools in the St. George Educational District.

### **Objectives of the Study**

1. Determine primary school educators concerns, perception and attitudes on the eating and fitness component of the HFLE curriculum.
2. Identify barriers to teaching eating and fitness at primary schools.
3. Determine if a relationship exist between being training and the teaching of eating and fitness theme.

### **Research Questions**

The specific questions to be answered by the study are as follows:-

1. What are the concerns, perceptions and attitudes of teachers with regard to teaching the nutrition component of the HFLE curriculum in primary schools?

2. How effective was the training that teachers obtained?
3. What do teachers perceive as the facilitators/barriers to satisfactory classroom implementation of nutrition education?

## CHAPTER 2

### **Literature Review**

The aim of the study is to identify the concerns, perceptions and attitudes of teachers to the implementation of the eating and fitness component of the Health and Family Life Education Programme among in Primary Schools in the St. George Educational District.

In 1991, Stanek and colleagues conducted an assessment of nutrition education in Nebraska public high schools. A major concern they raised was whether teachers expected to teach nutrition had adequate preparation in their own education. Stanek and colleagues recommended that the utilization of teachers who are adequately prepared to teach nutrition, defining student needs and interests as well as including contemporary concepts and controversies in the selection of topics taught may make the subject more meaningful for students. They also noted in addition to lack of funds, the concern that nutrition education competed with other subject areas for class time. They further alluded to the fact that several persons reported the lack of class time and the need to teach basic subject skills were barriers to including nutrition in the curriculum.

Previous works highlighted that resources found most useful in teaching nutrition on kindergarden through twelfth grade included textbooks films, demonstrations and nutrition kits with include teaching guides and student materials in one package. Teachers who participated in their study also comment on the time spent on nutrition, suggesting that nutrition should receive a higher priority on the curriculum, more instructional material should be available and that teachers should develop expertise in the subject. The scholars also found that administrative support was not seen as an important factor.

Britten 1996, submitted research on a structural model of training and confidence as predictors of time spent teaching nutrition by elementary school teachers. Britten indicated that a wide range of information concerning nutrition training, knowledge, attitudes and practices was collected from the sample of teachers. The scholar found that few elementary teachers had formal training in nutrition beyond what might have been covered in a college biology or health class. Based on her review of the literature she therefore put forward the view that training in subject knowledge of the matter and knowledge of the curricula were associated with the time spent by teachers on a particular subject. This statement was supported by a number of scholars who noted that “the concept of self-efficacy also played a central role in research attempting to influence teachers’ institutional practices or student outcomes (Bonchers et al 1992; Gibson & Dembo 1984; Midgley, Feldlaufer and Eccles, 1989; Sheldon and Halverson 1981; Smylie, 1988. Britten also noted that teachers often lack self-confidence and enthusiasm for nutrition education because they view nutrition education as a college level subject dealing with concepts which they themselves do not fully grasp.

Further research done in 1996 by Britten conflicted with the literature she previously stated. It indicated that the correlations between knowledge and the other exogenous constructs such as training and belief were not significant. Her results showed that providing in-service training did not appear to be necessary in some cases, nor sufficient in others, to ensure appropriate implementation of nutrition or health curricula. The study revealed that the lack of time or administrative support was perceived barriers to implementation of new curricula after in-service training.

Probart and colleagues in their study examined teachers' satisfaction with the nutrition curriculum. They found that teacher's perceptions of the importance of teaching in

teams, the degree to which the teacher feels informed about nutrition and the teacher's perception of the importance of nutrition were all significant predictors of teachers' comfort with the curriculum content. The scholars also mentioned that their findings on administrative support, particularly pertaining to allowing for scheduling of common planning times for teachers, school-wide promotional activities, and stability in personnel were important for successful implementation of the curriculum.

Probart et al. (1997), put forward the view that ensuring nutrition is taught in schools may involve innovative, nontraditional means of incorporating nutrition into the school curriculum. They noted however, the establishment of any new curriculum, particularly in a non-core area, involved identifying potential challenges such as an overcrowded curriculum, lack of content area knowledge by teachers, scarcity of resources, varying degrees of administrative support, teacher resistance and socio-demographic factors. Another barrier to implementation that emerged in their study was personnel changes. Probart and colleagues explained that sometimes the teacher who was involved in the grant application process or the teacher training workshop was transferred or changed teaching assignments before the curriculum was implemented, leaving the remaining teachers without guidance and making implementation more difficult.

Stang et al 1998, developed a nutrition education needs based assessment survey for both elementary and secondary public school teachers in the United States. It stressed on issues such as how often nutrition education was provided by teachers, methods used when providing nutrition education, perceived barriers to nutrition education, collaboration among teachers, parents, foodservice staff at schools and reasons for providing nutrition education. Teachers

who had fewer years teaching experience were more likely to receive training solely from a college course. The more experienced ones were less likely to have taken a college course. Those with no prior training were less likely to report teaching nutrition than those who participated in training regardless of the type. Therefore the assumption was made that the more a teacher taught the material, the more exposed they were to it.

Stang and colleagues found that over three quarters of their sample were teaching nutrition, 94% reporting that they were most likely to teach personal and family life science (home economics) and 76% physical education. When asked if it was a required subject almost half the sample said it was, the other half said no, leaving a small percentage of the sample unsure. They also found that there were at least three common barriers that prevented teachers from providing the type of and amount of nutrition education that they should. These were lack of classroom time, lack of training and lack of educational materials and equipment.

Auld et al 1999, interviewed teachers covering issues such as thoughts on teaching nutrition in elementary schools, perspectives on the alternating-week instruction model and the lessons they taught, current interest and confidence in providing nutrition education and finally their perceptions on the effectiveness of the programme. Results showed that teachers supported the inclusion of nutrition lessons in elementary schools. Teachers described nutrition as an implementation health-related content and a potential early influence on children's food habits. The teachers also believed that special resource teachers were more effective because of their greater knowledge and skill-set. Teachers who took part in the study also acknowledged that they were unlikely to teach nutrition as frequently and elaborately as the special resources teachers due to lack of preparation time, resources and assistance to

conduct hands on activities. Other barriers identified included lack of administrative support, lack of confidence and previous nutrition training.

A study conducted by Gungel at the Ohio University in 2005 noted that teacher perspectives on middle school health policy. Gungel (2005), highlighted that teacher modeling was an important component in nutrition education. According to Gungel, scholars such as Meyer, Marshak and Conklin noted that the nutritional adequacy of students diet choices affect their learning and performance as well as affects their health status as adults. The poor nutritional choices and habits can put students at risk for obesity and type II diabetes. It is therefore believed that if good nutritional choices are backed by a solid nutrition education program, students may be able to make healthier choices.

Prelip and colleagues 2006 examined the role of classroom teachers in nutrition and physical education in the United States. In this study the teachers were interviewed on what nutrition and physical education was, perceptions of students nutritional problems, perception of students nutritional problems, perception of one's role in nutrition education, the integration of nutrition and physical education into other areas, time spent on both subjects, available resources and resources needed as well as general questions about themselves. When asked about their perceived role regarding student nutrition, the most common response was to teach the material. The teachers also believed that their role involved modeling healthy eating habits and advocating for the students and motivating and facilitating the good nutritional habits of their students. Teachers also indicated that they too like other teachers experienced barriers to teaching nutrition. Some of the barriers listed were: other classes taking up too much time, limited teacher training and lack of adequate equipment and facilities.

A study conducted in 2010 reported that 57.7% of the teachers believed they did not have adequate classroom time to include nutrition competencies. However, Lambert and colleagues found that the majority of teachers in this study reported having the skills to incorporate nutrition competencies. The scholars put forward the view that schools have been more successful in implementing school health policies when an outside facilitator is employed to help school staff progress through changes. They stressed that the successful implementation of new policies cannot and should not be the sole responsibility of school administration and staff but must also have the support of other influential constituents such as the school board, parent-teacher association, community groups and businesses just to name a few. Successful changes are more likely to occur when school administration understands how important it is to address teachers' perception, understanding, and participation in the changes (Lambert,2010).

There are several important assumptions and assertions that underlie the Concerns Based Adoption Model (Hall and Hord,1987). These assumptions are also referred to as the Principles of Change. The first assumption stated was that change is a process not an event (Hall, Wallace and Dossett,1973).They further explained that change was not just accomplished by having a one-time announcement by an executive leader, a two day training workshop for teachers or even the delivery of the new curriculum to the school. Hall and Hord (2001), described the change is a process through which people and organizations move as they gradually come to understand and become skilled and competent in the use of new ways. Another principle identified stated that the organization does not change until individuals within it changes. Understanding the point of view of participants in the change process is critical for change since successful change starts and ends at an individual (Hall and Hord, 1987, 2001).

The scholars also asserted that the school was the primary unit for change. They further stated change is a complex dynamic and resource-consuming endeavor which no school or organization is likely to have in order to succeed in change. Hall and Hord suggest that change processes are easier and chances of sustained success are increased as the school staff understands more about how to use external resources and those external to the school recognize the importance of their roles in facilitating each school in achieving change success.

## CHAPTER 3

### Methodology

The aim of the study is to identify the concerns, perceptions and attitudes of primary school teachers regarding the implementation of the Eating and Fitness component of the HFLE curriculum.

#### **Description of Study Area**

In Trinidad and Tobago there are 488 primary schools and 133 secondary schools. These schools all come together to form a part of eight educational districts namely St. Patrick Educational District, Caroni Educational District, North Eastern Educational District, Victoria Educational District, St. George East Educational District, Port of Spain and Environs Educational District, South East Educational District and Tobago Educational District. The St. George East Educational District is located in the East West corridor of Trinidad, bounded on the West by Maracus and the East by Talparo. The St. George East Educational District was utilized in this study due to its proximity to the University of the West Indies, St. Augustine Campus. This Educational District comprises of approximately 22% of the primary and secondary education institutions in the country with 107 primary schools (90 public and 17 private) and 28 secondary schools (17 public and 11 private).

The district is divided into four fraternities namely A, B, C and D which represent approximately 90 primary schools. Primary schools can be classified/categorize as small, medium and large based on the population of children serviced. Small schools are those schools whose population range is between 100-299 students, medium schools between 300-400 students and large schools are those whose population is over 400 students. In the primary school

there are seven levels beginning from Infant 1 and continues throughout Standard 5. The school can then be divided into three categories; Infants (1 &2), Juniors (Standard 1-3) and Upper Juniors (Standard 4 &5).

### **Study Sample and Design**

A case study approach would be used throughout the study. All primary school teachers in the St. George East Educational District were identified to participate in the study. Of the three schools selected, 21 teachers participated in the study, with 7 participants coming from each school. There were two teachers from Infant Department, three teachers from the Junior School and two teachers from the Upper school. The study was carried out during the months of February and March, 2011. Permission to conduct the study was obtained from the Ministry of Education.

A mixed method approach was chosen to facilitate:

- The nature of the study, in that it employs strategies of inquiry that involve collecting data either simultaneously or sequentially to best understand research problems. The sequential explanatory strategy best describes the nature of this research.
- The approach of the study beginning with a broad survey in order to generalize results to a population and then focusing , in a second phase on detailed qualitative, open-ended interviews to collect detailed views from participants (Creswell, 2003).

- The collection and analysis of quantitative data followed by the data collection and analysis of qualitative data, a major characteristic of the mixed method approach.
- The use qualitative data to assist in explaining and interpretation of the findings of a primarily quantitative study.
- According to Creswell (2003), the researcher ability to base knowledge claims on pragmatic grounds.

A list of random numbers was assigned to the four fraternities in the St. George East Educational District. Of the four fraternities, Fraternity C was selected. Within Fraternity C there are 21 schools. After a simple random sampling process was done three schools were selected to participate in the study from Fraternity C. The three schools selected were labeled School X, School Y and School Z representing one private school, one government school and one denominational school.

The teachers of each school were then randomly selected to participate in the study. One teacher from every level was chosen to participate in the study. The researcher obtained a list of the teachers within the particular school and their class. In most of the participating schools more than one teacher was assigned to a particular level. Random numbers were assigned to their initials which were placed on folded paper chits. The paper chit were piled according to class (i.e. Standard one teachers were in one pile and so on). Seven chits were selected and these were the participants who took part in the study. If there was just one class at a particular level that teacher was automatically selected to take part in the study. Pseudonyms

were attached to each school to preserve anonymity of the participants throughout the study. This procedure was standard for all three schools.

### **The Questionnaire and Interview**

Data was collected using a mixed method approach. Firstly, a structured questionnaire was one of the instruments used to collect the study data, and a semi-structured interview was the other approach/method used to collect the data. The questionnaire consisted of 25 items. It was designed to capture general information such as demographics, level of training and the teaching practices of HFLE as it pertains to the eating and fitness component. The semi-structured interview included a set of ten structured questions. The questions allowed for probing to ascertain more in-depth responses from the respondents. The formulation of the questions included in the interview was based on one facet of the Concerns Based Adoption Model (CBAM), the Stages of Concern.

Understanding the change process or new programmes such as HFLE require tools that help in the description and measurement of the components of complex initiatives (The Southwest Educational Development Laboratory, 2011). A successful tool that can be used is the Concerns Based Adoption Model (CBAM). The CBAM is a conceptual framework that is made of three facets namely stages of concern, levels of use and innovation configurations. Together these facets examine the components of an innovation, track the progress of implementation, report findings objectively and design interventions or strategies that will move the process forward (SEDL,2011). Hord described the Stages of Concern as a way of accessing information about people's attitudes, or reactions, or feelings about a new program or a new practice. It is

made up of seven stages: awareness, informational, personal, management, consequence, collaboration and refocusing respectively.

### **Pilot Testing**

The questionnaire and interview questions were pretested on seven teachers who belonged to a school within the St. George East Educational District, but not members of the sample that participated in the study. Following the pretest, minor changes were made to the questionnaire and the interview questions. The average time period for the administering of both the interview and questionnaire was estimated at about 15-20 minutes.

### **Conduct of the Study**

A maximum of two visits were made per school to ensure that the proceedings of the school were not affected. The researcher also performed the role of the interviewer during the data collection period. Prior to the commencement of data collection the researcher introduced herself to the participants, and explained the nature of the study and the protocol for the questionnaire and interview. This was especially important since the researcher needed the permission of the respondent in order to audiotape the interview. The researcher also assured participants of the anonymity and confidentiality of their responses.

The questionnaire was administered first followed by a face to face interview with the participants at each level. The interview protocol included the recording of each participant responses during the qualitative data collection. This protocol included the opening remarks by the interviewer, the key research questions and the probes that follow these questions. The interview questions were read aloud by the interviewer to each respondent, and the respondent's answer was captured via the use of an audio recording device. For respondents who requested

that their responses not be taped, the researcher respected this, and penned the responses on a note pad. The researcher/interviewer ensured that there was minimal interaction between her and the respondents. If any interaction existed it would have been due to clarification of terminologies. When data collection was complete a journal was kept to transcribe the information obtained during the interview.

In one specific case a participant requested that their responses were not audiotaped.

### **Data Analysis**

All data obtained from the questionnaire was analyzed using the Statistical Package for the Social Sciences version 16. Frequencies and the cross tabulations were the two descriptive analysis carried out. The relationship between training and having sufficient knowledge of the nutrition component was determined using cross tabulations and Fisher's Exact Test.

The analysis of the responses from the interview included preparing the audio data for transcription. The transcripts obtained from the recorded interviews were examined and common themes were formulated. It involved the analysis of raw data in order to identify similarities and difference among participant's responses. The researcher listened to the audio recordings and made notes on interview data. The data was peer examined by a graduate student of the Masters in Education Programme at University of the West Indies. This was done to ensure that the data was not tampered with by the researcher. It was also a method of measuring and ensuring reliability and validity. The notes were then categorized according to themes and this was done until links became evident between them. The themes were then organized according to the stages of concerns facet of the Concerns Based Adoption Model.

The first stage, Stage 0 (Awareness), indicates an individual has little concern or involvement at this time with an innovation (Munger,2003). The other six stages can then be classified into three categories: Self Concerns, Task Concerns and Impact Concerns. Self Concerns refer to Stage 1 and 2 of the model which ask what is the new change and how will it affect me (Hall & Hord 2001). Linda Munger, stated that task concerns refer to Stage 3 of the model, Management. It deals with how to implement the change and what is needed to make the change happen (Hall & Hord, 2001). The final category, impact concerns, are further subdivided into consequence, collaboration and refocusing. They address stages four, five and six. Hall & Hord, 2001 describe impact concerns as concern related to how the use affects the clients, what is being done by oneself as compared to others and having ideas that may help the innovation to work more smoothly. The responses to the interview questions were placed into those three categories, namely Self Concerns, Task concerns and Impact concerns after which they would be analyzed accordingly.

### **Ethical Considerations**

Permission was sought from the Ministry of Education to conduct the study in the participating schools. A letter was addressed to the School Supervisor III of the St. George East Educational District who gave the initial permission to conduct the study. Upon receipt of the approval from the Ministry of Education, St. George East Educational District, a letter was penned to the respective principals who granted the final approval. The respondents were comforted by the fact that the Ministry of Education as well as the University of the West Indies supported this initiative

## CHAPTER 4

### Results

The aim of the study is to identify the concerns, perceptions and attitudes of primary school teachers regarding the implementation of the Eating and Fitness component of the HFLE curriculum.

#### **Quantitative Data**

A total of twenty one teachers completed the self-administered questionnaire. Table 1 shows that most respondents were between the ages of 36-46 years accounting for 38.1% of the sample with 28.6% of the sample over age 46 which was followed by 23.8 % of the sample between the ages of 25-35 and 9.5 % in the under 25 group.

**TABLE 1 Showing Age of the Sample**

Age	Frequency	Percent
< 25	2	9.5
25-35	5	23.8
36-46	8	38.1
> 46	6	28.6
Total	21	100

The study revealed that there were more female respondents than males with 76.2 % representing female and 23.8 % representing male.

Table 2 shows the number of years of teaching experience each individual has. Almost half of the sample consisted of experienced teachers who had been in the teaching service for greater than twenty years. The remaining persons had between 0-20 years' experience. Thirty-eight

percent (38%) reported having 10-20 years' experience whereas fourteen percent (14%) reported having less than 10 years in the service.

**TABLE 2: Showing Number of Years Teaching Experience by Respondents**

<b>Years in Teaching Service</b>	<b>Frequency</b>	<b>Percent</b>
0-9	3	14.3
10-20	8	38.1
> 20	10	47.6
Total	21	100

The sample predominantly included persons at the Teacher I level, accounting for approximately 91% of the respondents. The remaining persons (9%) were classified as Senior Teachers.

The teachers were asked about their highest level of education. Table 3 shows that 33.3% of the respondents had only a Teachers' Diploma. Another 33.3% indicated that they possessed both a Teachers' Diploma and a Bachelors Degree. Four of the respondents which represents (19%) reported having a Bachelors Degree only (9.5%) ,and (9.5%) Teachers' Diploma, Bachelors Degree, Postgraduate Diploma, Masters Degree. Of the final three respondents, representing 14.4 percent of the sample one indicated that they had a Teachers' Diploma and a Diploma in Human Resource Management, one person acquired a Teachers' Diploma, Bachelors Degree, Postgraduate Diploma and one person completed the Ministry of Education Pupil Teacher System and Servol's Early Childhood Care Education Training Program.

**TABLE 3: Showing the Highest Level by Qualifications Teachers**

<b>Qualification</b>	<b>Frequency</b>	<b>Percent</b>
Teachers' Diploma Only	7	33.3
Bachelor's Degree Only	2	9.5
Teachers' Diploma and Diploma	1	4.8
Teachers' Diploma & Bachelor's Degree	7	33.3
Teachers' Diploma, Bachelors Degree, Postgraduate Diploma	1	4.8
Teachers' Diploma, Bachelors Degree, Postgraduate Diploma, Masters Degree	2	9.5
Ministry of Education Pupil Teacher System/ Servol's ECCE Training Program	1	4.8
Total	21	100

The majority of respondents (95.5%) indicated that the HFLE curriculum was timetabled and they were required to teach the eating and fitness component of the HFLE curriculum. 47.6% reported that they were trained to deliver HFLE while (52.4%) indicated that they were not trained to do so. The entire sample also thought that nutrition was important.

Table 3 represents respondents who received and did not receive formal training and who provided that training. 52.4% of respondent reported that they received no training while 23.8% reported receiving training at the University of Trinidad and Tobago, 9.5 % at the Ministry Of Education/Staff Development exercise, 9.5% at University of the Southern Caribbean and 4.8% at the University of the West Indies.

**TABLE 3: Showing Number of Respondents Who Received Training and the Training Provider**

<b>Provided Training</b>	<b>Frequency</b>	<b>Percent</b>
Ministry of Education/Staff Development	2	9.5
University of the Southern Caribbean	2	9.5
University of the West Indies	1	4.8
University of Trinidad and Tobago (formerly Valsayn Teachers' College)	5	23.8
No Training	11	52.4
Total	21	100

The majority sample (66%) stated that the Ministry of Education should outsource specialists to teach nutrition.

Of the twenty-one participants, 61.9% revealed that they felt they did not have sufficient knowledge of the eating and fitness component of the HFLE programme while 38.1 % disagreed with their colleagues stating that they did. Using the Fisher's Exact Test, no significant association was seen between being trained and having sufficient knowledge to deliver nutrition education and vice versa. The results therefore indicated that:  $X^2(1, n=21) = 1.147, p < .387$ . See Appendix D. Table 4 shows the cross tabulation showing the comparison between those who were trained /not trained to deliver HFLE to sufficient knowledge of the eating and fitness component of the HFLE curriculum.

**TABLE 4: Cross Tabulation of Respondents showing were trained /not trained to deliver Eating and Fitness Curriculum of HFLE.**

			Sufficient knowledge of nutrition component of HFLE		
			No	Yes	Total
Trained to deliver HFLE	No	Count	8	3	11
		Expected Count	6.8	4.2	11.0
	Yes	Count	5	5	10
		Expected Count	6.2	3.8	10.0
Total		Count	13	8	21
		Expected Count	13.0	8.0	21.0

## **Qualitative Data**

### ***Question 1: How do you feel about the implementation of the HFLE programme offered by the Ministry of Education?***

Tables 1.1, 1.2, 1.3 below shows the self, task and impact concerns responses of the participants from the Private, Public and Denominational schools.

Table 1.1 shows that three respondents expressed Self Concerns. Two respondents at the Infant level, one at the private school and one at the public school and one respondent at the Junior level from the denominational school.

**Table 1.1 Self Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	I think more instruction is needed. There was inadequate training that at teacher's college.	Private
	Other than the training we received at training college, somebody needs to come in and do a one day workshop.	Public
<b>Juniors</b>	The programme is disjointed. Teachers are not sure what they are supposed to teach.	Denominational

Table 1.2 shows that four respondents expressed Task Concerns. Two respondents at the Junior level, one from the private school and one from the denominational represented the Juniors and two from the Upper Juniors Department one from the private school and one from the denominational school

**Table 1.2 Task Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Juniors</b>	We don't spend enough time on HFLE during the week. It needs to be timetabled more than once a week	Private
	The programme is too compact. There is too much to be taught in such a short time.	Denominational
<b>Upper Juniors</b>	We don't have a textbook for the subject.	Private
	It is too complicated for students to understand. It needs to be broken down in a way that the children will appreciate what is being taught.	Denominational

Table 1.3 shows that one respondent at the Upper Junior level at the public school and one respondent at the denominational school reported Impact/Consequence Concerns.

**Table 1.3 Impact /Consequence Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Upper Juniors</b>	The programme is a good one. Children need to know about it, how to make good food choices in eating patterns.	Public
	It promotes emotional, social, and mental health. It is an important component which gives a holistic approach to education. It looks at the whole child. I am addressing problems, social issues which have to be dealt with. If it has to be dealt with in the classroom I must have a structured medium through which I can do so and HFLE provides that.	Denominational

***Question 2: Are you concerned about the time and energy commitments required by the eating and fitness component?***

Tables 2.1 and 2.2 highlight Task and Impact Concerns of the respondents from three schools.

Three respondents at the Junior level, one at the private school, one at the public school and one at denominational reported task concerns. Two respondents at the Upper Juniors level one at the

denominational school and one at the public school reported task concerns of all three schools whereas.

**Table 2.1: Task Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Juniors</b>	We have a lot of other subjects to be taught. Hence less time is spent on that component.	Private
	The curriculum is pretty full. It is a bit difficult to try to teach all those things efficiently with the mass amount of information that we are supposed to deliver to the children.	Public
	There is an undue amount of stress placed on schools for certification. However the HFLE, Eating and Fitness theme is critical for teachers to disseminate.	Denominational
<b>Upper Juniors</b>	Nutrition is something you have to go in depth with and it needs more time to complete that part of the syllabus.	Public

Four respondents from the Infant, Junior and upper Junior level reported Impact/Consequence concern, one respondent from the Infant level at the private school, one respondent from the Junior level at denominational school and two from the Upper Junior level one at the private school and one at the denominational school . Their responses are noted in Table 2.2

**Table 2.2: Impact/Consequence Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	I have no concerns about the time and energy requirements of the eating and fitness theme, nutrition is important. Without good nutrition and health the children cannot focus on their work	Private
<b>Juniors</b>	Not enough time is placed on that component and you are seeing it being manifested in the diet of the children	Denominational
<b>Upper Juniors</b>	More time needs to be devoted to the Eating and Fitness theme. It is critical in terms of children's best performance and education.	Private

	One's lifestyle based on nutrition is important to extend the longevity of a person's well-being. It is important for the benefit of all	Denominational
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***Question 3: Do teachers believe that there can be conflict between their interest and their responsibility?***

Table 3.1 and 3.2 illustrates the concerns of teachers who believed that no conflict existed between their interest and their responsibility to teach the eating and fitness theme.

Table 3.1 shows the individuals who expressed Task Concerns. The four responses regarding task concerns were seen at the public school and ranged from Infants to Upper Juniors.

**Table 3.1 Task Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Teachers are accustom teaching whatever the Ministry of Education gives us to teach. Most of us believe in having healthy children.	Public
<b>Juniors</b>	If you are a professional and you know what the Ministry expects of you, you will teach what is expected. Even if you have conflict, we the experts are put in place to teach and we should try our best to do so	Public
<b>Upper Juniors</b>	The theme is part of the school's curriculum. "How can an obese teacher tell a child about good eating habits?" In that case conflict could arise but in terms of the delivery of the curriculum it should not be an issue.	Public
	You shouldn't say interest, the responsibility is there .You have a job to do and if you love what you do, you tend to do it better.	Public

Table 3.2 shows those who had Impact concerns. Two respondents, one representing the public school and one representing the private school indicated they had impact consequence concerns. Such concerns arose at the Infant and Junior department.

**Table 3.2 Impact/Consequence**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	There could be conflict but as a teacher you have to put the needs of the students first.	Private
<b>Juniors</b>	In my opinion no conflicts exist. Teaching nutrition is important and children need to know what healthy eating habits are.	Public

*Question 4: What are your concerns with regard to the management of the eating and fitness course content?*

Table 4.1, 4.2 and 4.3 addressed Task and Impact Concerns related to the management of the nutrition course content of the eating and fitness theme

Table 4.1 shows the task concerns of respondents regarding the time and energy commitments of the eating and fitness theme. These concerns were common among respondents at the three schools, one respondent at the infant level, four respondents at the Junior level and two at the Upper Junior level.

**Table 4.1: Task Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	The curriculum is not difficult for students to understand and the programme is age-related.	Denominational
<b>Juniors</b>	I don't pay attention to the management of the course content. I would teach it besides the scheduled time when the need arises. In order to cover things that you see happening in the classroom everyday it needs to be taught incidentally. To me I am always teaching it.	Public
	This subject is not tested by the Ministry of Education when it comes to National Test therefore less time is spent on it.	Private
	It is too intense. You cannot teach everything in the syllabus because of the other areas you have to concentrate on.	Public
	The length of time scheduled for the theme is too short. There is too much content to be covered in such a short time.	Private
	HFLE is not tested at SEA. There is such congruence with Social Studies which puts HFLE at a disadvantage. As the saying goes, what is not tested isn't taught.	Denominational
<b>Upper Juniors</b>	I have no problem with the course content. It is manageable. The volume I tend to have a problem with at times but I could organize the programme to suit my needs.	Denominational
	At the standard five level, I don't pay much attention to it. SEA is the main focus.	Private

Table 4.2 shows the impact collaboration concerns of respondents. This type of concern surfaced at the Infant level and were only seen at the private school

**Table 4.2: Impact/Collaboration Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Even though you send letters to parents requesting that they send healthier snacks, you always need to be monitoring to see if it occurs.	Private
	I do not have any particular concerns with regard to the management of the course content but her main concern had to do with parents ability to provide what was necessary. It is when children go home some the parents cannot afford to provide what is needed for their children. Even though you are teaching the children about good health and nutrition and so on some parents are just not able to get the type of meals that their children may need.	Private

Like the collaboration concerns, the impact refocusing concerns were centralized at the private school and were distributed evenly among the Infant, Juniors and Upper Juniors level. Their responses can be seen in Table 4.3

**Table 4.3 Impact/ Refocusing Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	The programme allows for the use of resource personnel.	Private
<b>Juniors</b>	There is a need for more available persons who are qualified to come and share the necessary information with us.	Private
<b>Upper Juniors</b>	I think either there should be specific training in that area or you have professional coming in to teach it.	Private

***Question 5: Do you think that there are sufficient resources to teach nutrition education component?***

Table 5.1 illustrates the task concerns of teachers ranging from Infants to Upper Juniors at the private, public and denominational schools.

**Table 5.1: Task Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	We don't have resources for most of the subject and worst yet nutrition which is just a part of HFLE.	Public
<b>Juniors</b>	I don't think that there are sufficient resources for teaching nutrition education. The government sends lots of things for mathematics and science. We have a healthy lifestyle which we need to practice at all times. There are practical aspects of nutrition. What has the government provided for that?	Private
	In cases where students come from poor homes and communities it is difficult to get support to get anything extra outside of what the Ministry of Education provides.	Public
	The eating and fitness theme doesn't indicate any specific inventory that that cannot be sourced.	Denominational
	We don't have a lab. We could use the classroom but it can be a limiting factor to what can be done.	Private
<b>Upper Juniors</b>	Do you know how long we have been trying to get a kitchen here so we could probably do home economics with the children especially the post-SEA students? Their interest at that time weans with academics.	Public

***Question 6: Have you seen any behavioural changes after delivering the nutrition material to the students?***

Table 6.1 and 6.2 shows the responses of teachers on the issue of behavioural changes in students after exposure to nutrition education.

Table 6.1 shows seven responses, three responses from the private school and two responses, one from the public school and one from the denominational school. Impact/Consequence concerns were common at the Infants, Juniors and Upper Juniors level of the schools.

**Table 6.1: Impact/Consequence**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Last week we had health emphasis week. Students were encouraged to bring more fruits for snacks and drink more water. This made them more aware and it was nice for them to engage and participate positively in the activity.	Private
	Initially, the children try make an attempt to eat healthy foods. They will encourage their parents to provide healthy foods, but because they are children and they have to eat what mom and dad gives them. It is difficult for them to practice a healthy lifestyle if it isn't embedded in the home. A parent may try to implement healthy options but children can be influenced by their peers who have chips and pizza. Children tend to want to experience these things.	Denominational
<b>Juniors</b>	You will see more fruits and vegetables but if the parents feel as though they don't have the money to supply what is necessary then things will remain the same.	Public
	Children make a conscious effort. The children put a little more pressure on their peers when they see them eating things they are not supposed to. Also the parents make an effort by providing the children with things of a better nutritional value.	Public
<b>Upper Juniors</b>	The children recognize the need to eat foods from each food group with particular reference to fruits and vegetables. A lot of students don't like vegetables but now they see the need for it.	Private
	In some cases yes I have seen behavioural changes. Children have begun to pay attention to the amount of snacks they consume, the amount of caffeinated drinks they consumed and in two particular cases they have decided to become vegetarians.	Private
	Everything is short-lived.	Denominational

Table 6.2 displays the impact collaboration concerns of Infant and Junior level teachers, one at the private school and one at the public schools. Their responses are as follows:

**Table 6.2: Impact/ Collaboration**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Parents are happy when they teach about nutrition because they need extra help to get their children to eat the right foods. School broadcast assistance is given to teachers helping them to deliver the information more efficiently.	Private
<b>Juniors</b>	It is difficult to say if there had been any behavioural changes. If teachers had the cooperation of parents then you will see a difference in the snack patterns.	Public

*Question 7: Have you been coordinating your efforts with other colleagues to maximize the effect of nutrition education?*

Table 7.1 shows the responses of participants at the Infant and Juniors levels, one from the private and one from the denominational school.

**Table 7.1 Impact/Collaboration**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Well we team teach so basically it is being done.	Private
<b>Juniors</b>	At my school only in terms of scheduled weekly planning, not in terms of team teaching.	Denominational

Table 7.2 shows the response of an Upper Junior level teacher at the denominational school

**Table 7.2 Impact/Refocusing**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Upper Juniors</b>	At staff meetings these issues ought to be raised. Together teachers and administration should come up with a school position on nutrition education, transforming the way it is done.	Denominational

***Question 8: Do you need the support of the school's administration to enhance the teacher/learner experience?***

Impact concerns were the reported by participants when asked about the need for the support of the schools administration. The concerns expressed in Table 8.1 exhibit the responses of the Junior level respondents, one at the public school and one at the denominational school and the Upper Junior levels one at the public school and one denominational school with regard to their concerns on collaboration.

**Table 8.1 Impact/Collaboration**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Juniors</b>	Definitely, they play an integral part in ensuring that the teaching of the nutrition component of HFLE is done. They have done their part already to a certain extent by timetabling the subject and in staff meetings we are reminded of it.	Denominational
	We definitely need the support from administration when it comes to getting a better quality of nutrition for the students.	Public
	It is always good to have the support of the school's administration with regard to full implementation of programs regardless the subject.	Denominational
<b>Upper Juniors</b>	Yes it is needed to an extent. If you don't have the support of the administration teachers do nothing.	Public

Table 8.2 shows the concerns of a Junior level respondent at the public school and an Upper Junior level respondent at the private school. Their responses are as follows:

**Table 8.2 Impact/Refocusing**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Juniors</b>	Principals/Senior teachers should send out letters to parents reminding them of their obligation towards a better health program at home for their children.	Public
<b>Upper Juniors</b>	The administration must ensure that nutrition is high up on the list of priorities. They must do that so that teachers will feel comfortable doing it and not think that he/she is taking away from some other subject area when he is doing nutrition.	Private

***Question 9: Is a collaborative approach used when planning lessons?***

Table 9.1 shows the concerns that were raised by participants at the private, public and denominational school with regard to the use of a collaborative approach. Of the eight responses given, three were from the Infant level, one respondent at the private school and two respondents at the public school, two from the Junior level, one respondent at the public school and one at the private school and three from the Upper Juniors level, two respondents from the private school and one from the denominational. The respondent's comments were as follows.

**Table 9.1 Impact/Collaboration**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	At our school the teachers use a team approach. The other Infant1 teacher and I do our record and forecast together. We do the background research which we discuss before the actual lesson is taught. The lesson is then taught using a whole class approach i.e. the two classes combine.	Private
	No, I work alone	Public
	No, No collaboration is done here. I have been teaching here for four years and I met it like this. I am not use to what I see here.	Public

<b>Juniors</b>	Different teachers come together to plan because at the end of the day it is one curriculum. We do plan for students with different learning levels to ensure that each student is on a level playing field.	Private
	I don't think so because this program is fairly new and teachers are still feeling their way around individually before they could come together and say ok this is the direction we would like to take. The best collaboration is seen at the departmental level and not whole school as we would like it to be.	Public
<b>Upper Juniors</b>	In this school, I am by myself. There is only one standard four class. If there was another we would collaborate, a practice I have done in previous schools. In this school I work myself.	Private, Denominational
<b>Upper Juniors</b>	I don't collaborate with other teachers to plan lessons. At the standard five level it's not like you see yourself as the ultimate when it comes to competence but personally I have not seen the need for it.	Private

*Question 10(a): To what extent do you think nutrition education will affect teachers' approach to teaching?*

Table 10.1 illustrates the task concerns of teachers at the public and denominational schools related to the effect of nutrition education on a teachers approach to teaching. Two respondents indicated such concerns, one respondent at the infant level and one respondent at the Junior level.

**Table 10.1 Task Concerns**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Nutrition education requires more work to get information for the effective delivery of the matter. It could be done but it takes time	Public
<b>Juniors</b>	It would have an effect on the teacher's approach to teaching in that it required the teacher to use differential instruction and assessment strategies.	Denominational

The impact consequence concerns shown in Table 10.1.1 were present at the Infant, Junior and Upper levels within the participating schools.

**Table 10.1.1 Impact/ Consequence**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Teaching nutrition education would make teachers more aware. The more you teach it the more you actually do what you teach. In other words you become conscious of your decisions.	Public
<b>Juniors</b>	Well we teach by example so if they see us eating right they would too.	Public
	I don't see nutrition education having an effect on how teachers teach nutrition.	Private, Denominational
<b>Upper Juniors</b>	In one case, the teacher has to model what he or she teaches. That is critical since children look at what you eat. Teachers would also have to be acquainted with the importance of nutrition and how it affects children at the different levels of development.	Private

**Question 10 (b): *To what extent do you think nutrition education will affect teachers' approach to student learning?***

Table 10.2 includes the responses of private and denominational school teachers who had impact consequence concerns with regard to the effect nutrition education would have on students. The following responses were obtained from one respondent at the Infant level and one respondent at the Upper Junior level.

**Table 10.2 Impact/ Consequence**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Learning is a change in behavior. You would think that the things students learn at school will be carried home. Nutrition must therefore be instilled in them continuously.	Denominational
<b>Upper Juniors</b>	Nutrition education would help the children to eat right. It will in turn affect what they learn and how they learn.	Private
	It would have a great effect depending on what is consumed. The afternoon period can be difficult or easy depending on what is served. When sweets are given for breakfast, one tends to see lethargic behaviour among the children.	Private

Table 10.3 shows a single response by an Infant teacher of the denominational school based on her Impact/Refocusing concern.

**Table 10.3 Impact /Refocusing**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	Nutrition education should be carried throughout the school system, even at secondary school. Nutrition is a necessary part of life and thus it should not be optional.	Denominational

***Question 11: Is there a supportive food environment at your school?***

Respondents commented on the issue of a supportive food environment at their respective schools. The participants who responded to the question had impact collaboration concerns.

There were four responses at the Infant level, two responses were from the private school, one response was from the public and one response from the denominational school. At the Junior level there were three responses, two responses from the denominational school and one

response from the public school. There was a single response from the Upper Junior level which came from a respondent at the Denominational school. Responses are shown in Table 11.1 .

**Table 11.1 Impact /Collaboration**

<b>Level</b>	<b>Response</b>	<b>School</b>
<b>Infants</b>	The food environment is supportive. Our cafeteria carries lots of nuts and biscuits without cream. It encourages the students to eat healthier snacks.	Private
	The Head office has supplied a list of food which should be sold in the cafeteria.	Private
	The cafeteria definitely doesn't help. The cafeteria is a money-making venture and because of that they sell what children like as opposed to what they need. However, I am not sure how changing what is sold would affect the feasibility aspect of it.	Denominational
	Our school cafeteria does not help us to implement things. It sells a lot of sweets and snacks that are not healthy. It was brought up in staff meeting and a list of what students should eat was made. However we are still seeing the extra sweets coming in. There is supposed to be togetherness among academic and non-academic staff.	Public
<b>Juniors</b>	No, it is not supportive but those options are what are made available for the students. The vendor stated that she is just selling what the market has to offer. She also said that the provision of healthier options may mean charging the children more money.	Denominational
	Not really. At this school we come together to try and put a little more pressure on the cafeteria to provide things of more nutritional value to the students. We gave them a sample list of what we wanted sold in the cafeteria. We saw small change in terms of better quality foods and fruits offered to the students. However we have a long way to go. At the end of the day, the cafeteria is a money-making venture and they are going to provide the sweet things and other snacks that they know students would buy on their own.	Public
	The breakfast programme seems ill-prepared to provide a healthy breakfast for the students. The carbonated orange juice and the sweet rolls are not very nutritious. Standards and Operations of Trinidad and Tobago Primary schools and articles state that schools must make provisions for healthy eating. There seems to be a departure from that.	Denominational

<b>Upper Juniors</b>	Yes I think so. We have continued speaking to the cafeteria vendor on what she sells. A large component of the students eat school lunches (Box Lunch).They get their quota of fruits so therefore they eat healthy enough	Denominational
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## Chapter 5

### Discussion

#### Limitations:

- The sample used was too small and hence was not representative of all primary schools in the St. George East Educational District.
- The time constraints for the completion of the project and the permission by the Ministry of Education and the schools involved made it impossible to go back into the field to gather more data.
- The study was based on teachers' concerns which may have drawn on their personal experiences hence making it difficult to generalize the concerns of all teachers.

#### Self Concerns

With regard to the implementation of the HFLE programme most respondents agreed that it was a good programme however they felt as though they needed to have more knowledge about it. Respondents of both the private and public schools shared this self concern suggesting that regardless of the school whether it is government-run or privately owned there was a need for in-service training. When the Fisher's test was applied to determine the association between training to deliver HFLE and having sufficient knowledge of the eating and fitness component there was no significant association between in-service training and sufficient knowledge of the nutrition component of the HFLE curriculum. Britten's study highlighted a similar outcome which stated that the relationship between knowledge and other exogenous constructs such as training and belief were not significant and that providing in-service training did not appear to be

necessary in some cases, nor sufficient in others, to ensure appropriate implementation of nutrition or health curricula.

Training was a major concern among the respondents. Fullan, 2001 states that teaching training does not fully equip teachers for the realities of the classroom. It is a bit concerning to know that person who were trained to deliver the curriculum, feel as though they don't have sufficient knowledge. Of those who were trained, only two respondents of the total sample indicated that they received training to deliver HFLE from the Ministry of Education. One of the two persons indicated that she had attended the workshop held by the Ministry but after was transferred to another school nearer her home. This is an ongoing concern at all echelon of the education system. In such situations there is lack of continuity due to loss of information at the school. This situation also brings about instability at the schools and this was highlighted by Probart et al 2007. According to Probart and colleagues, stability in personnel is an important key to successful implementation of the curriculum. When a person leaves their school (whether before or during the implementation) with the necessary information needed to direct the school in achieving successful implementation of the curriculum, it creates a void in the system. This may be one reason why teachers are saying that there has been inadequate training.

Another self concern was raised at the denominational school. The respondent informed the researcher that the programme was disjointed and that teachers were not sure what they were supposed to teach. Hall and Hord's seven stages of concern states that one should acknowledge that a lack of awareness is expected. This respondent can be placed at stage 0 of the Stage of Concern model due to their uncertainty about what the innovation entails.

### **Task Concerns**

Task concerns were seen at the Junior and Upper Junior Level. Respondents had concerns related to execution of the actual task. They indicated that not enough time was spent on the HFLE during the week, the curriculum was too compact and too complicated for the children to understand and felt that a text for subject. Two teachers at the Upper Junior level, one at the public school and one at the denominational school disagreed with the other respondents highlighting the benefits of the program to the children. The teacher at the denominational school further stated that it had a holistic approach to education promoting emotional, social and mental health of the children. These two teachers both reported having greater than twenty years of experience in the teaching service. As such they may have had more experiences with curriculum implementation and thus were able to better integrate the curriculum into their existing programme.

Respondents were also asked to state their concerns regarding the time and energy commitments required by the eating and fitness theme of the HFLE curriculum. Like the teachers in Lambert et al (2010), most respondents stated that they were concerned about the time, stressing that not enough emphasis was placed on nutrition education. The most common response among all participants when they asked about the management of the eating and fitness course content was the lack of time. Participants further explained that the reason less time was spent on HFLE was because it was not tested by the Ministry of Education at National Test and Secondary Entrance Assessment examinations (SEA). Others indicated that the programme was too intense and thus content cannot be covered in such a short space of time. Respondents also made mention of the fact that the curriculum was overcrowded. Currently, ten subjects are taught at the primary school level.

They include:

- Mathematics
- Language Arts (Reading Skills, Reading and Listening Comprehension, Vocabulary, Language Structure and Literature: Drama and Story-Telling.)
- Science ( General and Agricultural)
- Social Studies
- Computer Literacy
- Physical Education
- HFLE
- Religious Instruction
- Art and Craft
- Music/Singing

It seems as though teachers have a huge task to complete these subjects within three terms, ensuring that the students are capable to move forward to the next level. According to one respondent, “There is an undue stress placed on the schools for certification however it is critical for teachers to disseminate the eating and fitness component.”

An infant teacher at the private school however differed in her response stating that she had no concerns about the time and energy requirements of the eating and fitness theme. She indicated that nutrition was important. She further explained that without good nutrition and health the children cannot focus on their work. A standard five teacher at the public school shared a similar view as his colleague at the private school in that he had no concerns with the time and energy commitments of the nutrition component. He said that one’s lifestyle based on

nutrition is important to extend the longevity of a person's well-being. He concluded that the eating and fitness theme is therefore important for the benefit of all.

Participants were asked if they believed there could be a conflict between their interest and their responsibility. Most respondents indicated that no conflict should exist but it does exist in some cases. One teacher responded asking, "How can an obese teacher tell a child about good eating habits?" The respondent was alluding to the fact that one should be a role model to the students which is true, however regardless a teacher's situation they are expected to do what they have been put in the school to do. The respondent's colleague clearly stated that it is not about your interest, the responsibility is there.

Respondents shared their thoughts on the resources use to teach nutrition education. Majority of the respondents stated that there were not enough resources to teach nutrition. A number of persons were displeased with the lack of resources to teach nutrition. This task concern was unanimous across the sample. A teacher at the junior level was bothered by the fact that the government sends resources for subjects like mathematics and science while nothing is sent for nutrition. Another teacher responded saying that they did not have a lab, the classroom can be a limiting factor to what can be done. Numerous studies have indicated that there is a need for resources to teach nutrition. One such study explained that inadequate resources to incorporate nutrition may have been due to a lack of exposure to the available teaching materials and resources available at no cost or very low cost, provided by federal and state government agencies, university extension services, and nonprofit organizations. The Ministry of Education usually provides the resources need to execute the basic needs of the curriculum but they have not restricted teachers to those. It may be up to the teacher to use a creative means outside of what is provided by the Ministry of Education to effectively perform their task as it relates to

nutrition education. Since the private school is not run by the government, their administration is responsible for the provision of necessary tools to teach their students regardless the subject area.

### **Impact Concerns**

#### *Collaboration*

The teachers were asked if they coordinated their efforts to maximize the effect of nutrition education. Quite a number of respondents indicated that they didn't. It was noted however that the private school did coordinate their effort via team teaching. An Upper Junior teacher attached to the denominational school suggested that issues such as these needed to be raised in the staff meetings. He further explained that the meetings would allow for teachers and the administration of the school to establish a position on nutrition education thus transforming the way it is done. A number of participants also reported that they did not use a collaborative approach was used when planning lessons for a various reasons. Most participants at the private school indicated that they collaborated when planning lessons. Three respondents (two from the private school and one from the public school) identified that they did not collaborate with anyone since they were the only classes at their level. It was noted that collaboration did not exist at the public school. A teacher at the public school indicated that she had recently transferred there and she was not accustomed to what she saw. This issue calls for the attention of the administration of the school.

Respondents indicated the need for the school's administration to enhance the teacher/learner experience as it relates to nutrition education. Most persons agreed that there was a need for the support of the administration. They all echoed the view that there was a need for

administration to assist in obtaining resources and arranging training workshops. A teacher from the private school commented stating the administration needs to ensure that nutrition is high up on the list of priorities. One teacher clearly stated, "If you don't have the support of the administration teachers do nothing". Stanek et al 1991 did not support this view. Their study indicated that administrative support was not seen as an important factor.

The study questioned respondents on issue of a supportive food environment at their schools. Some persons agreed while others held opposing views. The members of the private school indicated that the cafeteria was supportive. The public and denominational schools indicated that the cafeteria was not supportive but instead a money-making venture. A participant from the denominational school directed the researcher's attention to the school breakfast program. He put forward the view that the programme seemed ill-prepared to provide a healthy breakfast which was indicative of a departure from the Standards for the Operation of all schools (2005). Stang et al 1998 cited the lack of time to meet with foodservice staff, lack of time and training of foodservice personnel, and inexperience in collaboration with foodservice personnel as barriers to providing collaborative nutrition education. This may be the case of the proprietors who have businesses established in the schools. The vendor at one of the schools told the teachers she was just selling what is on the market. This is a major concern since the needs of the nutritional needs of the children are not being considered first. According to the Standards for the Operations of all schools, all schools cafeteria and approved vendors must serve nutritious snacks, balanced meals, beverages as approved by the National Schools Dietary Services.

The infant teachers at the private school expressed their concern regarding collaboration and the need for parental involvement. Respondents in the study conducted by Strang and colleagues also indicated that they had a desire for parents to become

much more involved in nutrition than they were. According to Strang et al 1998 parental involvement in nutrition is crucial to the success efforts by both teachers and parents, leading to changes in eating behavior of youth both at home and at school.

Sixty-six percent of the sample indicated that the Ministry of Education should outsource specialist to teach the nutrition component. One participant from the infant level at the private school informed the researcher that the programme allowed for the use of resource personnel. Two of her colleagues, one and the junior and one at the upper junior level stressed the need for special resource personnel. Stanek and colleagues (1991) in their study stated the utilization of guest speakers for certain topics may have increased the time devoted to nutrition.

### Consequence

Teachers were asked to what extent they thought nutrition education would affect a teachers approach to teaching. Responses revealed that the majority of the participants said it had no effect on the teacher while others felt that the teacher had a role to play in nutrition education. A few people indicated that the teacher has to model what he or she teaches. This response is supported by the study conducted by Prelip and colleagues in 2006. Their study stated that teachers perceive their role in nutrition education primarily as that of classroom instructors who teach nutrition concepts. It also indicated that their role involved modeling healthy eating habits, advocating for the students, and motivating and facilitating the good nutrition habits of their students. At the juniors level a teacher indicated that nutrition education could have effect on teachers requiring them to used differential instruction and assessment strategies, which accounts for the various learning styles.

The general consensus of the sample showed that they had seen behavioural changes among the students. Teachers at the private school indicated that they had health week which made them more aware about fruits and vegetables for snack among other nutrition concepts. One teacher further explained that the children started to pay attention to the things they consumed while other resorted to becoming vegetarians. Others indicated that the behavior change was short-lived. According to Auld et al (1999) interventions must use behavioural change strategies and be implemented with sufficient longevity and intensity for behavior change to occur in the classroom.

Teachers were also asked to comment on the extent to which nutrition education could affect student learning. A number of respondents indicated that nutrition education would have a positive effect on student learning. One participant of the current study was of the view that learning was a change in behavior and that nutrition needed to be instilled in them continuously. Prelip et al (2006) lends support to the responses given stating that the teacher's in their study were of the belief that nutrition education does have an effect on students, improving their knowledge of nutrition and helping them to make healthier food choices. They concluded by saying "Most teachers think that students eat either a little or a lot better as a result of nutrition education."

## Recommendations

The following recommendations will address the five major themes which had emerged from the study namely, Training, Time, Resources/ Resource Personnel, Administrative Support and Collaboration and Parental Involvement. This is in an effort to improve the existing structure of the Health and Family Life Education Curriculum.

### Training

The findings of the study revealed that there is a need for the training of teachers to efficiently deliver the HFLE curriculum. Training was provided in 2005 when the programme was introduced to the system however since then nothing has been done. Pre-service and In-service training would allow for implementers to contribute ideas to the implementation. After training follow-up training sessions after the initial training for HFLE or any programme is important to ensure that implantation has successfully taken place. Ideally, training needs to be ongoing and adjusted for the changes in the environment where the training ought to be applied.

### Time

The findings suggest that not enough emphasis is placed on nutrition. In a world where persons are becoming healthy conscious, information has become a highly demanded commodity. To keep the upcoming generation abreast of current health issues, more time needs to be spent on nutrition. It should be mandated that the Nutrition becomes a separate subject which is timetabled at least twice per week.

### Resources/Resource Personnel

In this context, resources not only refer to money and materials but to also to humans. The District Offices of the Ministry of Education should try to upgrade the resources that are available to the schools. With the fast-paced world we live in things like charts and books quickly become outdated and children want more than just a lecture. Learning has long expanded itself out of the classroom allowing students the opportunity to do more hands-on activities. All schools should be equipped with a food lab or at least a kitchen where the students can then apply the theory learnt using food models and demonstrations. Teachers must remember that these resources are costly and may take a while to source, therefore they should use their creative abilities to assist them in executing the task at hand. The Ministry of Education should also subcontract professionals who have retired to assist teachers with the nutrition material which tends to be a bit much for them to handle. These special resource personnel should be on-call to give advice and conduct special lectures to the students at least 3 times for the academic year. This may enhance the support system from the Ministry of Education for teachers and principals.

### Administrative Support

The study revealed that there is a need for administrative support both at the school level and at the Ministry of Education. Teachers need to feel that nutrition is just as important as any other subject as such principals need to ensure that the eating and fitness theme is taught. When the Ministry of Education provides training, principals should ensure that soon after the teachers who attended make use of a Staff Development Day to train the rest of the staff. This is to ensure that all teachers are on-board the implementation. The results of the study indicate that this is not being done and it is a serious issue that needs to be addressed immediately. The school

administration also needs to monitor and evaluate the implementation of the curriculum via the record and forecast submitted by teachers. Both the school administration and Ministry of Education need to develop policies and formulate a position stand on nutrition education in the primary school. This would allow for a clear, common objective amongst staff (especially the foodservice staff) of the school with regard to nutrition education.

### Collaboration

There is the need for collaboration to ensure successful implementation of the curriculum. At one of the schools it was noted that there was no collaboration among teachers. This is of great concern and needs to be dealt with immediately. In collaborative environments, it is seen that successful implementation of the curriculum can occur since everyone is working toward a common goal. Administration must work closely with teachers, parents, and foodservice staff to promote collaboration among them. Teachers should form collegial relationships with foodservice staff ensuring that there is a support and coherence between what is being taught in the classroom and what is sold to the students. This can be done by offering joint training sessions so as to enhance communication efforts between them.

### Parental Involvement

The study indicated that teachers were interested in seeing more parental involvement with regard to the implementation of the eating and fitness component. The Standards of Operation for all schools states that the Parent Teacher Association (PTA) has been put in place to promote the formation of close relations between home and school in order to facilitate co-operation in the holistic education of children. Teachers as well as the administration need to encourage parents to attend the PTA meetings. Parents need to understand that this is medium through which

they can lend support to the school in terms of resource personnel, skills and finance thus increasing their involvement in school activities. In term of successful implementation of the nutrition component , training may need to be provided for parents so that they could re – emphasize what was done at school. The use of professional in the community such as dietitians and nurses can be used to achieve this task.

## Conclusion

Curriculum change cannot be successful if it's most essential users , (implementers) are not involved, especially since they are the ones expected to effect change. As such, the concerns and perspectives of teachers ought to be of utmost importance where curriculum change is concerned. Successful implementation of HFLE or any other programme however is not solely dependent on the its implementers but rather includes the environment in which implementers exist. The culture of the environment determines how persons involved view the current task and their plan of execution. While strong cultures are efficient at times, it may be useful to re-culture the organization allowing implementers to empower themselves to successfully transform existing methods used to achieve the task at hand.

Issues such as training, time, resources, administrative support, collaboration and parental involvement need to be addressed if one wants to have successful implementation. Teachers will perform better once they are in an environment that fosters collaboration efforts. One of the greatest support mechanism teachers experiencing change is working with peers (Roettger, 2006). In times of change it is quite common for teachers to revert to what is described as their comfort zone however, implementers need to remember that everything happens over time and it may require a major commitment from them. Shared leadership and vision with staff that are committed to task, creates a well of quality education for students. According to Roettger (2006), the goal of schooling is not to produce teacher and principal experiences but to provide meaningful education for all students. Parents need to get more

involved in their children's school life. Parent/teacher relations allow for comprehensive implementation, bridging the gap between home and school.

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8. What is your Highest Level of Education?

Teachers' Diploma Only	
Bachelors Degree Only	
Postgraduate Diploma	
Masters Degree	
Teachers' Diploma & Bachelors Degree	
Teachers' Diploma, Bachelors Degree, Postgraduate Diploma	
Teachers' Diploma, Bachelors Degree, Postgraduate Diploma, Masters Degree	

9. Are you required to teach the nutrition component of the Health and Family Life Education curriculum?

Yes  No

10. Is the HFLE Curriculum Timetabled?

Yes  No

11. In which term is it taught?

Term I  Term II  Term III  All Three

12. How often is it taught during the following terms?

	Never	Once	Twice	Three Times	Greater Than Three Times
TERM 1					
TERM 2					
TERM 3					

13. How much time is allotted for the teaching of nutrition concept?

Two days  One week  One month  Other

14. Have you been trained to deliver the HFLE curriculum?

Yes  No

15. Who provided this training?

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16. How much time was spent on the nutrition component?

One day  One week  One month  Three Months  Other \_\_\_\_\_

17. Do you think you have sufficient knowledge of the nutrition component of the HFLE programme.

Yes  No

18. Have you received nutrition education other than the HFLE training?

Yes  No

19. Who provided this training?

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20. Was it a Full nutrition course or was it Integrated into another course?

Full Nutrition Course  Integrated Into Another Course

21. What was the duration of this training?

One day     One week     One Month     One year     Other \_\_\_\_\_

22. Do you think nutrition education is important?

Yes                       No

23. In order of priority, who do you think is responsible for delivering nutrition information to children?

Teachers	
Parents	
Doctors	
Dietitian/Nutritionist	

24. Of those listed above , who do you think has the greatest influence on the students when information is delivered?

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25. Do you think the ministry of Education should outsource nutrition specialist to teach this component?

Yes                       No

***Thank you for your co-operation***

## Interview Questions

Question 1: How do you feel about the implementation of the HFLE programme offered by the Ministry of Education?

Question 2: Are you concerned about the time and energy commitments required by the eating and fitness component?

Question 3: Do teachers believe that there can be conflict between their interest and their responsibility?

Question 4: What are your concerns with regard to the management of the eating and fitness course content?

Question 5: Do you think that there are sufficient resources to teach nutrition education component?

Question 6: Have you seen any behavioural changes after delivering the nutrition material to the students?

Question 7: Have you been coordinating your efforts with other colleagues to maximize the effect of nutrition education?

Question 8: Do you need the support of the school's administration to enhance the teacher/learner experience?

Question 9: Is a collaborative approach used when planning lessons?

Question 10(a): To what extent do you think nutrition education will affect teachers' approach to teaching?

Question 10 (b): To what extent do you think nutrition education will affect teachers' approach to student learning?

Question 11: Is there a supportive food environment at your school?

## Appendix B: Hall and Hord 2001, Stages of Concern Model.

Category	Stages of Concern	Expressions of Concern
Impact	Stage 6: Refocusing	I have some ideas about something that would work even better.
	Stage 5: Collaboration	I am concerned about relating what I am doing with what my co-workers are doing.
	Stage 4: Consequence	How is my use affecting clients?
Task	Stage 3: Management	I seem to be spending all of my time getting materials ready.
Self	Stage 2: Personal	How will using it affect me?
	Stage 1: Informational	I would like to know more about it.
	Stage 0: Awareness	I am not concerned about it.

Sourced: *Implementing Change: Patterns, Principles, Potholes*

## Appendix C : Principles of Change

## Appendix D

Trained\_to\_deliver\_HFLE \* Sufficient\_knowledge\_of\_nutrition\_component\_HFLE Crosstabulation

			Sufficient_knowledge_of_nutrition_ component_HFLE		Total
			No	Yes	
Trained_to_deliver_HFLE	No	Count	8	3	11
		Expected Count	6.8	4.2	11.0
		% within Trained_to_deliver_HFLE	72.7%	27.3%	100.0%
		% within Sufficient_knowledge_of_nutrition_ component_HFLE	61.5%	37.5%	52.4%
		% of Total	38.1%	14.3%	52.4%
	Yes	Count	5	5	10
		Expected Count	6.2	3.8	10.0
		% within Trained_to_deliver_HFLE	50.0%	50.0%	100.0%
		% within Sufficient_knowledge_of_nutrition_ component_HFLE	38.5%	62.5%	47.6%
		% of Total	23.8%	23.8%	47.6%
Total	Count	13	8	21	
	Expected Count	13.0	8.0	21.0	
	% within Trained_to_deliver_HFLE	61.9%	38.1%	100.0%	
	% within Sufficient_knowledge_of_nutrition_ component_HFLE	100.0%	100.0%	100.0%	
	% of Total	61.9%	38.1%	100.0%	

## Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)	Point Probability
Pearson Chi-Square	1.147 <sup>a</sup>	1	.284	.387	.268	
Continuity Correction <sup>b</sup>	.386	1	.534			
Likelihood Ratio	1.156	1	.282	.387	.268	
<b>Fisher's Exact Test</b>				<b>.387</b>	<b>.268</b>	
Linear-by-Linear Association	1.093 <sup>c</sup>	1	.296	.387	.268	.204
N of Valid Cases	21					

a. 2 cells (50.0%) have expected count less than 5. The minimum expected count is 3.81.

b. Computed only for a 2x2 table

c. The standardized statistic is 1.045.

Appendix E: The Seven Ministry of Education Districts in Trinidad

## Appendix F: Sample Permission Letter