The University of Sheffield



 **SALEEMA HYATALI**

**TEACHERS’ PERCEPTIONS OF TEACHER PROFESSIONAL DEVELOPMENT IN TRINIDAD AND TOBAGO: GAPS BETWEEN POLICY AND PRACTICE**

**Thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Education (EdD).**

**2nd February 2023**

Acknowledgements

This journey has been a long one. I am tempted to say it has been too long, but then I believe that the Creator is the best of all planners and that nothing happens before its time.

It is not by chance, I think, that the first eleven years of my formal education were rooted in a British system of education, and I am now aspiring to successfully reach the pinnacle of my career, guided by that very same system. I have completed the full circle.

A thousand thanks to the heroes and heroines in our system who voluntarily seek self-improvement in order to provide greater learning opportunities for their students, our citizens and future leaders. I am indeed forever grateful to all the teachers who contributed to this study, especially the seven educators who willingly gave of themselves and shared their perceptions of the Annual Professional Development Workshops for Teachers, July-August 2010-2015. Hats off to all who worked tirelessly to provide professional development opportunities for our teachers. I pray that we have made a positive difference.

Dedication

I dedicate this in gratitude to my parents Mano and Zaheeda Cassim and to my wonderful siblings and their families. I cannot forget Dr. Beular Mitchell who allowed me to enter the realm of teacher professional development and who, at intervals through these years, has so powerfully reminded me of the importance of completing this journey. I have also been blessed with a great friend Iris whose support was beyond measure.

I thank my husband Fareed, for providing both financial and emotional support to make this a reality, and my children Safiyyah and Farees, for their advice and words of encouragement.

Sincere appreciation to my Sheffield family, Dr. Themesa Neckles, Professor Pat Sikes and Dr. Satesh Bidaissie who believed in me through my doctoral journey.

Abstract

The Ministry of Education of Trinidad and Tobago offered professional development workshops to teachers during the school vacation period 2010-2018. This study investigated teachers’ perspectives on teacher professional development, based largely on their professional learning experiences in the workshops and other teacher professional development (TPD) activities. Four research questions were constructed to gain an understanding of teachers’ conceptualisation of TPD, the knowledge and skills developed, their perceived implementation of this knowledge and these skills, and subsequent improved student learning. The research methods used were face to face interviews, workshop evaluation forms, and electronic survey forms. Data were processed using matrices to identify comments frequently made by participants, to which thematic analysis was applied.

The findings indicated participants’ perceptions of TPD and the benefits they derived. Teachers perceived that they developed skills and pedagogical knowledge but minimal increase in content knowledge. Improved student learning was reported in the areas of student engagement and student satisfaction; however, there was no reference to improved grades or test scores. Several teachers experienced constraints in their professional development and were unable to implement strategies due to lack of adequate or available resources.

Given the generally positive feedback across cohorts of participants, I recommend that the inclusion of TPD should be stipulated in teachers’ job conditions, to allow for all students to have the opportunity to be taught by professionally trained teachers. The employer would be required to introduce systems and structures which would be appropriate for a postcolonial nation which inherited a colonial education legacy. Additionally, engagement in future professional development activity can be improved by rethinking its scheduling and providing institutional support.

 **TABLE OF CONTENTS**

.

Acknowledgements…………………………………………………………………………..2

[Dedication……………………………………………………………………………………3](#_Toc121499613)

[Abstract…………………………………………………………………………………….. ..4](#_Toc121499614)

[Table of Contents…………………………………………………………………………….5](#_Toc121499615)

[**CHAPTER ONE: THE CONTEXT OF THE STUDY...………………………………..1**](#_Toc121499616)**4**

[1.1 Introduction……………………………………………………………………….…1](#_Toc121499617)4

[1.2 Background and Context…………………………………………………………….1](#_Toc121499618)5

 [1.2.1 Social Context…………………………………………………………………........ .1](#_Toc121499619)7

 1.2.2 Political Context……………………………………………………………………. 19

 1.2.2.1 Educational Administration in Trinidad and Tobago…………………………… 19

 [1.2.2.2 The Ministry of Education………………………………………………………. 1](#_Toc121499620)9

 [1.2.2.3 The Strategic Executive Team…………………………………………………...](#_Toc121499621) 20

 [1.2.3 Cultural Context……..………………………………………………………….... 2](#_Toc121499622)1

 [1.2.4 Historical legacy…………………………………………………………………... 2](#_Toc121499624)2

[1.3 The Education System in Trinidad and Tobago……………………………………. 22](#_Toc121499625)

FIGURE 1 : Structure of the Education System in Trinidad and Tobago………………….23

[1.4 Student Learning and Related Issues in Trinidad and Tobago…………………….…2](#_Toc121499626)4

[1.4.1 Assessment-driven Learning ……………………………………………..………..2](#_Toc121499627)4

[1.4.2 Support for Student Learning…………………………………………………….. 2](#_Toc121499628)5

 [1.4.3 School Dropouts…………………………………………………………………. .2](#_Toc121499629)6

 1.4.3.1 Male Academic Achievement…………………………………………………… 27

[1.5 The Teaching Profession: Required Qualifications……….…………………………….2](#_Toc121499630)8

[1.5.1 Teacher Professional Development in Trinidad and Tobago…………………..…. . 28](#_Toc121499631)

[1.6 Annual Professional Development Workshops for Teachers ………………….………30](#_Toc121499632)

[1.7 The Research Topic………………………………………………………………… 32](#_Toc121499633)

[1.8 The Research Problem………………………………………………………………..3](#_Toc121499634)3

[1.9 Aim…………………………………………………………………………………. 3](#_Toc121499635)3

[1.10 Research Questions………………………………………………………………… 3](#_Toc121499636)4

[1.11 Purpose of the Study…………………………………………………………. 3](#_Toc121499637)5

[1.12 Justification and Research Significance……………………………………………. 3](#_Toc121499638)5

[1.13 The Background and Positionality of the Researcher……………………………… 3](#_Toc121499639)6

[1.14 The Importance of Enquiring about TPD Activity………………………………….. 3](#_Toc121499640)7

[1.15 Theoretical Framework……………………………………………………………… 3](#_Toc121499641)8

[FIGURE 2: Schematic Diagram of Theoretical Framework………………………………. 3](#_Toc121499642)9

[1.15.1 Overview of Methodology………………………………………………………. .3](#_Toc121499643)9

FIGURE 3 Schematic Diagram of Conceptual Framework ………………………………..40

[1.16 Organisation of Chapters…………………………………………………………](#_Toc121499644)  40

[1.17. Conclusion…………………………………………………………………………. .4](#_Toc121499645)1

[**CHAPTER TWO: LITERATURE REVIEW…………………………………………..4**](#_Toc121499646)**2**

[2.1 Introduction………………………………………………………………………… 4](#_Toc121499648)2

[2.2 Clarification of Terms……………………………………………………………… 4](#_Toc121499649)3

[2.3 Teachers’ Lives……………………………………………………………………….4](#_Toc121499650)4

[2.4 The Theoretical Basis of Teacher Professional Development………………………..4](#_Toc121499651)6

[2.5 Theories on Teacher Learning and Change……………………………………….…..4](#_Toc121499652)6

FIGURE 4 Guskey's Model of Teacher Change (2002) ………………………………… ..47

[2.6 Continuous Teacher Professional Development………………………………………4](#_Toc121499653)8

[2.7 Teachers’ Perceptions of TPD………………………………………………………...50](#_Toc121499654)

[2.8 Professional Development Models……………………………………………………](#_Toc121499655)50

[2.9 The Purpose of Continuous Teacher Professional Development………………….….52](#_Toc121499656)

[2.10 Teacher Agency……………………………………………………………………..5](#_Toc121499657)3

[2.11 Teachers’ Perceptions of ICT Professional Development ………………………5](#_Toc121499658)4

[2.12 Professional Development as Essential……………………………………………...5](#_Toc121499659)6

[2.13 Effective TPD…………………………………………………………………….…..5](#_Toc121499660)7

[2.14 Effective Continuous Teacher Professional Development……………………….…..5](#_Toc121499661)9

[2.15 Teachers’ Beliefs………………………………………………………………….…](#_Toc121499662)59

[2.16 TPD Skills and Knowledge…………………………………………………………..6](#_Toc121499663)1

[2.17 Skills and Knowledge Gained from TPD……………………………………………6](#_Toc121499664)1

[2.18 Glocalisation………………………………………………………………………... 6](#_Toc121499665)2

[2.19 Self Confidence and Self Efficacy…………………………………………………..6](#_Toc121499666)2

[2.20 Cultural Essentialism………………………………………………………………..6](#_Toc121499667)3

[2.22 Implementation of Skills and Knowledge…………………………………………...6](#_Toc121499668)3

[2.23 Implementation of Skills and Knowledge Gained from TPD……………………….6](#_Toc121499669)4

[2.24 Contextual Factors………………………………………………………………….6](#_Toc121499670)5

[2.25 Institutional Support for Teacher Professional Development ………………………6](#_Toc121499671)5

[2.26 Student Learning……………………………………………………………………6](#_Toc121499672)6

[2.27 Evaluation Models………………………………………………………………….6](#_Toc121499673)6

[2.28 Measuring the Impact of TPD………………………………………………………6](#_Toc121499674)7

[2.29 Conclusion…………………………………………………………………………..6](#_Toc121499675)9

[**CHAPTER THREE: METHODOLOGY AND METHODS…………………………...7**](#_Toc121499676)**0**

[3.1 Introduction……………………………………………………………………………7](#_Toc121499678)0

[3.2 Aims and Research Questions………………………………………………………...7](#_Toc121499679)0

[3.3 The Evolution of the Research Study………………………………………………….. 7](#_Toc121499680)1

 [3.3.1 The Initial Focus and Research Questions…………………………………………. 7](#_Toc121499681)2

[3.4 Methodology……………………………………………………………..…………… .7](#_Toc121499682)3

[3.4.1 Positionality………………………………………………………………………… 7](#_Toc121499683)2

[3.5 Philosophical Framework………………………………………………..……………...7](#_Toc121499684)4

 [3.5.1 My Guiding Philosophy……………………………………………………………. 7](#_Toc121499685)4

[3.6 Philosophical Orientations……………………………………………………………. 7](#_Toc121499686)5

[3.7 The Interpretivist Paradigm……………………………………………………………. 7](#_Toc121499687)6

[3.8 The Research Strategy……………………………………………………………… 7](#_Toc121499688)7

3.9 Overview of Methodologies………………………………………………… …………78

[3.10 Case Study Methodologies…………………………………………………………..](#_Toc121499689) 83

 [3.10.1 The Case Study…………………………………………………………………](#_Toc121499690) 80

3.11 Methods………………………………………………………………………………..83

[3.12 Qualitative Research Method…………………………………………………………. 8](#_Toc121499691)3

[3.13 The Sample………………………………………………………………………….. 8](#_Toc121499692)3

FIGURE 5 :The Selection of the Sample………………………………………………… .84

TABLE 1 The Schedule for the Conduct of the Face-to- face Interviews………….………88

[3.14 Profiles of the Participants for In-depth Interviews………………………………….](#_Toc121499693) 88

[3.15 The Research Instruments…………………………………………………………89](#_Toc121499694)

TABLE 2 An Overview of the Research Instruments and Questions……………………….90

[3.16 The Semi- Structured Interview……………………………………………………...](#_Toc121499695) 91

[3.17 Piloting……………………………………………………………………………….](#_Toc121499696) 91

[3.18 The Interview Protocol………………………………………………………………](#_Toc121499697) 92

[3.19 Interviews……………………………………………………………………………](#_Toc121499698) 92

[3.20 Reflections on the Interviews………………………………………………………..](#_Toc121499699) 93

[3.21 The Workshop Evaluation Forms…………………………………………………...](#_Toc121499700) 94

[3.22 The Written Interview / Electronic Survey Form ……………………………………..9](#_Toc121499701)4

[3.23 Data Analysis Techniques……………………………………………………………..9](#_Toc121499702)5

 [3.23.1 Transcription………………………………………………………………...,,,,,,,, ,.9](#_Toc121499703)5

[3.24 Thematic Analysis……………………………………………………………………. 9](#_Toc121499704)6

[3.25 Applicability, Relatability and Generalisation ……………………………………....9](#_Toc121499705)7

[3.26 Ethical Consideration](#_Toc121499706) …………………………………………………………….. 99

3.27 Limitations of this Research Study…………………………………………………….99

 3.27.1 The COVID- 19 Pandemic………………………………………………………. . .99

[3.28 Conclusion………………………………………………………………………](#_Toc121499708)……101

[**CHAPTER 4: PRESENTATION OF DATA AND THE FINDINGS ……………..**](#_Toc121499709)**....103**

[4.1 Introduction…………………………………………………………………………](#_Toc121499711).. 103

TABLE 3 The Research Questions and Data Sources…………………………………….104

[4.2 The Interviews: RQ 1: Teachers’ Concept of TPD…………………………… ……. 10](#_Toc121499713)5

[4.3 Teacher Professionalism……………………………………………………………. .10](#_Toc121499714)5

[4.3.1 Teachers’ Philosophy of Learning………………………………………………. 10](#_Toc121499715)6

 [4.3.2 Ongoing Learning………………………………………………………………… 10](#_Toc121499716)6

[4.3.3 Self-directed Learning…………………………………………………………….. 10](#_Toc121499717)8

[4.4 TPD Builds Teachers’ Capital……………………………………………………… 1](#_Toc121499718)09

[4.4.1. TPD Builds Competency………………………………………………………… 1](#_Toc121499719)09

[4.4.2. TPD Provides Guidance…………………………………………………………. 1](#_Toc121499720)10

 [4.4.3 Collaborative Learning…………………………………………………………… 1](#_Toc121499721)11

Table 4 Perceptions of Good TPD…………………………………………….…… …113- 114

4.5 Good TPD……..……………………………………………………………………… 114

[4.6 Institutional Support…..……………………………………………………………… 1](#_Toc121499722)14

 [4.6.1 Adequate Notification …..…………………………………………………………1](#_Toc121499723)14

 [4.6.2 Leadership Support..….………………………………………………………… 1](#_Toc121499724)15

 [4.6.3 Pedagogical Support……………………………………………………………… 1](#_Toc121499725)15

 [4.6.4 Job Conditions……………………………………………………………...............1](#_Toc121499726)16

 4.6.4.1 Incentives …...…………………………………………………………………. 116

 4.6.4.2 Compensatory Time ……………………………………………………….……117

 4.6.4.3 Scheduling of TPD……………………………………………………………….118

TABLE 5 School Academic Year 2021-2022………………………………………...…...119

[4.7 Organisational and Institutional Support………………………………………….. 1](#_Toc121499727)19

 4.7.1 The MOETT's Approach to Teacher Professional Development……………..…. 119

 4.7.2 Teacher Workload………………………………………………………………….119

 [4.7.3 Student Learning…………………………………………………………………..1](#_Toc121499729)20

 [4.7.4 The Annual Professional Development Workshops for Teachers July-August…..1](#_Toc121499730)21

 [4.7.5 MOETT’s Leadership and Management………………………………………….1](#_Toc121499731)21

 [4.7.6 Voluntary or Mandatory Participation………………………………………..…..1](#_Toc121499732)22

[4.8 The Electronic Surveys…………………………………………………………….…1](#_Toc121499733)23

 [4.8.1 Research Question 1……………………………………………………………....1](#_Toc121499734)23

 [4.8.2 Secondary Level Participants……………………………………………….…….1](#_Toc121499735)24

 [4.8.3 Primary Level Participants…………………………………………………... 1](#_Toc121499736)24

FIGURE 6 Primary Level Participants' Concept of ICTPD……………………………….124

[4.9 Interviews ……………………………………………………………………..………1](#_Toc121499737)25

 [4.9.1 Research Question 2………………………………………………………..........1](#_Toc121499738)25

 [4.9.2 Interviewees………………………………………………………………………1](#_Toc121499739)25

 4.10 Electronic Survey…………………………………………………………………126

 [4.10.1 Research Question 2………………………………………………………… …12](#_Toc121499741)6

 [4.10.2 Secondary Level Participants……………………………………………..........12](#_Toc121499742)6

TABLE 6 ICT Resources identified by Secondary level Participants…………………….127

 [4.10.3 Primary Level Participants……………………………………………………….12](#_Toc121499743)7

FIGURE 7 Areas of Teacher Learning…………………………………………………….127

[4.11 The Workshop Evaluation Forms……………………………………………………12](#_Toc121499744)8

FIGURE 8 Categories of Responses in the Workshop Evaluation Form…………………129

 [4.11.1 Research Question 3…………………………………………………………….12](#_Toc121499745)9

 [4.11.2 Interviewees………………………………………………………………...........1](#_Toc121499746)29

 4.11.3 [Electronic Surveys……………………………………………………………….1](#_Toc121499747)31

FIGURE 9 Overview of Responses to RQ3……………………………………………….132

4.11.4 [Primary Level Participants………………………………………………………..1](#_Toc121499748)32

FIGURE 10 Implementation of ICT Knowledge and Skills……….……………………..132

4.12 [Research Question 4…………………………………………………………….. 133](#_Toc121499749)

 4.12.1 [Interviews…………………………………………………………………………1](#_Toc121499750)33

 4.12.2 [Electronic Surveys …………………………………………………………….1](#_Toc121499751)34

 4.12.3.[Secondary Level Participants …………………………………………………….1](#_Toc121499752)34

[TABLE 6 Responses to R.Q. 4 Secondary……………………………………………….13](#_Toc121499763)4

 4.12.4 Primary Level Participants……………………………………………………..136

TABLE 7 Responses to RQ4 Primary…...…………………………………… …………136

4.13 [Additional Comments Secondary Level ………………………………..……………13](#_Toc121499764)8

[4.14.Additional Comments: Primary Level Participants………………………………….13](#_Toc121499766)8

4.15 Conclusion……………………………………………………………………………139

[**CHAPTER 5 DISCUSSION OF FINDINGS………………….……………………… 1**](#_Toc121499768)**40**

[5.1 Introduction….………………………………………..……………………………….1](#_Toc121499769)40

[5.2 Teachers’ perceptions of Teacher Professional Development …………….…………1](#_Toc121499770)42

[5.3 The Knowledge and Skills gained………………………………………….………….1](#_Toc121499771)44

 5.[3.1 Implementation of Knowledge and Skills………………………………..………..14](#_Toc121499772)7

 5.[3.2 Improved Student Learning………………………………………..………………14](#_Toc121499773)8

[5.4 The Weaknesses and Strengths of TPD…..….…………………………………….1](#_Toc121499774)50

[5.5 Unexpected Findings……………………..………………………………………..1](#_Toc121499775)50

[5.6 Conclusion…………………………………………………………………………1](#_Toc121499776)51

**CHAPTER 6 CONCLUSION AND RECOMMENDATIONS………………………..153**

6.1 Introduction…………………………………………………………………………… 153

6.2 Contribution of the Study………………………………………………………… …..154

6.3 The Research Questions…………………………………………………………….…156

6.4 Strengths and Limitations of the Study………………………………………….…… 158

 6.4.1 The Strengths………………………………………………………………..…….158

 6.4.2 The Limitations………………………………………………………………..…..160

6.5 Suggestions for Future Research………………………………………………………161

6.6 The Implications of My Findings………………………………………………..…….162

6,7 Recommendations……………………………………………………………………...164

TABLE 8 A Conceptual Framework for ITPD Workshops………………………………165

6.8 Reflections on My Research Journey…………………………………….………… 165

6.9 Concluding Thoughts…………………………………………………………………166

**POSTSCRIPT……………………………………………………………………………**.167

**REFERENCES**………………………………………………………..…….……………173

**APPENDICES**………………………………………….……………….……………..……....………………….  **193**

**APPENDICES I - XV…………………………………………………………………………….195**

CHAPTER 1: THE CONTEXT OF THE STUDY

1.1 Introduction

Teacher Professional Development (TPD) is a human resource development function which seeks to equip teachers with the skills and knowledge to increase their capacity to improve their practice (Smith, 1988; Sun and Shi, 2008). The ultimate aim of TPD is to improve student learning and by extension school improvement, towards national development. Consequently, TPD has become one of the main reform initiatives globally as countries seek to improve students’ performance in order to better prepare them to live and work in the 21st century (Capuk and Kara, 2015: UNESCO, 2018). To

TPD has been a strategic priority of the postcolonial state of Trinidad and Tobago (TT) through its education arm, the Ministry of Education (MOETT), for many years (Ministry of Public Administration and Information, 2003). Reform initiatives such as TPD have, understandably, been the focus of extensive research due to their anticipated impact on student performance. which often may not be achieved (Lincoln and Guba, 1979). This research study is an attempt to give voice to and highlight the perceptions that teachers in Trinidad and Tobago have of teacher professional development and its relationship to improved student learning. The teachers participated in TPD workshops which were in the main hosted by the MOETT during the period 2010-2018. All teachers in the study attended one or more ICT in Education workshops hence a large number of the examples they provided are drawn from this area of focus.

 Rizvi and Lingard (2010) have posited that “colonialism does not cease to have salience just because a country has become independent. It continues to affect all aspects of life in one form or another…and the colonial legacies often continue to shape post-independence and post-colonial futures.” Following Rizvi and Lingard’s (2010) observations, the multidimensional context shaped by colonialism contributed to an understanding of the rich information shared by the teachers. The colonial legacies continue to shape the thinking of the people who continue to believe that they are inferior in thought and practice to the colonial masters who have morphed into global organisations ( Muswede and Lubinga, 2018). The postcolonial countries consequently tend to follow the example set by the developed countries (Naipaul,1967) which may not always be the best solution. The management of the education system in Trinidad and Tobago during the Covid-19 Pandemic may serve to highlight this weakness.

 Internationally, this pandemic triggered an emergency response (Thomson and Ip, 2020) to the adverse effects on education systems when teaching and learning in a face-to-face environment in schools had to be transferred online. The need for teacher competency in ICT in this crisis became pivotal to successful teaching and learning and underscored the importance of teacher professional development in preparing teachers with the skills, knowledge, and to have the capacity to teach under these new circumstances. Teachers would have been better prepared to teach online if there had existed an ongoing, sustained system for teacher professional development in digital literacy, curriculum integration using ICTs and other related areas. On the other hand, a greater number of students would have been more prepared to learn virtually or using technology if their teachers had been proficient in ICT use and had already been integrating technology in their face-to-face classroom interactions with students. The dilemma created by the pandemic underscores the need for education systems to devise mechanisms to develop human resources in education, so that the needs of diverse populations can be served.

This study focuses on the teachers’ perceptions of TPD and the ways in which knowledge, skills and competencies in this crucial area can serve to build capacity to enhance student learning. This is important for post-colonial societies like Trinidad and Tobago that are particularly challenged because of historical factors that have made it difficult to build sustainable education structures to create equitable opportunities for different social groups, especially those from marginalised communities (De Lisle, 2012; Williams, 2013). It is therefore necessary to examine the context in which this study was conducted.

1.2 Background and Context

Trinidad and Tobago is a twin-island nation state with separate histories until they were merged into one colony by the British administration in 1889. In 1962, Trinidad and Tobago became politically independent from the colonial master, the British Empire, and to date remains a member of the Commonwealth of Nations. The breaking of ties may have been symbolic because the colonial legacy in the education system, as well as the Westminster system of parliamentary government, prevails. Trinidad and Tobago, like other Caribbean nations, was built on racial differences which promoted white superiority over black and brown (Ramcharitar,2020). The two major political forces were and are racially rooted and have formed the ruling party and the opposition since the nation’s independence in 1962. Manifestos, policies, and strategies may change after the five period according to the party in power ( Caney, 2016).

Regionally, Trinidad and Tobago is known by its Caribbean neighbours to be relatively rich in oil and gas and is one of the wealthiest of Caribbean nations (Murray et al., 2019; Hossain 2020). The nation state is a leading member of the Caribbean Community Market (CARICOM), a unifying body which succeeded the Caribbean Free Trade Association (CARIFTA) which the first Prime Minister, Dr. Eric Williams, fought to establish. Regional comradery is intermittently rekindled through the unifying force of the West Indies Cricket Team (Beckles, 1998; Nicholas, 2018).

Educationally, both islands are under the aegis of the Ministry of Education, but Tobago’s Department of Education manages all its schools and related services. However, the TPD programme of workshops was accessible to teachers nationwide, although it was conducted in Trinidad; hence most participants in this study were Trinidad-based. At the higher education level, The University of the West Indies, initially an offshoot of the University of London, was established in 1948 on the recommendation of the Asquith Commission, and obtained its independent status in 1960 (UWI, 2015).

The national curriculum is based on the grammar school model, which is skewed to the detriment of the nation, as highlighted by the former Minister in the Ministry of Education, Dr. Lovell Francis, at the launch of an Entrepreneurial Development Programme:

*We have too many grammar school people that we have no space for, and then when you look at the needs of the nation, because education should be tied to what the nation needs and what it really wants to develop. When you look at the skills training side, we hardly have anybody (Boodan, 2019).*

The Ministry of Education is responsible for monitoring the performance of its own system; unlike, for example, England where the Office for Standards in Education (Ofsted) performs that function. Ofsted is an independent regulatory body which reports directly to Parliament. Ofsted’s role is to ensure that organisations which provide education, training and care services do so at a high standard. Schools with the exception of the early childhood centres, are judged by their performance at the various milestone examinations.

1.2.1 Social Context

The importance of education was emphasised by Dr. Eric Williams, the first prime minister of Trinidad and Tobago, in his address to youths of the nation on the celebration of its independence in 1962. In his “Message to the Youth of Our Nation” (Williams, 1962) Dr. Williams charged young people with the responsibility of securing the nation’s future through their educational development. The Prime Minister instructed the youth in his closing remarks that they should remember:

…*you carry the future of Trinidad and Tobago in your school bags” (Williams, 1962, p.2.).*

The value placed on education by Dr. Williams as a means to national growth continued to be reflected in strategic plans in the following years. Trinidad and Tobago subscribed to the priorities set out in the agreement “Education for All” ( UNESCO,1990; UNESCO , 2000) and embarked on strategic reforms to reach this goal. The Ministry of Education’s Education Policy Paper (1993-2003) National Task Force Education, referred to as the White Paper, (Ministry of Education,1993) created the framework through which the nation would fulfil its commitment to providing education at all levels. The objectives of the National Task Force sought to address the inefficiencies in the education system, one of which was the underdevelopment of its human resources (White Paper, 1993). The National Task Force identified the need for all teachers at both the primary and secondary levels to be trained by 2001 and for continuous training to be implemented. The objective of the continuous training was to upgrade “the skills, abilities and cultural sensitivities of our teachers” (White Paper, 1993, p.16).

The integration of ICT was necessary to meet one of the stated goals for education for all by 2000 (UNESCO, 1990; UNESCO, 2000). ICT integration in education:

 …*generally means technology-based teaching and learning process that closely relates to the utilization of learning technologies in schools. (**Ghavifekr and Rosdy, 2015, p.175).*

ICT integration within the globalisation process was seen as fundamental to the development of a country’s knowledge base (Capuk and Kara, 2015). Fortunately for the country, despite changes in the government in the last ten years, the importance of ICT in education has been consistently advocated. National policies to ensure the successful integration of ICT in primary and secondary schools became a top priority for the creation of a knowledge society for 21st-century learners (GORTT, 2007, 2011, 2012, 2013c, 2017).

In Trinidad and Tobago, the National ICT Strategy (Ministry of Public Administration and Information, 2003) laid out a plan to increase internet access to all citizens at an affordable cost and to develop their ICT skills and knowledge. This National ICT Strategy adopted a multi-dimensional approach which supported the national vision of building a knowledge-based society (Ministry of Public Administration and Information, 2003). Citizens were to develop the required skills in both the formal and “out of the formal” educational systems (Ministry of Public Administration and Information 2003, p. iii). One of the multiple strategies identified was a:

 …*customised training programme to equip teachers with the necessary skills for more ICT-intensive approach in education” (Ministry of Public Administration and Information, 2003, p.iii).*

Professional development in ICT education for teachers became a key area of concern for the government. The term ICT in education refers to educational models that employ ICT to support, enhance and enable the delivery of education, and may include any or all combinations of radio, television, computers and the internet (UNESCO, 2018). The Ministry of Education launched the Annual Professional Development for Teachers Workshops July-August in 2008 (MOETT, 2008) to provide opportunities for teachers to build their capacity and network for their advancement in the system (see Appendix 1). ICT in education was targeted from the onset of the programme of workshops until 2018, the last year of this study.

The TPD workshops were conducted in the educational context of a developing post-colonial nation which has retained an elitist education system (James,et al., 2013; Jules, 2015) with an articulated vision of education for all. The overview of the education system in Trinidad and Tobago, which is described in the following section, illuminates its contextual factors which differentiate it (Bryman, Stephens and à Campo,1996) from those of other countries.

1.2.2 Political Context

1.2.2.1 Educational Administration in Trinidad and Tobago

1.2.2.2 The Ministry of Education

The Ministry of Education is responsible for " building human resource capacity in pursuit of national sustainable development" (MOETT, 2019, p.11.) The MOETT has oversight for all tertiary institutions, secondary schools, primary schools and ECCE Centres, both public and private. Additionally, the MOETT is the employer of all the teaching and non-teaching staff. The latter provides support services for the leadership and management of the education system. In the findings of a baseline study on teacher performance in Trinidad and Tobago which was conducted in 2012-2013, the consultants who were external providers reported that the education system in Trinidad and Tobago was “*an* exam-driven, content-driven system *(*EduNova, 2013, p.10*).*

 During the period of this research study, two governments were in power; they were of two opposing political parties with different visions. Hence, for example, in 2010, the Government introduced the e-Connect and Learn (eCAL) initiative, which was commonly referred to as the one laptop per child programme. In 2015 the political party which was in power lost the elections, and the victorious political party soon put an end to eCAL. The 2015 Government embarked on the allocation of laptop computers to serve three classes of students. These devices were to remain in school and not to be taken home, as was in effect with the eCAL initiative. Strategic changes impact significantly on the entire education system, as was the case in 2015 concerning the professional development of teachers. Teachers needed to engage in professional development to acquire the relevant skills, knowledge and attitude to implement the new strategic initiative successfully.

The responsibility for the professional development of teachers lies with the Minister of Education. This task was formalised in the Education Act 1966 and was previously stated in Chapter 1. The Education Act was formulated in 1966, and to date in the year 2019, the requirement for teachers to engage in their professional development has not been included in teachers' responsibilities or job conditions. Consequently, there seems to be some ambivalence: TPD is legislated and must be implemented as the Minister regards it as appropriate, yet it is not stipulated as a condition for tenure.

1.2.2.3 The Strategic Executive Team

In order to appreciate how professional development of teachers has historically been pursued and how it is currently organised, it is necessary to outline relevant details of the organisational structure of the education system and how it operates in the national context. The Ministry of Education is the main employer in the education sector; however, the independent Teaching Service Commission, empowered by the Constitution of Trinidad and Tobago, appoints, promotes, transfers, confirms appointments, disciplines, and removes teachers (Government of Trinidad and Tobago, 2020). The governing body is the Strategic Executive Team which comprises the Minister of Education, the Minister of State in the Ministry of Education, two Permanent Secretaries, three Deputy Permanent Secretaries and a Chief Education Officer. Both Ministers are politically appointed and lead a highly centralised and bureaucratic organisation (James, et al., 2013) with vestiges from the nation’s colonial past (De Lisle, 2012; James, et al.,2013). Critical decision-making related to the direction of education policy emanates from this executive team with consequences for TPD and ultimately the introduction and implementation of initiatives impacting teaching and student learning.

Within the parameters of the Ministry of Education, the Minister who is appointed by the leader of the government in power, using Bristol’s (2010) metaphor of the plantation, is the Master. The Minister of Education, who is not required to have an intimate knowledge of the system, is authorised by the Laws of Trinidad and Tobago, Education Act 39:01 (Education Act), Clause 4 to “do all things necessary or convenient for the purpose of carrying out his responsibilities under this Act”. Clause 5 of the Education Act states that the Minister is responsible for making “provision for the professional training of teachers for the entire system of public education and lay down standards which are applicable to the recruitment of teachers, their training and conditions of service”.

The Minister of Education leads the education system armoured by other legislation such as The Constitution of the Republic of Trinidad and Tobago, The Public Service Commission Regulations, 1966, The Civil Service Act Chapter 23:01 and the Education (Teaching Service) Regulations. The operations of the Ministry are additionally managed by issuances, Circular Memoranda. The Minister and the Strategic Executive Team are responsible for the development of the Strategic Plan for the five-year period for which it has been appointed. It is then likely that strategic priorities may change, if the political party in power loses the national elections, which occurs every five years, which is referred to as political short termism or short-term planning (Caney, 2016). The Concordat of 1960 Assurances for the Preservation and Character of Denominational Schools is not legislation but a “gentleman’s” agreement which has significant impact on the education system in its entirety.

The Concordat of 1960 Assurances for the Preservation and Character of Denominational Schools(See Appendix 1) is an agreement that some view as an attempt by Dr. Eric Williams to sway the Catholic Church in Trinidad for support in the election campaign in 1961 (Alleyne, 2003). The terms of the agreement which are honoured to date, assures privileges to the denominationally-lead schools with respect to the right of selection of twenty per cent of Form One student intake at the secondary level, ownership of property and its management, control of the curriculum and related resources, teaching of religion and recommendations for selection of teachers and school leadership. The denominational boards can also recommend that teachers and school leaders be removed from the school and placed elsewhere based on moral and spiritual grounds. The non-denominational public schools do not enjoy any of these privileges and are not categorised as elite schools which have rich school cultures and strong alumni in the dual mode education system (Mendes-Franco, 2019).

The denominational boards manage three hundred (300) of the four hundred and eighty-three (483) primary schools. Local School Boards were introduced as a structure in the School Based Management plan, a decentralisation initiative (Secondary Education Modernization Programme, 1999), and are run differently from the denominational school boards of management. The Local School Boards were established to foster working relationships with the schools and the communities with the expectation that schools would gain greater support and be granted autonomy ( MOETT, 2006)

1.2.3 Cultural Context

The historical arrival of the African slaves followed by the East Indian indentured labourers, the latter imported to replace the former as a source of labour, created tension which continues to exist today. (Reddock, 2019). Furthermore, the stereotypical image of the Africans as lazy was contrasted with the image which was constructed of the East Indians as a hardworking and tight- pursed (Reddock, 2019). This created friction between the races.

Social hierarchical continuum placed the European or White at one end and the Negro or black at the lower end with the later arrivals placed in the middle (Reddock, 2019). The social hierarchy that has resulted from the arrival of the people of different races extends along a continuum ranging from the European or white coloniser to the Negro or black at the lower end; between the ends are those who arrived afterwards (Reddock, 2019).

1.2.4 Historical legacy

Marginalisation within the education system in Trinidad and Tobago (De Lisle, 2019) continues to exist from colonialism: structures, policies, practices, and institutional processes in addition, at an individual level, behaviours, beliefs, and expectations. Research has been conducted on gender marginalisation and the relationship between SES and achievement in TT. In his research De Lisle argued that relational capital and social capital may be the main determinants of SES disadvantage.

The education system is rooted in the elitist colonial mode which promoted the mindset that schooling was for the privileged, thereby marginalising children of lower-income families (De Lisle, 2019).

1.3 The Education System in Trinidad and Tobago

At any stage of their education, students in Trinidad and Tobago may fit into any of the categories illustrated in Figure 1 below. There are 5 principal levels of education and the main exit examinations. The Secondary Examination Assessment (SEA) is the high-stake examination which streams primary school students of 11 years and over into secondary schools based, on their scores. Students are allocated to secondary schools based on the marks received and this, to a great extent, determines the selection of their career pathway exceedingly early in life (De Lisle, 2012). Students are required to write the Caribbean Secondary Education Certificate (CSEC) examinations at the end of the Form 5 when they are approximately sixteen plus years old, and if successful, they go on to the Caribbean Advanced Proficiency Examination (CAPE) examinations on completion of 2 years at the 6th Form level. Academic performance is highly valued because academic qualifications are seen as the gateway to increased job opportunities and good salaries (Smith, Sun and Shi, 2008; Poell and Krogt, 2014). After completing their education at the 6th form level, students can pursue further study at the tertiary level at institutions such as the University of the West Indies.



Figure 1 Structure of the Education System in Trinidad and Tobago (adapted from Educational System of Trinidad and Tobago, NALIS, 2011)

1.4 Student Learning and Related Issues in Trinidad and Tobago

The main purpose of teaching is to facilitate learning for every student by whatever means works best (Barr and Tagg, 1995). In Trinidad and Tobago this belief was documented in the Education Policy Paper (1993-2003) which is commonly referred to as the White Paper. The White Paper (1993) stated the philosophy and objectives of education, which underscored that every child could learn, therefore schools must provide relevant programmes despite the students’ varying natural abilities. The teachers’ commitment, which is stated in The Code of Practice, is to continually enhance their students’ growth intellectually, morally, and socially (Trinidad and Tobago Unified Teachers’ Association, 1989).

The education system is, however, affected by practices which do not reflect the stated intentions of the Education Policy Paper. The education system is rooted in the elitist colonial mode which promoted the mindset that schooling was for the privileged, thereby marginalising children of lower-income families (De Lisle, 2019).

 A Seamless Education System (SESTT) was launched in 2009 to increase access to early childhood care and education and to improve the quality of education in the primary schools (MOETT, 2009). The provisions in the Concordat, another important education document, privilege some students over others. Students’ suitability is also determined by other factors such as the parent’s profession, and/or alma mater, religious beliefs, and location of residence. The SES is influenced by mechanisms which unofficially stream the students from as early as the primary school level (Franklyn, 2010). In essence, student learning is generally predetermined by the type of school which accepts them as desirable candidates.

1.4.1 Assessment-driven Learning

Test-based selection which stems from the colonial era is a main driver of the education system which fosters assessment-driven learning (De Lisle, 2012; Edu Nova, 2013) in light of the multiple assessments which punctuate the learning trajectory of students. There are National Tests at multiple levels in the Primary schools, the high-stakes Secondary Entrance Assessment (SEA), and the Progress in International Reading Literacy Study (PIRLS). At the secondary school level, assessments include the international Program for International Student Assessment (PISA), at the end of Form Three, the national assessment, National Certificate of Secondary Education (NCSE), and the regional examinations Caribbean Secondary Education Certificate (CSEC) and the Caribbean Advanced Proficiency Examination (CAPE).

Student learning is equated to achievement in the essential skills and competencies of schooling (Anderson, George and Herbert, 2009), and assessed by the level of success attained in tests and examinations at national, regional, and international levels. Success in skills may be recognised as admirable, however from an extra–curricular perspective. De Lisle’s (2012) outlook on the population’s high regard for test scores explained that this thinking was due to “a widespread and implicit belief in the infallibility of test scores” (De Lisle, 2012, p. 111). Interestingly, Coleman’s report (1966) concluded from the survey conducted more than 50 years ago that tests were culturally unfair because they were designed to measure performance of students from a “highly technical and sophisticated culture” (Coleman et al., 1966, p. 218).

1.4.2 Support for Student Learning

Compulsory school attendance is required from ages 5 to 16 and is free of charge. Breakfasts and lunches are provided for those who are in need and request them. The Textbook Rental Loan Programme (TRLP) supplies textbooks and other learning resources to students at the Primary, Secondary and Special Education Schools. The learning materials are based on the core curriculum areas and are required to be returned to the school at the end of the academic year, to be made available to incoming students. On reflection, if the Ministry’s intention were to attempt to level the playing field (Ministry of Education, 2015), then the resources ought to have been directed to those in need. Funding could have been directed to other critical areas such as teacher professional development and technological tools for teachers and students.

The national vision for education noted in the White Paper (1993) that students possess varying natural abilities but the document did not articulate the numerous factors which influence individual student learning: personal background, health and the state of health of the school (Gowrie and Ramdass, 2014) school related behaviours, attitudes, perceptions, home, traits of the school, the classroom, teacher quality, teacher engagement, self-concept (Anderson, George and Herbert, 2009). The cultural histories of students, the marginalisation of people (Freire, 1970), and teacher – related issues impact student learning. Motivation, expectations for learning, safety and discipline, the peer culture of the school, the community and their involvement level of parent involvement, student engagement, all are important factors in the learning process (Freire, 1970).

One of the main factors that contribute to student learning is the quality of teaching that students experience (Darling-Hammond,1998; Marzano, Marzano, and Pickering, 2003; Darling-Hammond, Hyler and Gardner, 2017). TPD can build on the teachers’ capacities to address the learning needs of the students in an environment of constant changes and against the reality of diversity in the classrooms (Hargreaves and Fullan, 2013). Continuous TPD is therefore required to ensure that all students are guided by teachers who are abreast of the advancements in the field.

Advances in areas such as technology and its impact on learning necessitates continuous engagement in TPD. As reported in the Edu Nova Report (2013), there was a lack of technology usage by teachers at the primary and secondary levels. Consequently, recommendations were made for training in technology and technology integration for classroom teachers to be a prime area of focus of professional development. The transformation of teaching to the online mode brought about by the Covid-19 pandemic validates the need for continuous teacher professional development to adopt an anticipatory approach to teacher development. Had teachers been required to build their technological skills beforehand, teaching and learning may not have been seriously disrupted when shifted to an online mode. According to data from the MOETT as reported in a daily newspaper, approximately two thousand students may have dropped out of the system since the pandemic began in March 2020 (Trinidad Guardian, 2021). The group of dropouts comprised both primary and secondary school students. This situation highlighted the need for school populations to be proficient in the use of technology, as well as to have resources to facilitate online teaching and learning.

1.4.3 School Dropouts

An issue which is not unique to Trinidad and Tobago’s education system is that of school dropout rates. In 2019 the topic was investigated and reported by a team of personnel lead by the MOETT at a Joint Select Committee parliamentary session. The high rate of student dropouts reported was 5074 students who had exited the system from as early as the Infants Year One to Form Five during the seven-year period 2012-2019. Several reasons were suggested by a lead researcher from the University of Trinidad and Tobago: lack of money, disengaged students, poverty and a preference for jobs over education (Trinidad Guardian, 2019). The researcher’s suggestion that teachers were not engaging students adequately signalled a need for improved pedagogical skills, knowledge, and attitudes which could be developed by continuous professional development (MOETT, 2019).

1.4.3.1 Male Academic Achievement

Given that males comprised a high number of dropouts and those with low academic achievement, The Single Sex School Conversion Project (SSSCP) in 2010 was a pilot study undertaken by the MOETT to provide a solution to improve the performance of male students. The aim was to transform selected co-educational schools in the study to single sex populated ones. The schools that were identified were primarily former Junior and Senior Secondary schools which were in geographical proximity. The SSSCP failed to fully materialise when the continued non-attendance by teachers at the two-day CPD sessions during the July-August school vacation became apparent.

 The intention of the project was for twenty co-educational schools to mimic the single-sex schools which were the most prestigious and better performing. The initiative was spearheaded by a team of researchers led by Dr. May ( pseudonym) , a university lecturer/TPD educator. The rationale for the project was that culture and education of the single-sex schools proved to be conducive to learning, resulting in high pass rates and the award of national scholarships. Continuous professional development activities centred around understanding the male mindset, which George and her team undertook to present to a very small number of teachers

In a report from the field by one presenter, (Patrick, 2010), who was an educator at a school in which male underperformance was noted, it was pointed out that the institution had previously attempted single-sex classes with the thinking that the boys would perform better in the absence of girls. He related that oftentimes when male students made errors when reading aloud, girls ridiculed them. This led to a withdrawal from participation in class activities until the boys developed the attitude that schoolwork was a female activity. The single-sex classes were an attempt to create a less threatening learning environment for the boys. He concluded that their initiative seemed to benefit all genders and stated that the competency of the teacher was critical to the success. The impact of poor teaching and lack of effective classroom management were more apparent in the classes for boys. Teacher professional development in areas such as ICT could expand teachers’ repertoire of skills.

1.5 The Teaching Profession: Required Qualifications

The entry requirements for ECCE teachers are the Bachelor in Education in ECCE, and at the primary level, a minimum of 5 passes at the CSEC which includes Mathematics, English and a Natural Science subject. The minimum requirement at the secondary school level includes the minimum requirements for the primary level and a Bachelor’s Degree in applicants’ subject speciality. Primary school teachers generally attend the teacher preparation institutions to earn a Bachelor of Education for remuneration and promotional purposes. Teachers at the secondary school level receive the same salary with or without teacher training certification. Teachers who seek promotion to middle management positions are required to have a post graduate Diploma in Education. Teacher certification is provided by the higher education institutions which award the Certificates in Education, Bachelor of Education, the Diploma in Education, the Masters in Education, and the Doctor of Philosophy (PhD) in all of these areas. There is no mandate to upgrade knowledge or skills in the prescribed job responsibilities.

1.5.1 Teacher Professional Development in Trinidad and Tobago

Teacher professional development became a focal point for the achievement of quality education in Trinidad and Tobago in accordance with global agreements. The Universal Declaration of Human Rights (1948) emphasised the importance of quality education as the means to improved quality of life. In 1990 the call was made for Education for All in Jomtien, Thailand by which all children would be granted access to secondary education. In 2000, at the World Education Forum in Dakar, Senegal, Goal 6 of the six goals which were adopted, underscored the integration of a quality component in striving to develop quality of education.

In UNESCO’s report (2005) on Education for All: The Quality Imperative, it was noted that that teachers were a key factor for the improvement of the quality of education. Priority was to be placed on continuing in-service education or on-going teacher professional development. (The Caribbean Community Council for Teaching and Teacher Education). Additionally, based on the Report (2005) quality teaching and learning required an enabling environment.

The Caribbean Community Council for Teaching and Teacher Education (CCCTTE) was established in 2006, at the request of the Ministers of Education in the Caribbean. The CCCTTE was a professional body mandated to assure quality in the teaching profession through the National Teaching Councils which were to be instituted in each participating country. The CCCTTE developed professional standards in teaching and teacher education which would serve as teacher quality standards for the allowance of professionals to work within the Caribbean (Mark, 2013). The Standards Framework was developed in accordance with the principles of the regional initiative, the Caribbean Single Market and Economy (CSME). Additionally, one of the main goals of the CCCTTE, which would have been implemented through the Teaching Councils, was to promote teacher professional development.

The commitment to the professional development of teachers by the MOETT and by extension that of the prevailing governments in Trinidad and Tobago appears to be weak. Much work, time and money were spent to develop the concept for the operationalisation of the National Teaching Council in Trinidad and Tobago which to date has not materialised (See Appendix for Proposed Structure).

The integration of ICT was necessary to meet one of the stated goals for education for all by 2000 (UNESCO, 1990; UNESCO, 2000). ICT integration in education “generally means technology-based teaching and learning process that closely relates to the utilization of learning technologies in schools” (Ghavifekr and Rosdy, 2015, p.175). ICT integration within the globalisation process was seen as fundamental to the development of a country’s knowledge base (Capuk and Kara, 2015). Fortunately for the country, despite changes in the government in the last nine years, the importance of ICT in education has been consistently advocated. National policies to ensure the successful integration of ICT in primary and secondary schools became a top priority for the creation of a knowledge society for 21st-century learners (GORTT, 2007, 2011, 2012, 2013c, 2017).

In Trinidad and Tobago, the National ICT Strategy (Ministry of Public Administration and Information, 2003) laid out a plan to increase internet access to all citizens at an affordable cost and to develop their ICT skills and knowledge. This National ICT Strategy adopted a multi-dimensional approach which supported the national vision of building a knowledge-based society (Ministry of Public Administration and Information, 2003). Citizens were to develop the required skills in both the formal and “out of the formal” (Ministry of Public Administration and Information 2003, p. iii) educational systems. One of the multiple strategies identified was a “customised training programme to equip teachers with the necessary skills for more ICT-intensive approach in education” (Ministry of Public Administration and Information 2003, p.iii).

Professional development in ICT education for teachers became a key area of concern for the government. The Ministry of Education launched the Annual Professional Development for Teachers Workshops July-August in 2008 (MOETT, 2008) to provide opportunities for teachers to build their capacity and network for their advancement in the system (see Appendix 1). ICT in education was targeted from the onset of the programme of workshops until 2018, the last year of this study.

The TPD workshops were conducted in the educational context of a developing post-colonial nation which has retained an elitist education system (James, et al.,2013; Jules, 2015) with an articulated vision of education for all. The overview of the education system in Trinidad and Tobago, which is described in the following section, illuminates its contextual factors which differentiate it (Bryman, Stephens and à Campo, 1996) from those of other countries. Additional insight into the background of the phenomenon is provided in the brief history of the ICT in Education workshops which were coordinated in Trinidad by the MOETT from its inception in 2008 to 2018.

1.6 Annual Professional Development Workshops for Teachers July-August

The Ministry of Education is responsible for the professional development of teachers in Trinidad and Tobago’s education system, and periodically organises initiatives aimed to continuously improve the quality of education and its human resources. This responsibility has been given to the Minister of Education under the Education Act, 1966, Chapter 39:01 Section 5(c) which states that s/he may:

*…make provision for the professional training of teachers for the entire system of public education, and lay down standards which apply to the recruitment of teachers, their training and conditions of service (*1966, p.12*)*

The Annual Professional Development Workshops for Teachers July-August was a school improvement initiative which was promoted by the Minister of Education in 2008 to develop teacher quality. The focal areas for professional development were categorised under these headings: Pedagogy, Leadership and Management Curriculum Content, Literacy and Numeracy and ICT in Education. These Annual July-August Professional Development Workshops were offered to all teachers by the Ministry of Education (MOETT) free of charge and attendance was optional. The workshop-type training was held at different venues: sometimes at schools or at an education centre which was centrally located.

The objectives of the workshops subsequently varied from year to year and were prioritised by the Minister of Education and coordinated by the Teacher Education and Teacher Performance Project Unit (TETPPU) which was later renamed the Teaching and Teacher Development Division (TTDD). The duration of each workshop varied from half a day to a maximum of ten days. The length was influenced by both the cost, content, and an attempt to cater to the differing contexts of the participants, many of whom had various commitments in the vacation period. In its initial years, teachers were informed of the training schedule through a newspaper advertisement and were refreshed with lunches and beverages. Years later, in 2018, there was no funding available for newspaper advertisements, external facilitators nor bottled water for the participants which was symptomatic of the economic constraints and MOETT’s priorities.

 The selection of participants was done on a first come, first served basis based upon the requirements for the target groups. The size of the ICT in Education groups differed from the other categories ranging from 25-30 participants, which was less than those in the other categories, and were hosted in air-conditioned venues with internet access and adequate bandwidth. Laptop computers were made available by the MOETT to afford participants the opportunity to learn through active engagement. No financial incentives were awarded to participants in workshops; however, they received certificates of participation, which were authorised by the MOETT, once they completed the required number of contact hours. These certificates were not aligned to any professional accreditation.

In 2014, as Head of the TTDD, I introduced the “teachers teaching teachers” initiative Teachers who were specialists in Information Communication Technology and had taught at a higher education institution were recruited and paid a stipend to teach their peers how to use ICT in their classrooms. One obstacle was encountered and had to be overcome before official approval was given for the award of a stipend to the teacher trainers. The belief expressed by the MOETT’s financial lead was that teachers were paid during the vacation and so should not be further rewarded. The counterargument presented was that teachers were paid to instruct students, not fellow teachers. The Ministry later adopted the “teachers teaching teachers” model for its ICT Teacher Professional Development Programme, which was conducted during the school term.

Technology was recommended as a tool to cater to the basic and diverse learning needs of the youth and adults (UNESCO, 1990.) In response to UNESCO’s (1990) recommendation, the MOETT attempted to upgrade the teachers’ ICT knowledge and skills to meet the needs of students in the 21st-century knowledge-based society. The ICT in Education workshops July-August were one of the strategies which the MOETT implemented to meet the conditions in the Jomtien Agreement (UNESCO, 1990).

1.7 The Research Topic

The topic of this study is an investigation into teachers’ perception of teacher professional development in the postcolonial nation of Trinidad and Tobago, its possible benefits for teachers and its relationship with improved student learning. The MOETT hosted numerous professional development workshops (see Appendix II) which were aimed at building teachers’ capacity to become better prepared for curriculum implementation. This exploratory study sought to gain an insight into the participants’ perceptions of TPD based largely on their engagement in the MOETT’s school vacation TPD activities. The teachers at the ECCE level were invited to participate in the Programme in 2013, when the MOETT was focused on expanding that sector to fulfil the requirement for education for all children, and a seamless education system (MOETT, 2011).

One approach to TPD was the workshop model initiative which was operationalised by the Ministry of Education (MOETT) in Trinidad and Tobago since 2008. However, there are differing views on the impact of engaging teachers in short-term Professional Development (PD) workshops of (Desimone and Garet, 2015; Lauer et al., 2015). Furthermore, the critique of the ineffectiveness of professional development activities has been the focus of research despite the models used (Darling-Hammond, Hyler and Gardner, 2017). There is, however, a degree of consensus on several core requirements which have been identified to aid in the design and evaluation of effective PD (Guskey, 2002; Desimone 2009, Darling -Hammond, Hyler and Gardner, 2017).

This research study is not a programme evaluation and therefore does not measure the attainment of the programme’s objectives or the phases of the process (Stufflebeam, 2001). It does, however, seek to find out the “merit or worth” (Lincoln and Guba, 1979) which the participants attached to it. This is an exploratory undertaking to gain an initial understanding of the participants’ perceptions of the workshops which they attended, and their contribution to both their professional development and student learning.

1.8 The Research Problem

The Annual Professional Development Workshops for Teachers July-August continued to be offered over the years by the MOETT with no published, in-depth analysis of feedback from the participants. A steady, but relatively small, stream of teachers participated throughout the years; however, no information was requested from these participants on what they gained, and whether they were able to apply any of the strategies in their teaching. I was directly involved in the coordinating and implementation of the workshops from 2010 to 2018 and was curious to find out about participants’ perceptions of the contribution of the TPD workshops to their practice and student learning. Though time and resources were previously limited, I now seize the opportunity to obtain feedback on participants’ perception of the effectiveness of the workshops in building their capacity to improve student learning in the digital age.

1.9 Aim

The aim was to conduct an exploratory study on teachers’ perceptions of professional development in Trinidad and Tobago. This study sought to contribute to research on the issue of building teacher capacity and its relationship with improved student learning in a small postcolonial nation state.

The participants highlighted aspects of professional development efforts such as teachers’ perceptions of TPD, teacher learning, student engagement, student learning and the support required for successful implementation. The exploratory examination is not a substitute but offers possibilities to establish a foundation for future research and the much-needed evaluation of the MOETT’s 9-year PD initiative.

1.9 Research Questions

The formulation of the research questions played a critical role in the research design and has been defined as perhaps the “most important step” (Yin, 2003, p. 7). The research questions 2, 3 and 4 were aligned to Guskey’s Five Critical levels of Professional Development Evaluation (2002). It is important to bear in mind that Guskey’s model was not selected as an evaluation tool for the TPD workshops given that this was not the focus of this research. Instead, the different levels were useful in providing criteria through which the perceptions of participants could be easily obtained. The theory underpinning this model is discussed later in this chapter. The Evaluation Levels which were deemed pertinent were Level 2: Participants’ Learning, Level 4: Participants’ Use of Knowledge or Skills, and Level 5: Student Learning Outcomes. Question 1 sought to determine participants’ conception of teacher professional development (van Benthum et al., 2012) which was adapted from Clarke and Hollingsworth’s Interconnected Model of Professional Growth (2002) Personal Domain.

The research questions are viewed as research tools and were selected to aid in the collection and organisation of the data (Yin, 1981). The research questions reflect the exploratory nature of the case which set out to investigate the previously unexamined phenomenon of participants’ perceptions of different aspects of the MOETT’s TPD workshops July- August 2010- 2018.

1. How do teachers in Trinidad and Tobago conceptualise teacher professional development?

2. What skills and knowledge do teachers develop because of their participation in the

 professional development activity?

3. To what extent do teachers think they are able to apply their learning to their practice?

4. How do teachers perceive enhanced student learning in their classrooms?

1.11 Purpose of the Study

The purpose of this exploratory study is to obtain an understanding of the teachers’ views of TPD in Trinidad and Tobago. The teachers participated in TPD activities which were in the main hosted by the MOETT. This qualitative research study provides an insight into the teachers’ perceptions of TPD, to expand the understanding that has been explored in the extensive research done globally on this topic. It is anticipated that the findings will lead to the consideration of teachers’ personal and professional lives and the implications of context in research on teacher professional development.

Educators and other stakeholders in a postcolonial state may not be sufficiently aware that teachers’ engagement in TPD can enhance student learning. However, the extent to which students’ learning can be achieved, depends on the contextual factors which impact the education system. Teachers who engaged in their professional growth would contribute to their students’ growth and development for unexpected challenges as the Covid- 19 pandemic has presented.

1.12 Justification and Research Significance.

At a micro level, this research can be considered an attempt to satisfy my curiosity, both personal and professional (Jones, 2021) after working on this initiative for 9 years. A significant academic, educational purpose was to investigate teachers’ feedback on the usefulness of the workshops for the benefit of participants, students, and the education system. The research was conducted to obtain feedback on initiatives conducted over time that could be used to make recommendations for modifications, improve ICT professional development activities, and share with other teachers about what TPD entails and offers. In a subsequent section, I provide additional information on my background and positionality.

The topic of teacher professional development and the debate on its relationship with improved teaching and student learning has been a research focus for decades (Guskey, 1985; Darling-Hammond, 1999; Day, 1999). When educational initiatives are conducted, adjustments to such projects, over time, can be facilitated if there are research studies that provide useful, credible information for effective decision making. No previous study of this PD initiative has been conducted, and thus, there is justification for a study of this nature. Additionally, the collation, examination and analysis of the participants’ responses contribute to the ongoing research on the issue of teachers’ perceptions, and the impact of ICTD, which was delivered using a workshop model in the context of the education system of Trinidad and Tobago.

The required submission of the findings to the MOETT can inform future policies and assist with the reorganisation of ICT professional development workshops. The evidence-based research is intended to contribute to the enlightenment of educators and decision-makers on the potential of TPD professional development in transforming of the education system (GORTT, 2012).

1.13 The Background and Positionality of the Researcher

A researcher’s background and positionality influence the selection of a phenomenon for research and the research process. In this section, I detail my background and provide other pertinent information to declare my positionality, especially important because of my prior close involvement in the area that I researched. I am also, a product of the education system in Trinidad and Tobago. I was a student, worked as an educator with the Ministry of Education for 38 years, during which I taught at 2 single-sex denominational schools. The two schools, A and B, were different in many aspects; however, the most striking difference was the teaching experience of the staff. The majority of the staff at school A had been teaching for many years and grew professionally through peer collaboration and the attainment of a postgraduate qualification, the Diploma in Education. Stakeholders were satisfied with the teaching and student performance based on a high rate of success at the regional examinations. The staff at school B were junior in experience and two teachers had completed the post graduate Diploma in Education. Many were committed to teaching their students, but were content specialists with no pedagogical training. The teachers’ tasks at school B proved to be very difficult, because they taught as they were taught, to students who were of a different generation. In my capacity as a Vice Principal at school B for 5 years, professional development was encouraged at all levels: between seatmates in the staffroom, in departments and by school and ministerial initiatives.

I decided to become involved in teacher development with the goal of providing opportunities for teachers to develop relevant skills and knowledge to make teaching more manageable. My first project at my new position as a Teacher Development Specialist was to design and implement the Annual Professional Development Workshops for Teachers July-August 2010. I am now retired from the MOETT and my focus at this time is to investigate the extent to which these workshops had assisted these participants in any way.

1.14 The Importance of Enquiring about TPD Activity

I was in the position of being both an insider and outsider to this research study. I shared the responsibility for coordinating the professional development training programmes for teachers in the education system in Trinidad and Tobago. As an insider, I supported and led the implementation of this Programme for nine years from 2010-2018. One such programme was the Annual Professional Development Workshops for Teachers July-August. I was able to attend many workshops primarily to observe the facilitators who would have been new to the TPD and other TPD workshops. As an outsider, I was no longer a classroom teacher and I was not a participant and I did not experience the challenges they faced in their schools.

I was committed to hearing the voices of the participants of the ICT in Education workshops to inquire about the educational value the ICT workshops because they had been offered for several years as far back as 2008, before my re-assignment to the responsible Division. The TTDD has not yet undertaken a systematic review of these workshops, and I saw this doctoral research study as a good avenue to prepare a pathway for future undertakings.

Although my proposed investigation is voluntary, I anticipate that my findings can be instrumental in guiding and reminding the relevant personnel at the Ministry of Education of the importance of TPD in supporting reform. Economic constraints may be a reality, but prioritising TPD is critical if student improvement is the MOETT’s and the nation’s goal. The research is extensive and supports the claim that teachers’ performance is linked to student performance (Marzano, Marzano and Pickering, 2003; Desimone and Garet, 2015) and that monitoring and evaluating informally or formally can provide such evidence.

 1.15 Theoretical Framework

Grant and Osanloo (2014) liken a theoretical framework to a blueprint for a house and assert that it is an important feature of a research study. Other metaphors found in the literature in reference to the lens, theory and constructs that underpin a study include ‘base’, ‘foundation’, and ‘anchor’. Ennis (1999) emphasises that the theoretical framework is a central piece of the research puzzle. Such terms suggest the critical importance of a theoretical framework to all aspects of a research study and its role in helping the researcher make sense of the data.

Key components of the research issue which I identified relate to teacher professional development, teachers’ perceptions of their professional learning experiences and the impact on their practice, and students’ learning outcomes after TPD workshops. From different models of the process of professional learning, I selected Guskey’s (2002) general model of professional learning because of its focus on teachers’ and professional developers’ efforts to understand changes in teacher attitudes and beliefs (Boylan, Coldwell, Maxwell, and Jordan, 2017). Essential constructs of Guskey’s model that are relevant to my research and reflected in this study include professional development; change in teachers’ classroom practices; change in students’ learning outcomes; and change in teachers’ beliefs and attitudes. Although Guskey presents his model as a linear path, at different points in his (2002) work, and more recently in Guskey (2020), he acknowledges the complexity of the professional development process. Specifically, the framework I utilise is supported by the use of Guskey’s Five Critical Levels of Evaluation (2002) for its participant inquiry orientation,

Guskey’s model informed different aspects of my design such as in the framing of my research questions and identifying patterns of change. However, although this model is widely used in professional development research, Boylan et al., (2017) point out that, standing alone, it does not provide a complete set of tools to fully examine professional learning. Thus, I also incorporated Clarke and Hollingsworth’s (2002) theory of teacher change as a result of professional development. Using concepts such as “change sequences” and “growth networks”, they propose that an interconnected, non-linear structure offers possibilities for explaining differences in how teachers perceive their professional experiences in the TPD workshop programmes. The recognition that Clarke and Hollingsworth give to idiosyncratic and individual professional growth can possibly explain change or the absence of change, among members of one cohort or between different cohorts. A third lens through which the data were examined and interpreted relates to Mishra and Koehler’s (2006) theory of Technological Pedagogical Content Knowledge (TPACK) (Technological pedagogical content knowledge refers to the kinds of knowledge a teacher should possess for effective pedagogical practice in a technology-enhanced learning environment. Mishra and Koehler extended the original construct of content knowledge proposed by Shulman (1987), and they advanced that content knowledge, pedagogical knowledge, and technology knowledge concurrently provide a framework for technology integration in the curriculum. This can possibly explain why there are differences in perceived outcomes by participant teachers in TPD workshops.

Figure 2: Schematic Diagram of Theoretical Framework

1.15.1 Overview of Methodology

This study adopted a qualitative single case study approach to facilitate the examination into teachers’ conceptualisation of teacher professional development. My intention was to obtain multiple views of the contribution of these workshops through dialogue and written feedback which, from my ontological perspective (see Figure 2), only the participants could provide. Rich detail was sought to create an in-depth insight into this phenomenon of the TPD workshops, about which little was known.

Three research methods were selected to probe the phenomenon; however, the primary data source was the in-depth interviews which have been used extensively in qualitative case studies. Together the participants and I, the researcher, would be able to discover the realities of their individual perceptions of the workshops and create the desired knowledge. The knowledge gained would be shared with the MOETT to be considered for the improvement of the TPD initiative and for dissemination to educators.

Student Learning

Teacher Learning

Data interpretation:

Guskey’s Levels

Clarke and Hollingsworth

TPACK

TPACK

Bloom

Data Analysis:

Thematic Analysis

Research methods:

Semi-structured Interviews

Electronic Survey Forms

Workshop Evaluation Forms

 Figure 3: Schematic Diagram of the Conceptual Framework for the Research Study

1.16 Organisation of Chapters

Chapter I introduced the research problem and provided contextual information on the postcolonial nation of Trinidad and Tobago. The introductory chapter also provided a brief overview of the methodology and the theoretical framework which was developed to act as a compass for the presentation of this thesis. Chapter 2, the Literature Review, is a discussion of the research which has been done on key constructs: teachers’ perceptions, teacher professional development, ICT teacher professional development, the relationship between teacher learning and student learning and recommendations for advancing the research. Chapter 3, Methodology and Methods, reports the rationale and the procedure which was adopted to achieve the aims of this study, which began with the research design and ended with the identified limitations. Chapter 4, Presentation of Findings, follows, wherein the findings of the exploratory investigation are communicated. Chapter 5, Discussion of Findings, presents a discussion of the significance of the findings in relation to the research literature. Chapter 6, Recommendations and Findings, provides an overview of the study as well as the contribution of this research to the wider body of knowledge on TPD and student learning and its implications. The research study concludes with a Postscript, a reflection on the gap between policy and practice which the teachers encountered and ends with insights into my doctoral journey.

 1.17 Conclusion

This chapter laid the foundation for understanding the research problem within its context and provided an overview of the research enquiry selected for exploring teachers’ perceptions of teacher professional development in Trinidad and Tobago. TPD is a reform initiative that is widely used to improve student learning, and which the small postcolonial nation state of Trinidad and Tobago has likewise adopted. The chapter introduced the focus of the study which was an inquiry into teachers’ views on their engagement in the MOETT’s TPD programmes. All teachers participated in the programmes at some point in the 2010-2018 period and all attended ICT related workshops in addition to those from other categories. In Chapter 2, I analyse and synthesise the extensive range of research which has been carried out on teachers’ concept of TPD, the capacity they built through TPD, their reports on implementation of what they learned and their perceived connection to improved student learning.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

The focus of this chapter, the Literature Review, is the examination of research into teachers' perceptions of professional development programmes. Notably, the section on Teachers’ lives provides an insight into the issues which teachers experience in their attempts to fulfil their responsibilities and development. The scope of the review is guided by the research topic “Teachers’ Perceptions of Teacher Professional Development in Trinidad and Tobago: Gaps between Policy and Practice " and the research questions:

1. How do teachers in Trinidad and Tobago conceptualise teacher professional development?

2. What skills and knowledge do teachers develop because of their participation in the professional development activity?

3. To what extent do teachers think they are able to apply their learning to their practice?

4. How do teachers perceive enhanced student learning in their classrooms?

 I begin with a clarification of several terms and concepts that are fundamental for a shared understanding of this review. Following the clarification, I examine the perceptions of in-service professional development of teachers in general and in ICT Education both internationally and locally. I then present a review of research on issues which have been reported on teachers’ perceptions of TPD and ICT professional development (RQ 1). I then examine the skills and knowledge teachers in the research studies have stated they had developed from professional development workshops, and related issues (RQ2). Thereafter the focus shifts to studies on teachers’ perceptions of the implementation of the skills and knowledge they built during their engagement in the professional development programme (RQ 3). Lastly, I present teachers’ perceptions of their students’ enhanced learning in their classrooms (RQ 4).

A broad thematic approach was adopted for this review of the literature on teachers' perceptions of their professional development. The decision to use the thematic approach as a guide to produce this review was prompted by the extensive range of articles and other forms of research on this topic. Nevertheless, it was challenging at times to strictly compartmentalise the themes, due to the overlapping of ideas and issues.

The design for this chapter was firstly the reporting of research pertaining to the scope of the topic, the research questions, and related emerging issues. The review is subsequently comprised of an introduction, a conclusion, five sections which are based on the four research questions and the theoretical bases.

2.2 Clarification of Terms

The following presents definitions of key terms that are further expanded on as I review pertinent literature.

Attitude: “a relatively enduring organization of beliefs, feelings, and behavioral tendencies towards socially significant objects, groups, events or symbols" (Hogg and Vaughan, 2005, p. 150).

Perception: “a subjective, active and creative process through which we assign meaning to sensory information to understand ourselves and others. It can be defined as our recognition and interpretation of sensory information. It also includes how we respond to the information” (Reitz cited in Taj, et al., 2020.p.2040).

Belief: a “subjective, experience-based, often implicit” type of knowledge possessed by an individual (Pehkonen and Pietilä, 2003, p. 2).

ICT integration in teaching and learning (IITL): “the use by teachers and/or students of digital ICTs that support the constructivist teaching and learning process” (Luhamya, Bakkabulindi and Muyinda, 2017, p. 21).

Continuous Teacher Professional Development: Teacher development and continuous teacher professional development (TPD) may be used interchangeably (Lee, 2016). Teacher professional development consists of three (3) components: knowledge and skill development, self-understanding and ecological change (Lee, 2016). Knowledge and understanding refer to pedagogical knowledge and new methods discovered, self-understanding refers to reflective practices and teacher identity, and ecological change which refers to collaborative learning as well as the individual agency.

There are varying views in the extensive literature on what is referred to as continuous professional development concerning the teaching profession: a) Teacher Education (b) Teacher Preparation c) Training and d) Continuous Professional Development. There is a need to make a clear distinction in order to proceed with this study. The Continuous Professional Development refers to activities that foster the building of teachers' skills, knowledge and attitude (Desimone, 2009; de Vries, Jansen and de Grift, 2013). The term TPD generally refers therefore to any activity which guides in-service teachers towards improving their teaching practice (Day,1999; Darling-Hammond, 2013).

Teacher Education and Teacher Preparation.

These terms are often confused and used interchangeably. Teacher Education refers to the period during which the student - teachers work towards achieving their entry qualifications. Teacher Education is generally conducted in the higher education institutions during which the student teachers engage in formal preparation which includes a practicum component (Tuli and File, 2010) The practicum is the practical component of teacher training where the student teachers teach in schools with the support of a cooperating teacher.

Teacher Training

May be used synonymously with teacher preparation and in-service professional development (Katman and Tutkun, 2015). The term ‘training’ tends to be associated with skill development, as opposed to intellectual capacity building with which term professional development is generally associated.

2.3 Teachers’ Lives

The discussion on teachers’ lives is largely guided by the work of Ivor Goodson and Pat Sikes with an input from several others. Goodson has written extensively on this dimension of teaching in which he demonstrated the conviction that giving teachers’ voice is a critical component in educational research (Goodson, 1992). He further argued that it was important to find out about teachers’ lives to understand curriculum and teacher development (Goodson, 1992). Goodson emphasised that in the study of teachers’ practice, their individual life experiences and contexts need to be linked and scrutinised (Goodson, 1992). Sikes has researched extensively into the lives of educators. One such example is her work on the gap between society’s expectations of Religious Education (RE) teachers and their self-perception (Sikes and Everington, 2004).

Teachers should not be stereotyped nor treated as a homogeneous body. The RE teachers reported that people had expectations of how RE teachers should dress and conduct themselves (Sikes and Everington, 2004) as they viewed teachers as a spinsters (Weber and Mitchell, 1995). Educators and education are viewed differently within society and across countries. All teachers are not likely to be the same (Goodson, 1992). Teachers who work in a postcolonial nation state which has a bifurcated education system which is assessment -driven (De Lisle, 2016) are viewed differently to those in a developed country (Hargreaves and Fullan, 2014).

Goodson suggested that teachers’ professional lives were impacted by their commitment to other responsibilities in their lives. He reported that one of his former teachers told him that school was his workplace from 9:00 to 5:00 p.m.; however, his efforts, or what the latter termed ‘centre of gravity’, were in his community and home. Even though Goodson’s former teacher was very dedicated and was somewhat responsible for his return to school, he drew the line when tasks were added and extended into his non-professional sphere.

Sikes, in her research on parent teachers (1998), recognised that the knowledge, skills and understanding developed in parenthood would positively impact their teaching and also their perception of their professional selves. Sikes did acknowledge more research had to be conducted and more stories told before we can conclude that parental emotion could contribute significantly to teachers’ practice and professional outlook. The experiences in the teachers’ private lives could contribute to teachers’ professional lives according to Sikes’ research (1998), but the reverse may not necessarily apply, as seen in Goodson’s narration of the meeting with his former teacher in the preceding paragraph. Great care was taken to prevent professional intrusion into the teacher’s life.

Tonna and Calleja (2018) noted that the majority of the respondents were not engaged in CPD, citing reasons such as family responsibilities, no time after work, financial constraints, need for a break after last CPD activity and lastly, that it was pointless to pursue further studies due to their irrelevance and inapplicability. Additionally, disillusionment was expressed due to the lack of appreciation and recognition for the teachers’ extra effort in working longer hours, which did not earn them more than those who did little. An observation made was that the culture of the school did not foster collaborative learning which would facilitate dialogue and sharing of ideas.

Teachers’ views of professionalism are not adequately discussed (Goodson and Hargreaves (1996), it is argued, given the negative impact that ‘fast capitalism’ has on teachers’ private and professional lives. In some instances, salaries are cut, resources are reduced and teachers’ roles and duties are restructured. Tonna and Calleja’s study (2018) highlighted the challenges encountered in the profession, which they noted was increasingly being controlled by the school and the education authorities. Teachers’ autonomy and decision-making with respect to curriculum implementation were becoming undermined by the authorities who instruct what is to be taught, how it is to be taught and re-test for compliance. Goodson believed that bringing private problems to the forefront makes them become public concerns which could result in the re-examination of the inequities in nations (Sikes, 2020).

2.4 The Theoretical Basis of Teacher Professional Development

The theoretical bases of adult learning and teacher development are pivotal in gaining an understanding of the processes, which teacher educators and those responsible for teacher development, should be mindful of, when they embark on designing TPD programmes. The differences between adult learners and child learners are many; however, these considerations should be borne in mind to facilitate effective teaching and learning. According to Guskey (2002), teachers will build capacity when they witness success in implementing new strategies through the application of the skills and knowledge gained. Subsequently their practice will improve if teachers’ efforts are sustained. There is an underlying assumption that Guskey’s theory of teacher change was based on the adult learning theory. It would be interesting to investigate the andrological soundness of various TPD models which were presented in the literature through the years.

2.5 Theories on Teacher Learning and Change

Consideration of the impact of professional development initiatives on teachers involves consideration of theories of teacher learning and change. One popular theory is Knowles’ Adult Learning Theory which explores the notion of ‘andragogy’.

Andragogy was derived from the term ‘aner', which means ‘man’, whereas pedagogy was derived from the term 'paid', meaning ‘child’ (Knowles, 1973). Four assumptions were made about adult learning which differs from pedagogy: changes in one's self-concept; the role experience plays; readiness to learn the things that they need; problem-centred orientation to learning were defined by Knowles (1973). Adults develop a psychological need to be self- directing and therefore tend to resist in a learning environment if they are restricted in any way.

Adult learners prefer experiential learning and are averse to the transmissive approach to teaching. These learners develop through approaches which utilise discussions, collaborative projects and field trips which are all action- learning strategies. Knowles (1973) explained that adult learners are ready to learn what they perceive they need to know, based on their stage of maturity. Adults are desirous of learning because they see themselves as lacking in knowledge to complete their tasks, whether at home or in the office (Knowles, 1973). Different models have also been designed based on such theories of teacher learning and further seek to explain how change occurs during the process.

Figure 4 Guskey’s model of teacher change (2002)

 Creative Common Licence

Guskey (2002) held the view that professional development programmes failed because the needs of the teachers were not met and that the process for change was ineffective. Teachers' practices and beliefs would change only when they witnessed improved student learning after their implementation of the new knowledge, skills, and strategies to which they had been exposed in the TPD programme. The model that was accepted before Guskey's alternative model proposed that teachers' attitudes and beliefs could change, for example, through their involvement in planning the TPD activity (Guskey, 2002). Guskey argued that the conditions in the organisation for which teachers worked also facilitated or averted change (Level 3).

Teachers’ perceptions of TPD in general, and more specifically ICT TPD, are addressed, and its complexities examined through the insight given into issues which impact on, or emanate from, these developmental activities. The overview places this research study in the context of research conducted globally within the scope of the topic. The impact of teachers’ beliefs on TPD and ICT TPD initiatives are looked at through the teachers’ lenses, which is followed by the many factors which may influence the intended outcomes. TPD is aimed at capacity-building to improve teacher quality, which is a career-long process, and policy decision making with respect to reform initiatives is examined. TPD models are summarised and the medium of implementation that has been the focus of some researchers brings a further understanding of the phenomenon of TPD and ICT TPD. The institutionalisation of TPD and ICT TPD is viewed in research on the implications of teacher professional development as mandatory or voluntary. Teacher agency which relates to teacher autonomy follows.

2.6 Continuous Teacher Professional Development

Much of the extensive research in the literature on teacher professional development assumes that teachers can learn what is required to teach effectively (Muzaffar and Malik, 2012; Desimone and Garet, 2015; Darling-Hammond, Hyler and Gardner, 2017). Such extensive research has covered a wide variety of topics. Initially, researchers focussed on defining TPD, and it was differentiated from the term ‘teacher education and training’ (Darling-Hammond et al., 2017). Another major area of research interest was, and currently is, whether TPD is beneficial to the teachers; that is, does it help them to teach better and do students' performance improve ? (Marzano, Marzano and Pickering, 2003; Muzaffar and Malik, 2012; Ali et al., 2015). Research was also conducted on the various models of TPD to determine which one was the most effective in bringing about increased student performance. The question arose as to what extent a professional development activity was productive, and how this could be evaluated. There is still much debate on the possibility of proving that teachers who have been professionally developed were responsible for students' improvement, given that there are so many factors which may impact students’ performance: socio-economic influences, cultural impact, physical abilities, genetic makeup, school leadership, and class size are some of the possible variables (Szell, 2013; Slutsky, 2016; Li, Yamaguchi and Takada, 2018). These are issues that have to be borne in mind when a study such as this one, undertakes to examine perceptions of building teacher capacity to enhance student learning and who and what determines improved student learning.

Teachers' beliefs and their impact on teaching and learning is another issue which is of great interest (Ertmer, et al., 2012; de Vries, Jansen and van de Grift, 2013; Lee, 2016; Lynch, 2018). For example, the view that teachers' practices are influenced by the beliefs they hold on the integration of ICT has far-reaching implications (Adegbenro, Gumbo and Olakanmi, 2017; Dlamini and Mbatha, 2018). Can teachers’ attitudes and beliefs be transformed through professional development so that their students are not deprived of the inherent benefits of a programme? The importance of teachers’ beliefs will be discussed later in the review.

The world is said to be in the Information or Knowledge Age, having moved from the Agricultural to the Industrial Age (Rabie, 2013) Teachers are expected to keep up with the changes and be equipped to teach effectively in order to prepare their students to function successfully in the world of work (Fullan,1993; Rampersad, 2011; Darling-Hammond, Hyler and Gardner, 2017 ). No country seems to want to be left behind, no matter how small, because the stakes are too high. A significant area of research currently is the use of ICT in teaching and learning, and there is on-going debate whether it is the silver bullet that policymakers seek to promote national development, especially in developing nation states.

My country is a twin-island state which Sir Vidiadhar Naipaul described as no larger than a dot on the map of the world (Langley, 2011; Mukherjee, 2001), and it too strives to abide by the initiatives of the international bodies and countries. I sometimes wonder if the saying that is used by some members of the older generation, " Champagne taste and mauby pocket", might be an apt description, given the decisions that have been made in the past, and which continue to be made by decision-makers. The saying describes the lack of alignment with what is affordable and what is desired; in this case, the decision-makers want champagne, an expensive drink but their budget allocation allows for mauby, a drink that is made from the bark of a tree and is synonymous with the lower income bracket of the population. The saying can also be used to insinuate that what is desired, champagne, may not be suitable for the population who have a "mauby" mindset. Kennedy comments that different nation-states respond to global policy trajectory in varied ways depending on their context (Kennedy, 2014).

2.7 Teachers’ Perceptions of TPD

There is consensus in the literature that the process of continuous professional development is a complex one (Avalos, 2011; Alibakshi & Dehvari, 2015; Avidov-Ungar, 2016; Bahous, Butcher and Nabhani, 2016). Firstly, the terminology in the field has been confusing (Twining and Henry, 2014) because additional dimensions to the concept then demanded further considerations. Terms should be clarified in order to have a good understanding of what researchers are presenting (De Lisle, 2016).

Additionally, complexity is created as a result of the interaction of the numerous factors which may impact on TPD: environmental, socio-cultural, political, psychological and philosophical (Avalos, 2011). The multiple intelligences, sociocultural differences and socioeconomic status of the students are factors which also may impact on the students’ outcomes and success of teachers' pedagogical strategies. Teachers should develop an understanding of their professional development and what may motivate them to engage in TPD. Cognitive and emotional engagement and a willingness to reflect on what they have learned (Alibakshi and Dehravi, 2015) are part of the process if the benefits are to be gained.

The complexity further heightens with the far-reaching implications of the aims of teacher professional development as a reform initiative (Desimone, 2010; Bartleton, 2018). The decision-makers are the politicians and their representatives, that is to say, the Ministers of Education, as they may generally be referred to. Consequently, the focal areas for TPD programmes may be those that are politically driven and not teacher or student-driven; hopefully at times they may coincide (Little, 1993; Buabeng-Andoh, and Yidana, 2015).

2.9 Professional Development Models

An area of focus in the research was found to be the attempt to identify models of professional development which would successfully develop teachers and consequently positively impact student performance. Kennedy (2005) identified nine models of professional development: Training, Award-Bearing, Deficit, Cascade, Standards-Based, Coaching/Mentoring, Community of Practice, Action-Research and Transformative. Kennedy (2005, 2014) pointed out that the model of continuous professional used, reflects the perception the authorities hold of teaching (Kennedy, 2005). The type of model which is selected for the design of the TPD initiative is indicative of the host’s perception of teachers and the education system (Kennedy, 2005; Bartleton, 2018). This is relevant to this study because the structure of the TPD workshops either implicitly or explicitly would have adopted a model in targeting learning outcomes and designing learning experiences for teachers to develop their skills and knowledge.

Situated professional development was identified as an effective model for building the skills and knowledge to integrate into instruction (Ertmer and Ottenbreit-Leftwich, 2010). This model is also referred to as site-based TPD and is regarded as likely to be effective because the target group is the teaching staff, the venue is generally the school in which they teach, and both the topic and intended outcomes would be job-embedded. Underlying assumptions of this model are that the school has the required resources, and the teachers are motivated to engage in the undertaking actively. The school leadership would also play a significant role in raising awareness of the importance of the TPD activity (Tell, 1999; Rabah, 2015; Jensen, Sonnemann and Roberts-Hull, 2016)

Teachers' perceptions of School-based and District professional development were examined by Kennedy, (2017). Kennedy's focal areas were: a) how teachers perceived school-based and district professional development; (b) what types of PD teachers found most effective; and c) whether recent professional development experiences influenced how teachers collaborate (Kennedy, 2017). Kennedy recommended that the responsible authorities include the following factors in future PD activities: relevance, job-embeddedness, and sustainability. Relevance refers to the applicability of the PD to the teachers ' responsibilities and interests; job-embeddedness refers to the relevance and the setting in which the PD takes place. The setting should be that in which teachers regard as representative of their schools’ (Kennedy, 2017). The PD activity should be supported on an on-going basis through either participation in professional learning communities or school-university partnerships (Kennedy, 2017).

Additionally, Kennedy (2017), stated that professional development that included three factors, strategic, intentional, and relevant PD, possessed the essential components of any productive PD activity. Together they had the best impact and fostered both peer collaboration and mentoring partnerships.

The Training Model has been used universally (Kennedy, 2005) for many years. This model aims to upgrade teachers' skills and knowledge as directed by a standard- based policy. The term ‘training’ – as opposed to professional development – connotes that it is perceived to be skills-based. The expert in the field instructs the participants on topics (Little, 1993) that are generally mandated by the central agency and the training is held off-site.

The Training model has been criticised for the promotion of a narrow view of teaching and education generally. This model may have lost its appeal in recent times because it is unable to adapt to the participatory paradigm that is more suited to contemporary reform initiatives (Little, 1993). The commonly held perception of this mode of TPD is that it is restrictive and does not promote teacher agency. In addition, teachers are not required to identify their PD needs but receive training on those identified externally. The underlying thinking is that standardised training will lead to improved teaching and learning. This has important consequences for the level of engagement that teachers might have in planned learning initiatives; how they perceive that professional development activities meet their needs; and perhaps as well, whether they use skills acquired to improve their classroom practice.

The medium which is used for the TPD activity should be appropriate to the years of teachers' experience and possibly to the stage in the profession (Ertmer and Ottenbreit-Leftwich, 2010; Castaño-Muñoz et al., 2018). The blended approach which was used in a quasi-experimental study in Yemen (Qasem and Viswanathappa, 2016) was shown to have positively influenced teachers’ perceptions on ICT integration, in contrast with those who did not experience that approach.

2.10 The Purpose of Continuous Teacher Professional Development

Teachers do not have all the knowledge and skills which would equip them to teach effectively throughout their career; consequently, they must engage in continuous learning (Spiteri and Rundgren, 2017). All teachers should then seize the opportunity to build their capacity to ensure that all their students will be equally guided. The ideology of teacher professional development is that teachers can learn what is required to teach effectively (Guskey, 2002). The challenge that administrators and officials invariably confront is how are teachers to engage in their professional development intentionally; should this be self-driven or mandated? Incentives such as funding of CPD costs, salary incentives, attaching CPD engagement to promotional opportunities may be offered. Additionally, there have been recommendations that participation in CPD should be mandatory to underscore its importance and possible unwillingness to attend (Caena, 2011).

Legislation for TPD, which may be considered desirable, in order to coax teachers to engage in TPD so that they can upgrade their skills, knowledge and attitude, may not necessarily have the desired impact (Pedder and Opfer, 2010; Tondeur et al., 2016). Teachers may resist when mandates and legislation are driving forces to engage in PD activities (Kubalíková and Kacian, 2016). The authors suggested that TPD should not be presented as mandatory but as community learning. Nevertheless, student learning is critical. Therefore, TPD should not be left to chance.

2.11 Teacher Agency

The content of Goodlad’s interview with Carol Tell (1995) remains relevant to date. Teachers need the freedom or agency instead of being in servitude to politicians when they are pushed in different directions, due to the different initiatives which the politicians have identified. Goodlad continued to comment that the situation could be remedied if educational leadership is included in the decision-making team in “high places” (Tell, 1995, p. 7). Thus, the question of agency is another crucial factor that can influence how teachers perceive the usefulness of professional development initiatives.

The impact of the absence of teacher agency with regard to TPD was analysed in the context of the Slovakian system of education (Kubalíková, and Kacian 2016). The historical experiences of Slovakia, a former communist nation, was noted to be mirrored in the TPD method used: a traditional undemocratic approach which was centralised and transmissive (Kubalíková, & Kacian 2016 ). The researchers noted that the TPD model used in Slovakia was based on pedagogy and not andragogy which is an adult learning theory (Knowles, 1973) which was viewed as an approach to degrade teachers. Ultimately, the TPD activity may prove ineffective where participant engagement and collaboration are excluded in its philosophical outlook, design, and implementation (Imants and Van der Wal, 2019).

The decision-makers have high expectations of the profession; however, this may not be reflected in the way it is treated nor the way in which it is regarded (Kubalíková, and Kacian 2016). This was illustrated in the MOETT's Strategic Priorities in 2010-2015, Teacher Training and Development started as Ministerial Priority No. 3 and for no apparent reason provided, it slid down to position No. 13 out of 16 (MOETT, 2012).

Perceptions on ICT teacher professional development are similar with those on TPD re the factors which can influence its success. Barriers and enablers may determine participation and possible benefits which teachers may derive from professional development experiences. Research stated that there is a great need for ICT TPD, especially in ICT Integration in curriculum delivery which is also a point of discussion. The focus then shifts to possible criteria which can be applied to produce effective TPD and ICT TPD and the possibility that some subject areas may be more amenable to ICT integration. The medium used for the professional development programme is then reviewed followed by the importance of teachers’ beliefs and ICT integration.

2.12 Teachers’ Perceptions of ICT Professional Development

Teachers’ perceptions of ICT professional development may vary; however, there are views that they may also share. Teachers may or may not be interested in participating in ICT professional development activities for reasons similar to the reasons of those who lack involvement in TPD in general. In reviewing the literature, findings were reported which identified barriers and enablers to participating in TPD in ICT in education and implementation of the skills and knowledge gained (King, 2016; Li, Yamaguchi and Takada, 2018).

Teachers' perceptions of ICT professional development may be affected by many factors (Li, Yamaguchi, and Takada, 2018). The authors identified seven (7) factors which influenced Mongolian primary school teachers’ educational usage of ICTs: teacher quality, technical support, access to ICT resources, time, teachers’ pedagogical beliefs on the effectiveness of ICT use, school management and leadership and demographics (Li, Yamaguchi, and Takada, 2018). The term ‘teacher quality’ included teachers’ level of confidence and competence. The authors stated that these factors were endogenous and were not attributed to the external environment.

In an earlier study which was undertaken in the United States of America twelve (12) technology award-winning K-12 teachers were interviewed to investigate the alignment of teachers' pedagogical beliefs and their practices, and to what extent first order or external barriers impacted on this alignment (Ertmer, et al., 2012). The researchers categorised external barriers as first-order and internal barriers as second-order. First-order barriers were those which were external to the teachers: resources, training and support and second-order were those related to internal barriers, such as teachers' confidence, pedagogical beliefs and the value of utilising ICTs in the classroom.

 The findings suggested that first-order barriers were the primary ones and they all stated that their attitudes and beliefs were not barriers to their integration of technology in their classrooms. Some reported that at times their beliefs and attitudes were most facilitative in ICT integration. The external barriers were limited internet access, lack of resources, administrative support, technology problems and standardised tests. The mismatch between ICT and the existing curricula, which they teach to their students, is one of the main barriers as perceived by teachers. Additionally, one observation was that the first-order barrier may not even be seen as such, if teachers did not attach too much importance to them, even with limited resources, for example. Teachers view digitally rich environments as conducive to the use of ICT in teaching and learning (Kamalodeen et al., 2017). The support of the environment and the availability of the resources fostered a sense of confidence and competence. Together with the support of facilitators, teachers believed that their level of competence increased (Kamalodeen et al., 2017).

Teachers’ perceptions of ICT professional development may vary based on the TPD approach used, for example The Massive Open Online Courses (MOOC) (Castaño-Muñoz, Kalz, Kreijns and Puniea, 2018). In the research study teachers saw MOOCs as more accessible and more flexible than the traditional forms of TPD. The findings also indicated that those teachers who participated in the MOOCs had already developed good ICT skills and had less training needs. The challenges experienced were little administrative support, clashes with work schedule and no incentives provided, since this form of PD may not be yet recognised.

The mode of ICT professional development that was used had differing results for teachers in the research which in turn influenced teachers' perceptions of TPD. Studies which used ICT to conduct the professional development activity in the teaching of content knowledge through an on-line mode, reported levels of success (Dana et al., 2017). Reasons were offered why participants elected to or not participate in PD. Those who chose to participate did so because it was more convenient than other forms, and another large percentage (34%) stated that they participated because it was mandatory to do so. Those who did not participate said that they were not aware of the PD offerings, and a smaller percentage stated that they preferred face -to face PD. The researchers noted that no one said that they did not attend because they did not find them useful.

Teachers regarded incentives as essential, and the most preferred was the opportunity to access materials any time, and the least important was networking with others outside of their geographical area. Of the teachers in the study, 44.7% found the PD as mainly or extremely beneficial, whereas 2 % reported experience. Teachers who had participated previously in online PD, who regarded PD engagement as mandatory, perceived it less beneficial than those who thought it was convenient. Those who chose to participate in online PD found it more beneficial than those who saw it as mandatory.

2.13 Professional Development as Essential

Teachers regarded ICT professional development as necessary and thought that it should be offered more than the three or four times provided annually. Increased professional development would enable them to be more proficient and therefore, more successful in integrating ICT daily in most classes (Rabah, 2015). Professional development was reported to be needed; however, this must be accompanied by increased technical and pedagogical support (Rabah, 2015). Teachers were said to be intimidated by the thought of not having technical support in the classroom in the likely event of students' computers not working or their inability to access whatever teachers are requesting. The teachers' reasons for increased support was further underscored when they pointed out the lengthy procedures which needed to be followed in order for simple repairs to be addressed by the responsible persons.

Teachers regarded lack of professional development in the integration of ICT into teaching and learning as one of the inhibitors encountered (Adegbenro, Gumbo and Olakanmi, 2017). The authors also found that teachers who were trained with outdated technologies did not engage in in-service TPD, which amounted to many secondary school teachers in Gauteng Province of South Africa (Adegbenro, Gumbo and Olakanmi, 2017). As a result, an intervention to provide ICT TPD to the secondary school teachers based on their competences, using a site-based model of TPD, was planned. The research study was primarily a training needs analysis in order to design the TPD programme to cater to the varying needs of the Province’s teachers and to report teachers’ attitudes to ICT enhanced teaching (Adegbenro, Gumbo and Olakanmi, 2017). The factors discussed above are relevant to the issues explored in my study because they are important in any consideration of teacher perceptions of the impact of professional development activities.

2.14 Effective TPD

The Table (see Appendix III) summarises what researchers cited above have concluded are the criteria for the evaluation of effective professional development programmes for teachers. This table was formulated using Guskey’s criteria (2000) as the basis of comparison and additions were included from other researchers. There are nine criteria identified, against which each researcher was compared. Notably, the criterion that most of these researchers described is that TPD should respond to the needs of the stakeholders. The stakeholders who were identified were the new teachers, teachers, the school, the students and the system.

Guskey's criteria included one component which is acknowledged by Bayar (2014) but is not directly stated by the other five researchers, and that is participants' satisfaction with the experience. Guskey postulated that it was essential to find out if the participants liked the PD activity, found that their time was not wasted, and the content was useful and sensible. Participants were to benefit from the presenter who would be knowledgeable and helpful. The other three aspects which were listed under Participants' Reactions were related to the quality of the refreshments, the temperature of the room and the comfortability of the chairs. Bayar (2014) only referred to the quality of the presenter.

All researchers in the table (Appendix III) cited the criterion of acquisition of skills and knowledge as valuable. The TPD should cater to the intended or identified skills and knowledge; however, these needs may be requested by various stakeholders, not just the teachers. TPD may cater to the needs of initial teachers, teachers in general, schools, students, and the education system (Ertmer and Ottenbreit – Leftwich, 2010; Bayar, 2014; Desimone and Garet, 2015; Jensen, Sonnemann and Roberts-Hull, 2016). Also, effective TPD should focus on curriculum implementation: delivery of content, aligned with associated instructional strategies and skills (Ertmer and Ottenbreit – Leftwich, 2010; Bayar, 2014; Desimone and Garet, 2015; Darling-Hammond, Hyler and Gardner, 2017; Baird and Clark, 2018). Teachers who participate in effective TPD programmes should have a positive impact on students' learning and outcomes (Guskey, 2000; Ertmer and Ottenbreit – Leftwich, 2010).

Effective TPD should impact on the organization (Guskey, 2000). The school leadership has an integral role to play in supporting the TPD programme in which its teachers have participated (Ertmer and Ottenbreit – Leftwich, 2010; Jensen, Sonnemann and Roberts-Hull, 2016). Policies such as dedicated TPD time or the redefinition of a quality teacher to include technology-integration (Ertmer and Ottenbreit – Leftwich, 2010; Jensen, Sonnemann and Roberts-Hull, 2016) should be established and practices such as evaluation and accountability (Jensen, Sonnemann and Roberts-Hull, 2016). Teacher agency was cited as necessary by Bayar (2014) and Baird and Clark (2018), that teachers should be involved in the design, planning and implementation, however, this was not emphasized by the other researchers.

Teachers' view of their duties and responsibilities may also shape their outlook on the concept of continuous professional development and ICT professional development. The moot point may well be that teachers view their task as teaching the curriculum and not the goal of education, that is often shared, to develop citizens who are well equipped with the twenty-first-century skills to contribute to sustaining their countries successfully. At the onset of this millennium, Hawkins made an observation which may be relevant to date. The perception was that teachers should focus on the educational gains which can be experienced by using technology in the classroom and not on the technology itself (Hawkins, 2002). The goal of professional development is to be able to change the attitudes of teachers in addition to developing their knowledge and skills (Guskey, 2002; Fullan, 2006).

2.15 Effective Continuous Teacher Professional Development

TPACK is essentially the framework used for evaluating effective TPD ICT in education programmes and teaching. TPACK is an expansion of Shulman’s (1986) definition of PCK which incorporates six different types of knowledge which are interdependent: Technological Knowledge, Pedagogical Knowledge, Content Knowledge, Technological Content Knowledge, Pedagogical Content Knowledge and Technological Pedagogical Knowledge (Mishra and Koehler, 2006). The successful outcome of the TPD is the integration of technology into teaching (Jamani and Figg, 2015). The driver for the actual ICT integration in the classrooms was attributed to teachers’ perceptions of the usefulness of technology in facilitating curriculum implementation (Jamani and Figg, 2015).

Technology integration seemed to more easily undertaken in several content areas: the Sciences, Geography, History, Mathematics and Languages. The success in the teaching of Science gave rise to the TPASK model which facilitated the design of technology TPD (Jamani and Figg, 2015). A drawback cited was the risk of teachers experiencing cognitive load if all knowledges were to be developed at the same time (Mishra et al., 2014).

PCK model incorporates the content knowledge of students which is not a component in the TPACK model. The absence of content - specific knowledge and related pedagogical strategies is seen as a major limitation of TPACK. The twenty-first century skills: critical thinking, collaboration, creativity and communication are not specifically included in the TPACK framework. The strength of the TPACK framework is its facilitation of teacher autonomy and innovative designs (Mishara et al., 2014).

2.16 Teachers’ Beliefs

Teachers’ perceptions and attitudes towards the adoption of technology integration in teaching and learning are the result of underlying beliefs about its usefulness (Qasem and Viswanathappa, 2016). Codes of conduct, job specifications, and educational legislation contain specified expectations of teachers in this noble profession. Legislation may be able to guide teachers’ behaviour which may be outwardly visible, but getting an insight into their beliefs may not be so simple. The rationale for wanting to learn about teachers’ beliefs is to assist in understanding their actions with regard to teaching and learning. The underlying personal beliefs of teachers influence their attitudes towards their buy-in and implementation of technological or other reform initiatives in question, as illustrated in several research studies (Lynch, 2018). Teachers’ convictions about what is referred to as TPD may very likely affect their willingness to embrace any such activity (Fives and Buehl, 2016) and by extension, any impact it may have on the improvement of their practice.

A quasi-experimental study was undertaken in Yemen which sought to analyse the perceptions of sixty (60) Science teachers towards the integration of ICT in their instructional designs. The mode of TPD which was provided to the experimental group was the blended learning approach and the traditional face-to-face, for the control group. The groups were divided equally. The course content was the same for both and the duration was eight (8) weeks with sixty-four (64) contact hours of TPD. The teachers in both groups held similar perceptions of ICT integration in the pre-test; however, in the post-test the experimental group showed a more favourable attitude towards the use of ICT in instructional design. The TPD activity was successful in changing the beliefs of teachers who experienced collaboration. Information teachers reported that teachers who were trained using a blended approach perceived ICT integration in a positive light. The authors stated that in previous research conducted, perceptions teachers held of ICT Integration were impacted by the attributes associated with technology. The observation is somewhat different from what others have made, in that technology possesses characteristics that are responsible for teachers' response towards ICT integration.

Generally, the view stated was that teachers’ beliefs influence their perceptions of ICT integration. Teachers seemed to be intimidated by technology and regard ICT competence as necessary for utilisation in their classrooms. It is then essential to address the issue of teachers' fears and concerns about not just ICT competency but proficiency, in order for them to implement the desired technology in their classroom. The researchers suggested, after examining the positive impact of categories of blended learning, that in order for teachers to better use ICT in their teaching, their perspectives must be understood and their perceptions changed.

There is need to invest in training programmes for teachers as the first step towards getting them to use e-learning. Teacher preparation necessitates not merely providing additional training opportunities, but also aiding them in experimenting with new ICT-based approaches before using it in their classrooms (Qasem and Viswanathappa, 2016). The main barriers to implementation of ICT, as perceived by the teachers, are the mismatch between ICT and the existing curricula which they teach to their students (Qasem and Viswanathappa, 2016). Pre-service teachers who were enrolled in the final month of a Bachelor of Education in Science degree programme in Tanzania (Kafyulio, Fisser and Voogt, 2016) participated in the study and viewed the TPD programme as useful. Teachers who participated in the PD programme were able to gain an understanding of TPACK and developed their skills in technology integration.

The impact of TPD on students’ academic achievement needs to be addressed frequently when the student’s outcomes are examined, in the event that a barrier may lie in the learning environment (Baird and Clark, 2018).

2.17 TPD Skills and Knowledge

The topic of competences is another issue examined and examples of situations in which skills and knowledge were developed from engagement in professional development programmes are presented. The concepts of glocalisation, self-confidence and the importance of obtaining information on participants’ knowledge and skills are addressed in this section in relation to R.Q. 2

2.18 Skills and Knowledge Gained from TPD

Digital competence (DC) can be defined as the knowledge, skills and attitude which are required in order to fulfil tasks effectively in digital environments (Spiteri and Rundgren, 2017). DC is defined as teachers’ ability to use technology to manage information, collaborate, communicate, create content and knowledge, operate ethically and responsibly, identify, evaluate and solve problems and complete tasks (Spiteri and Rundgren, 2017).

In another study, researchers claimed that participants gained "technical prowess" (Ali et al., 2015, p. 75) after having learned to integrate ICT in their classrooms in the professional development for in-service teachers. Teachers developed skills in instruction and assessment of diverse learners. Teachers were able to integrate ICT into their teaching through the use of tools such as PhotoStory and Wikis.

Teachers became proficient in using a variety of technology tools for problem-solving, making informed decisions, and generating new knowledge (Qasem and Viswanathappa, 2016). Further, a course delivered over network-based electronic devices allowed users to share visions (Qasem and Viswanathappa, 2016). Teachers were able to integrate ICT to create their lesson plans and audio-visual lessons using different approaches which were more student-centred: inquiry, project and collaborative (Rabah, 2015). Students were enabled to conduct searches on the World Wide Web, use productivity and presentation tools and professional software (Pamuk et al., 2013; Rabah, 2015).

Teachers implement new knowledge and skills in their classrooms. In the subject area of Mathematics, teachers created and used spreadsheets for teaching mathematical reasoning and problem-solving (Niess et al., 2010). In the Sciences, geospatial technologies were utilised for science inquiry (Trautman and MaKinster, 2010). ICT integration was also achieved in the Teaching of Geography (Doering, Veletsianos, Scharber, and Miller, 2009) and in History, where digital documentaries were created to foster historical thinking (Hofer and Swan, 2006). The technology mapping approach focused on locating tools, for example Google Earth, to bring lessons to life, as in the case of a virtual field trip. Different tools are used for different aims and purposes (Mishra and Koehler, 2014).

2.19 Glocalisation

Teachers were empowered with the skills to use tools such as Skype to allow their students to interact with the global village (Rabah, 2015). Students benefitted from the global connection with an increased awareness of the richness and availability of knowledge from foreign countries. Teachers reported that through the use of ICT in teaching, they were able to connect their localised context to globalised ones (Rabah, 2015). One example which illustrated this finding was the connection of students through Skype, a video conferencing tool, with an author whose book they were reading, which sparked great excitement.

2.20 Self Confidence and Self Efficacy

Self-efficacy is a concept that represents the thinking that the individual judges him/herself on his/her ability, in this case, ICT technical knowledge and skills, to carry out a task (Bandura,1997). Teachers recognised the value of ICT integration but were not willing initially to attempt to implement it in their classrooms because they did not feel adequately competent.

Some teachers gained more confidence in their ability to teach after participating in an in-service Diploma in Education programme. Teachers experienced growth as professionals which resulted from their awareness of the agency and the benefits of adopting a student-centred approach and not reverting to a teacher-centred one (Ali et al., 2015).

2.21 Cultural Essentialism

Teachers state that ICT professional development should be culturally responsive (Alvaré, 2017) because the lack of consideration for cultural differences may prove to impact negatively on the professional development of teachers. Culture is an essential consideration in the design of the CPD programme; however, in seeking to emphasise commonalities, differences are ignored, and this may harm the participants (Alvaré, 2017). An example of cultural essentialism practised by the TPD providers and organisers was evident in the case of the programme “Sharing the Environment" when organisers appeared to have offended the participants from Trinidad. The American providers did not think that the Trinidadians knew how to power on a Mac computer.

The TPD providers should have some necessary information on the knowledge, skills and attitudes of the participants, primarily if they are externally based. Teachers are offended when negative assumptions are made about their skills and knowledge based on the factors for which they are not responsible, such as their country of origin (Alvaré, 2017).

Teachers will not support what they view as an ethically unfair practice which may be noted at any stage or level of the TPD activity, as found in the situation where information on their race/identity was requested (Alvaré, 2017). The teachers in the TPD activity refused to fill out the section which required information on their race/ethnicity, which they regarded as irrelevant. Again, these issues are relevant to the extent that perceptions are influenced by cognitive and affective factors that may not always be considered by planners of professional development initiatives.

2.22 Implementation of Skills and Knowledge

The section begins with the practical implementation of the TPD that is job-embedded. Teachers were pleased with the collaborative behaviour displayed by others. Positive narrations of student engagement and learning, together with strategies for Differentiated Instruction, are reported. Barriers to implementation of what was learned in the programmes are of critical importance and the positive effect that institutional support can have in facilitating teachers’ growth.

2.23 Implementation of Skills and Knowledge Gained from TPD

Teachers were able to understand better that the aim of education was to prepare their students to be productive citizens of their countries (Ali et al., 2015). Additionally, teachers saw the importance of their subject area for nation-building. Lessons were now designed with the end in mind, what the students were supposed to learn and not so that the teacher would have completed that part of the curriculum. Participants were able to develop a greater understanding and benefit from curriculum integration (Ali et al., 2015) Teachers taught with increased enthusiasm and creativity after being exposed to colleagues' perceptions of teaching and learning.

Teachers stated that TPD provided knowledge outside of their subject area(s)and that it reenergised teachers (Alibakhsi and Dehvari, 2015). Teachers saw TPD as an avenue for learning about their profession: skills development, keeping updated about new practices and policies. Teachers who participated in an in-service programme, for which a postgraduate diploma was awarded, were able to incorporate knowledge gained from their colleagues which was obtained from their collaborative teaching and community of practice. One teacher stated that she was amazed at her students' responses and conclusions when she used the multimedia for creating learner-centred lessons (Ali et al., 2015).

Teachers were able to teach students about different cultures and learning styles. One of the aims of ICT integration is to increase educational access to diverse learners (Ali et al., 2015). The authors stated that the quiet students responded so intelligently to the questions which she placed on a wiki and advised that teachers should ensure that what they place on wikis for students should be sound.

2.24 Contextual Factors

In the research study “Teachers’ ICT usage in second-cycle institutions in Ghana: A qualitative study” (2015), Buabeng-Andoh presented the conditions which existed, and may exist to date, in which ICT is expected to be integrated with teaching and learning, notwithstanding the numerous barriers identified. Barriers were cited by various teachers which at times were unique to their schools: no access to ICTs for teachers, only for students; limited computers for the large numbers of students; no internet connectivity; lack of software; and little or no administrative support. The two research questions were centred on teachers' uses of ICT in their teaching and the factors which affected their use of ICTs.

This research was conducted with teachers and students of twenty-four secondary schools in Ghana. Sixty students were interviewed in ten focus groups, and sixty teachers, both males and females, from a total of twenty-four schools, were similarly interviewed. The findings indicated that the predominant use of ICTs in teaching was asking for students to gather information, which was undertaken in internet cafes because the schools were not equipped with internet connectivity. Teachers used ICTs for planning and organising, for example, lesson plans and student results; however, most Science teachers used CD-ROMs to store notes which were given to the students for study purposes. The teachers requested ICT professional development in using productivity tools, ICT integration in the curriculum, as well as technical skills to support learning in the classroom. Resources such as access to computers and the internet and leadership support were also identified as needs which, when met, would motivate them to use ICT in their classrooms.

2.25 Institutional Support for Teacher Professional Development

Teachers are adult learners and wish to be treated as such, as opposed to being regarded as students (Kubalíková and Kacian, 2016). Additionally, teachers require adequate support in their continuous professional activities in order to benefit (Kubalíková and Kacian, 2016). Mentor support is one type of support which teachers perceive as worthwhile and needed (Kubalíková and Kacian, 2016). Institutions can provide TPD mentors to guide new teachers as they enter the profession. Support for beginning teachers has been reported as critical, not only for capacity building but to facilitate their retention in the profession (Harris et al, 2006; Caena, 2011). Another key point is that follow-up support by the relevant staff, can make TPD activities more effective (Caena, 2011).

School culture and climate can foster positive outcomes to professional development by lending support, for example, for the changes which are needed for school improvement to be achieved. The culture of the school could support the allocation of time on the timetable for TPD for all staff (Goodall et al., 2005) Incentives could be offered, such as funding of TPD costs, salary incentives, attaching CPD engagement to promotional opportunities. Additionally, there have been recommendations that participation in CPD should be mandatory to underscore its importance and deal with possible unwillingness to attend (Caena, 2011)

Continuous comprehensive evaluations of professional development programmes will assist in ensuring that there are benefits to the experience, for example, changes in teacher practices and positive student outcomes, as opposed to inquiring about satisfaction. Effective evaluation of CPD should also look at possible improvements in the design and implementation.

2.26 Student Learning

The use of the new ICT knowledge and skills can improve student learning. Well-designed evaluations are prized tools that serve multiple audiences at the state, district, building and classroom levels. Well-designed evaluations inform about: the effectiveness of the current TPD practices, the content, design and modifications for future programmes (Guskey, 2001)

2.27 Evaluation Models

Not much is known about the improvement of student achievement after teachers have attended TPD activities (Baird and Clarke, 2016) because it is not often evaluated. The evaluation component seemed to be absent or inadequate when a programme is reviewed, and this may be as a result of the absence of agencies to conduct evaluations or supporting policies to implement or sustain the impact. The perception of the evaluation of TPD as time-consuming and costly was an added deterrent.

Evaluation of TPD is an aspect of this phenomenon of teacher professional development that is growing. Evaluation of professional development activities is critical: the expenditure of public funds needs to be accounted, students' performance needs improvement and strategies that were employed need to be measured for the value they have added or if they have impacted negatively on the students and their schools, justify the time invested by students and teachers (Guskey, 2002; Baird and Clark, 2018.)

In an overview of the variety of evaluation approaches available the commonality was their alignment to the definition of evaluation as "a study designed and conducted to assist some audience to assess an object's merit and worth" (Stufflebeam, 2001, p.11). There are several models which focus on evaluating various aspects of programmes, for example, the Objectives-Based Studies evaluate if the programme's objectives were fulfilled (Stufflebeam, 2001; Blank and de las Alas, 2008; Desimone, 2009, Mavis, Cayci and Arslan, 2014). Guskey (2002) developed the model which was designed to evaluate professional development programmes.

 Guskey's model has received mixed criticism: on the one hand it was pointed out that his evaluation of TPD was based on teachers' perceptions and followed by commending it as a comprehensive evaluation of PD. However, it was described it as a " simplified practitioner -minded model” (Baird and Clark, 2018, p. 328) which evaluates participants' reactions by looking at the support given by the organization and the student outcomes. Desimone's (2009) and King's (2014) evaluation models were similarly critiqued but were regarded as more complex than Guskey's but their approach may not have been practical in conducting their study

One of the dominant sources of concern is the need to evaluate the effectiveness of the ICT PD to determine if the investments of the often scarce funds have paid off. On an educational level, the authorities would want to monitor the preparation of the citizens for the digital world. Hence the question was put forward on how to measure the immediate and long-term effects of teacher professional development on student learning (Guskey, 2001).

2.28 Measuring the Impact of TPD

The impact of the CPD on student and teacher performance can be measured (Guskey, 2002; Yuksel, 2010;Heller et al., 2012) however, in the case of the MOETT's Programme, the focus of this research study, the data which has been collected since its inception was not detailed. In the absence of detailed data, it is, however, possible to obtain participants' perceptions of the workshops during the period under study, 2010-2018 (Schwandt, 2007). The approach used is modelled along Guskey's Five Critical Levels of Professional Development Evaluation model (Guskey, 2002.) Measurement of the impact of teacher professional development (TPD) on student achievement has proven to be challenging, due to many possible factors that may be responsible

Conversely, there are studies in which teachers who have engaged in TPD have contributed considerably to the improved performance of their students. In an experiment to determine the impact of the transformative professional development model on student achievement on state tests on science at the elementary school level, it was found that students whose teachers had engaged in a two (2) year TPD programme performed better than those whose teachers had not (Johnson and Fargo, 2014). Sixty-seven (67) per cent of students attained proficiency level compared with twenty-five (25) per cent before the intervention.

The intervention was a TPD program which was comprised of the essentials of the conceptual framework for functional professional development (Desimone, 2009), culturally relevant pedagogy and successful science instructional techniques. The control group of teachers did not experience any TPD in the same two-year period.

Research findings have indicated that the use of ICT in instruction may benefit students. Students not only enjoy the lessons but seem to better understand the curriculum content (Rabah, 2015; Maharaj-Sharma & Sharma, 2017). Participants perceived the in-service professional development, the Diploma in Education, as rewarding. Teachers learned to integrate technology, such tools as Photo Story and videos, into their lessons which they found enjoyable to prepare and increased student engagement (Ali et al., 2015).

Teachers' attitudes to the Diploma in Education in their content area, Social Studies, may differ from those TPD activities which are not professionally accredited and recognised. Although the Diploma in Education is not mandatory, this postgraduate diploma is a requirement for promotion to middle management positions. The teachers' perceptions of the Diploma in Education programme may then have been influenced by the rationale they had for participating.

Adequate resources seemed to have an impact on teachers' perception of TPD programmes. Support from facilitators is viewed as an essential component of an TPD activity (Kamalodeen et al. 2017) because it helped to build teachers' confidence. Apart from the need for human resources, physical resources are needed to build the technical competences and confidence required to integrate technology into curriculum implementation. A "digitally rich environment" (Kamalodeen et al. 2017, p. 5) or a “technology-rich learning” environment (Rampersad, 2011, p. 6) would provide access for both students and teachers to all the ICTs required for seamless transition from one technology to another during teaching and learning in the classroom. (Rampersad, 2011).

2.29 Conclusion

The research on teachers’ perceptions of ICT TPD is indeed extensive, and for this reason an attempt was made to limit the selection of articles and chapters of books to the research topic and the research questions. The section on Teachers’ Lives is placed at the beginning of the review to affirm the centrality of the teacher in educational research. Even though the research topic focused on TPD professional development workshop programmes, it seemed to be necessary to present the review with sections about ICT TPD, due to the present need for these competences in on-line learning and daily business transactions (UNESCO, 2018). The issues that were associated with TPD in the literature, highlighted the long road taken in pursuit of the answers to the varied questions which address student improvement and the teachers’ role in ensuring this.

Teachers’ perceptions on ICT TPD are mixed due to the factors which impact teachers at different levels in the education system, in countries at different stages of development and due to the expectations the nations have of them. Large amounts of money have been invested so that the citizens can achieve the required competences to work in the Information Age for the benefit of their countries.

The review has pointed to the effect teachers’ beliefs about ICT integration is likely to have if great investments in their professional development are not provided Large portions of state funds may be dedicated to the improvement of student performance by way of the purchase of hardware and software, physical infrastructure of school plants and few funds in comparison, to building teachers’ capacity and providing the resources for them to have a positive impact on their students’ learning. The examination of the underpinning perspectives on teacher professionalism that influences CPD policies may prove to an enlightening future research topic.

CHAPTER THREE: METHODOLOGY AND METHODS

3.1 Introduction

Chapter 2 presented the debates and prevailing issues on teachers’ conception of teacher professional development and their perceptions of their engagement in professional development activities. This chapter justifies the approach selected to answer my research questions which are presented in Chapter 1. The report on the methodology adopted for this research study begins with the restatement of the aims and the research questions. My philosophical orientations and positionality which underpin this research are then explained. A rationale for the selection of the interpretative paradigm is presented, followed by a brief overview of research methodologies and the justification for the use of the case study methodology. The choice of a qualitative research approach is then explored, and justification given for its use in this exploratory case study. The chapter ends with concluding remarks on the rationale for the methodology and methods which were selected to conduct the in-depth investigation into teachers’ perceptions of the teacher professional development in a postcolonial nation.

3.2 Aims and Research Questions

The aim of this research study is to conduct an exploratory study of teachers’ perceptions of professional development with a focus on how programmes improved their knowledge and skills and enhanced student learning. This study seeks to contribute to the ongoing research on building capacity and its relationship with improved student learning in a small postcolonial nation state.

1. How do teachers in Trinidad and Tobago conceptualise teacher professional development?

2. What skills and knowledge do teachers develop because of their participation in the professional development activity?

3. To what extent do teachers think they are able to apply their learning to their practice?

4. How do teachers perceive enhanced student learning in their classrooms?

This research study aims to examine teachers' perceptions of the Ministry of Education's professional development initiative, the Annual Professional Development Workshops for Teachers. This initiative was introduced in 2008 and was offered as recently as 2018. The ICT in Education workshops 2010 -2018 were selected as a sample of the workshops that were offered during the specified time frame. The initial aim was to gain feedback on the Annual Professional Development Workshop for Teachers July-August during the time frame 2010-2015. However, I thought it wise to extend the period to 2018. The reasons for the modification were the unavailability of data and also because the study was intended to be exploratory in nature and could possibly expand into a more extensive undertaking in the future by other researchers. The ICT in Education workshops were chosen because technology integration into curriculum implementation at all levels has been one of the strategic priorities of the two governments in the time frame 2010-2018. Data would have been required by the MOETT's Strategic Executive Team (SET) for reporting purposes to the responsible governing bodies, so that the likelihood to obtain data on this category of workshops was greater.

Five out of seven of the participants interviewed had spoken about their participation in ICT in Education workshops. The interviews provided great insight into the Programme as a whole and provided a context for the ICT in Education workshops. The experiences shared by the seven participants from their perspectives contributed to a greater understanding of the Programme in general.

3.3 The Evolution of the Research Study

One of the characteristics of qualitative research is the flexibility to revise design components when necessary through an iterative approach (Johnson, Adkins and Chauvin, 2020). This research study evolved from an examination of the employer’s professional development programme to an in-depth investigation into teachers’ perceptions with consideration of the context in which teaching and learning take place ( Goodson, 1992 ; Sikes and Everington, 2003).

3.3.1 The Initial Focus and Research Questions

The original research topic was "Examining Teachers' Perceptions of The Ministry of Education's Annual Professional Development Workshops for Teachers Programme (2010-2015) in Trinidad”. The research questions were similar but less targeted and were also structured along the lines of Guskey's Levels of Evaluation but did not include level 5, the student learning outcomes. Greater focus was placed instead on Level 3 -Organisation Support and Change, in recognition of the impact of leadership on an organisation (Sergiovanni, 2005; James, et al., 2013).

The previous research questions:

1. What do you perceive as continuous professional development?
2. Did the professional development workshops meet your needs?
3. What do you think of the support provided by the Ministry of Education for these workshops?

3.4 Methodology

3.4.1 Positionality

For the past nine years, much time, energy and money have been dedicated to the preparation and implementation of the Annual Professional Development Workshops for Teachers July-August. These opportunities for professional development are offered to all teachers in our education system, and throughout the years of their existence, the attendance and interest have grown incrementally. This programme of workshops has become so much a part of my job responsibility over the years, as the staff of the contract unit slowly dwindled to one member, and it formed my professional identity. At meetings within the MOETT, the term Teacher Professional Development practically became synonymous with my name, which is an indication of the level of involvement that I have had with this continuous professional development programme (CPD).

My positionality as a researcher of this study has been constructed/created by my years of experience in the field of education, both formally and informally. My first job as a teacher was at a secondary school, which spanned a twenty-four-year period. I clearly remember that no one was responsible for easing the transition from being a university student of languages and literature to becoming a member of the teaching staff. Twenty-four years later, I was advised to consider another role which was that of an administrator. At the time of that suggestion, I had never before considered this aspect of the teaching profession although, as I reflect now, I had embraced the task of a middle management position acting as a Head of Department.

The positionality of the researcher impacts the research study in its entirety (Denzin,1986; Zempi, 2016), and the declaration of one's positionality informs readers through which lenses the research is presented (Takacs, 2003; Baxter & Jack, 2008). I initially decided to claim that I was an insider researcher, but after much reflection, I have concluded that I am both insider and outsider based on the definition. My experiences may have influenced my interpretation of the data.

This research project is of great significance for me as I have worked on all aspects of this Continuous Professional Development programme for the entire period of the study, that is, 2010-2018. I, therefore, viewed myself as an insider researcher, because I was familiar with the culture and politics of the MOETT and the social outlook on teachers. On the other hand, I can be viewed as an outsider in that I did not share the experiences of the teachers as participants in the programme of workshops but performed the role of the Programme Manager.

Measures have been taken to minimise insider interference through the very design of my study and adherence to the ethical guidelines which formed part of the requirements in my application for approval from the University Ethics Committee.

However, the impact of an insider positionality may prove beneficial in that I had an ‘epistemic privilege' (Turgo, 2012) and ease of access to the Division's documents and to the participants in the sample. The research literature (Saldin and Yaacob, 2016) recognised that there are affordances of being an insider researcher. The insider researcher is an insider because of the familiarity with the working conditions of the participants, which can aid in facilitating a better understanding of the phenomena. Additionally, the insider researcher may be likely to be aware of the assumptions of the participants and their tacit knowledge. The insider researcher is likely to be familiar with the politics of the setting and have an appreciation for their context (Saldin and Yaacob, 2016). Being familiar with the participants’ context may facilitate further conversation. There are challenges that can be encountered as an insider researcher with regard to a possible loss of objectivity and bias (Saldin and Yaacob, 2016).

3.5 Philosophical Framework

3.5.1 My Guiding Philosophy

The philosophical framework by which I am guided in this research study incorporates three orientations: epistemological, ontological, and axiological which are all connected. The philosophical framework, fundamental beliefs by which I live and work, has been created through the fusion of my religious beliefs, the numerous uphills and downhills in my life's journey and a firm conviction about the importance of education in impacting the quality of life with which I am blessed. My worldview is that we are all created for a special purpose and given a special gift or passion which may be viewed as a strength and, when aligned, may result in success. In a similar vein, teachers have a special purpose and need to continue to build capacity.

Education, as I view it, is all-encompassing and refers to the effect that learning, both active and passive, has had on how I have managed my journey of life. I have a firm conviction that good teachers can have a positive impact on students, even if resources are not always readily available. However, good teachers need to continuously develop themselves because their knowledge, skills and behaviours are required to be continuously updated to implement contemporary reforms (Kennedy, 2005; Desimone, 2011). Qualifications are essential, for they are signposts which demonstrate the body and mastery of knowledge acquired in areas which the policymakers have valued through the years. However, these qualifications are one component of education and being educated.

In summary, the views of the selected teachers on the Annual Professional Development Programme for Teachers function as pieces of a puzzle which together can create a good understanding of the Programme. Each teacher's experiences, both personal and professional, can shape his/her outlook on the Programme and affect whether it should be regarded as beneficial or not. I hold that each participant's perception and his/her experiences of the Programme should be regarded as their truthful reflections of the phenomenon being examined.

3.6 Philosophical Orientations

Epistemologically I hold two views of the nature of knowledge: that there is spiritual truth and multiple truths and that the former may influence the latter depending on the level of internalisation of each. A person can, therefore, view experience through a combination of these lenses, through each lens independently or concorrently. My epistemological position is interpretivist, and I, therefore, believe that knowledge can be gained from multiple sources (Thomas, 2011) and that human beings/people have different strengths or gifts which influence their views and experiences (Hammersley, 2012). As Hammersley (2012) aptly noted in his discussion on Thomas Kuhn's influence within the Social Sciences, the latter did not view scientific development as targeting the creation of a "single body of knowledge that represents reality” (Hammersley, 2012, p.2).

Axiologically, the notion of multiple truths does not take away from the potency of each truth, because each individual may regard his/her conviction as justified, based on his/her life's experiences. Moreover, each person's experiences are not the same because of his/her positionality, varying backgrounds, opportunities, and choices that people make or those which are possibly imposed upon them. My axiological perspective is that there are two value systems by which I am guided: the spiritual/ moral and my personal, which may not be different from the former but may not be as highly developed. Similarly, we can examine the teachers' experiences in the workshops and their reflections on them and learn that they may be different from the objectives which were envisaged in the workshop design.

My ontological orientation is closely linked to my epistemological outlook and belief that there can be no one standard experience of the Programme (Hammersley, 2012) because everyone has been created uniquely, even twins are likely to interact with and interpret experiences differently (Kolb, 1984; Kolb and Kolb, 2018). However, the powers that preside decide on which ‘truth' they wish to promote and, conversely, deny (Dewey, 1909; Foucault, 1980).

3.7 The Interpretivist Paradigm

Research belongs to mainly two schools of thought: positivism and interpretivism paradigms (Guba and Lincoln, 1994; Wellington, 2000; Hammersley, 2012), which are based on differing philosophical foundations. The framework within which my research study was designed is the interpretivist, which focuses on the social construction of knowledge, as opposed to the positivist's view of its absolute nature (Trochim & Donnelly, 2007). Consequently, in my research, the CPD workshop experiences of the teachers in the sample are the primary source of data collection where the focus is on participants' perceptions of the ICT in Education workshops within the selected period 2010-2018. Together the rich details which were gathered, the workshop feedback forms from the TTDD, one testimony from a participant and the researcher's experience would produce an in-depth understanding of the research phenomenon.

The paradigm used was interpretivist because the intent was to conduct in-depth, semi-structured conversations / interviews with a small cross-section of participants, to learn about their experience in the workshops identified. Interpretivism places value on the experiential knowledge of people (Kolb, 1984; Baum, MacDougall & Smith, 2006), which is very important to this study because the participants of this Programme intrigue me. They were intriguing because they represent a minuscule percentage of the teaching population who attend the workshops of their own volition and on their own time. The majority of the teaching body do not attend any of these workshops; out of approximately thirteen thousand teachers, one of the most substantial number of participants was eight hundred. It was my wish to invite the seven participants, a small but purposive sample, to learn about their engagement with the workshops and delve into in-depth dialogue to gain a sound understanding of their reason(s) for so doing. The participants are the immediate beneficiaries of the Programme, who ideally will impact positively on the ultimate beneficiaries, the students.

The selection of the interpretivist paradigm may be influenced by my positionality as an insider researcher and by my philosophical orientations. I acknowledge the thinking also that an understanding of the researcher's context and philosophy is critical for an appreciation of their work and findings (Sikes, 2006b; Zempi, 2016). I bring to this research study years of experience in the practice of education and a conviction that there is a Supreme Being who overlooks all that I think and do. In addition, the nature of my research study, which is focused on people and their perceptions, has impacted on the decision to adopt a qualitative as opposed to quantitative methodology.

3.8 The Research Strategy

I knew that I wanted to examine the Programme in order to obtain some feedback because it had been offered for a number of years (2008 – 2018) and we, the responsible Division in the MOETT, had not yet undertaken a systematic review of it. Apart from the evaluation forms which were routinely distributed at the end of each workshop, verbal comments and, at times emailed comments from a minority of the participants, we did not have an in-depth understanding of what our teachers were thinking. The decision to examine participants' perceptions of the CPD Programme, in which I have been involved for nine years, came about as a result of extensive reflection, interaction with the literature and discussion with my tutor and supervisor.

3.9 Overview of Methodologies

Consideration was given to various qualitative research methods to decide which would be best suited to an exploratory study, which sought to focus on the participants' perceptions of the CPTD Programme. The research methods which were selected as possible tools for my purpose were: life history (narrative research), ethnography, grounded theory, phenomenology, and case study (Somekh and Lewin, 2011; Denzin, 2016; Creswell and Poth, 2018;). To choose the right research method, I had to bear in mind what I was hoping to achieve, and which research method could facilitate the data collection. Each data collection method has its assumptions (Cresswell, 2012).

The life history research method may be used to reflect on the participants' lives (Goodson and Gill, 2011) and the impact of their experiences and stories with an understanding of their historical contexts (Goodson and Gill, 2011). The life history method takes into consideration the personal and sociocultural contexts of the teachers, and their "lived experiences" (Goodson and Gill, 2011, p.9). This research study was exploratory and sets out to learn what were teachers' perceptions of the CPD Programme, in particular, the ICT in Education workshops in which they had participated during the period 2010- 2018. At this phase of research, the views of the teachers are the focus and not how their personality and biographical data impacted on their perceptions. It is possible that further research can be conducted on the life histories of these teachers and the commonalities, if any, which may have influenced their willingness to attend the Programme.

The ethnographic method is used to observe participants as they engage in a given activity in which the researcher participates as well. Ethnography is said to have originated from the field of anthropology (Frankham and MacRae, 2011) and is an approach to gaining knowledge about people by becoming a participant observer in their lives, usually for an extended period. Participants get the opportunity to share/voice their experiences and make comments on the positive and the less positive ones. Perhaps if I wanted to learn, for example, about the experiences of participants who are mothers, living in remote fishing villages, I would have considered an ethnographic approach. I intended to obtain insight into teachers’ reflections on their experiences after their participation in the workshop(s) and not as they were experiencing it (them). My focus was on investigating whether the workshop experience was beneficial or not, and if so, to what extent and if not, why.

The grounded theory method may be used when an attempt is being made to connect cause and effect linkages as data is being collected (Strauss and Corbin, 1998; Chun Tie, Birks & Francis, 2019) which can be used to expand on existing grounded theories. The participants must contribute their views and voices in order to clarify or add to existing phenomena which seek to explain how and why, for example, persons respond to events, organisations or situations (Strauss and Corbin,1998; Corbin and Holt, 2011). This approach would be useful if this research study were centred around the generation of a theory or theories which explained why some teachers continuously attend workshops with an awareness that there is no tangible reward to be received from their employers. This research study is not at a stage where the creation of theories is desired, as the scope is primarily to seek initial feedback on the participants' engagement in the CPD Programme and possible recommendations for increased benefits.

At this stage of my study, I had refined my research questions from their original form and was confident that I knew what information I needed to seek. I sought to focus mainly on the participants' understanding of their concept of ICT professional development, what skills and knowledge were gained from the workshops, if any, how they implemented them in their classrooms, and fourthly if they thought that their students' learning had improved. The four research questions were:

1. How do teachers in Trinidad and Tobago conceptualise teacher professional development?

2. What skills and knowledge do teachers develop because of their participation in the professional development activity?

3. To what extent do teachers think they are able to apply their learning to their practice?

4. How do teachers perceive enhanced student learning in their classrooms?

3.10 Case Study Methodologies

3.10.1 The Case Study

Teacher professional development programmes need to be evaluated, not only because public funds are used in their implementation (Lustick, 2011) but also to identify their worthiness, particularly in a climate of economic constraints or cutbacks (Kirkpatrick and Kirkpatrick, 2006) and due to an increasing demand for quality teaching as a reform strategy. Additionally, from a professional standpoint, I am of the view that after this programme has been offered for nine years, it is advisable to obtain feedback. I had to reflect to determine what I wanted to learn about this TPD Programme, whether it was the process, the outcomes, the teachers' experiences with the programme or all of the components. The research literature assisted me here significantly, although I had some prior experience in programme evaluation at the Masters in Education Degree level, where I had chosen to evaluate the Ministry's programme to provide school meals.

The evaluation of the School Feeding Programme in a rural educational district was primarily quantitative where the focus was on its process, its cost-effectiveness, and its efficiency. However, in this case, I was more concerned with what the participants thought about the workshops which they attended, if they were of any help to the teachers and if so, in what way. I wanted to learn from them what they thought the MOETT could perhaps do to encourage more teachers to attend and to add value to what we offered them. I also considered it quite possible that the perceptions teachers had towards professional development activities were influenced by if and how they defined CPD and its purpose, as suggested in the literature (DeVries, Jensen and Gift, 2013; Dos Santos, 2019).

The Research Questions (RQs) seek to address my concerns. Question 1 is important because it helped me to determine how these teachers conceptualised this phenomenon. In-built in their definitions it was anticipated that the value they attached to CPD would be revealed. The participants' definitions would also create an understanding on which to build the other stages of the interview or professional dialogue. The theoretical framework for this approach to questioning was drawn from Guskey's model for programme evaluation, Five Critical Levels of Professional Development Evaluation. Guskey (2002) developed the model which had a qualitative orientation for the evaluation of professional development activities . I have selected three of these levels as the basis of my research questions excluding Level 3. Level 1, which looks at the participants' initial reactions, was not included as a question on the electronic survey, but these details could have been found on the workshop evaluation or feedback forms.

The nature of the research questions which I selected, combined with my philosophical outlook, guided me in my choice of the qualitative, as opposed to the quantitative, methodological approach (Adu,2016). Had I adopted the quantitative approach I might have been inclined to focus on statistical data and large numbers of participants, which would not have been needed for an exploratory research study (Creswell & Miller, 2000; Dzakiria, 2012). I intended to probe the participants during our conversations to find out about their experiences in the 2010-2018 ICT in Education workshops.

Secondly, I wanted the data that I sought to be in-depth reflections on the questions that I posed rather than statistics on happenings, and to achieve this, I preferred a small number of participants. However, this changed somewhat when I narrowed the research focus. The workshop evaluation forms amounted to a comparatively higher number than the interviews but the interviews provided more data than the evaluation forms. The knowledge that I sought was very individualised, and this was maintained in the online survey, which was achieved by allowing the respondents adequate time to respond in the comfort of their own space and time. There were pointed questions, and unlike the interviews, there was not much room for ‘other’ information to be offered.

The case study approach was selected because it was seen to be better suited to achieving the aims of the study than other research models. This study sought to gain in-depth feedback on a CPD programme from a small number of participants within a fixed period in which it had been in existence. I did not seek to learn about the participants' experience of the programme while they were attending it; instead, I wanted to obtain a somewhat summative reflection. I was able to conduct interviews with the randomly and purposively selected participants because they all were still working in our nation's schools and in most cases, continued to attend the CPD activity during their vacation time.

A case study approach was chosen based on the boundaries of the phenomenon selected, thereby matching purpose and method. The professional development programme, which is the phenomenon under study, was initiated in 2008 and continued for a period of nine years which, from my viewpoint, would have been rather lengthy to explore. Additionally, as I have indicated previously, data collected on this programme were more limited during the years 2008- 2009. Hence, the period under investigation is time-bound: 2010 – 2018.

This research study aims to gain an in-depth understanding of the participants' experience and thoughts on the workshops they attended. In my capacity, both as a Teacher Development Specialist and eventually as Head of the division which implemented the TPD Programme, there was a high likelihood that my perception might be vastly different from the participants'. I was inquisitive to find out what these teachers "felt " about the programme. I used the word "felt" to connote the possibility that they may not remember clearly the details given that numerous years may have elapsed since they had participated.

I set out to examine what were the views of the key informants on the ICT professional development workshops they had attended. In order to conduct this enquiry, I had to consciously commit to listening to whatever their views were, without reacting as though it was a personal attack or criticism. Mostly, I had to begin to divorce myself from the CPD Programme and give up ownership, so that I would be able to listen to what the participants said without jumping to its defence. The case study approach would allow me to embark on an exploratory investigation (Thomas and Myers, 2015) into the participants' perceptions. My purpose was not to evaluate their comments against the objectives of the workshops but to use the case study approach to draw out their views.

I aimed to conduct an exploratory study (Yin, 2014) into the Ministry of Education's attempt to lend support to its teachers to be better prepared to teach its students. In building teacher capacity, the MOETT would be seeking to partially fulfil its mandate which is legislated in the Education Act Chapter 39:01 Section 5 (c) that the Minister of Education may "Make provision for the professional training of teachers for the entire system of public education," (Education Act of Trinidad and Tobago, 1966). I have committed to take this exploratory research as I was seeking to discover the unknown by collecting information from selected participants through multiple research methods (Stake, 1995).

3. 11 Methods

Research methods are the techniques or strategies developed for the researcher’s engagement in data collection and data analysis (Crotty, 1988). The researcher collects the data that will serve to answer the research questions. Following the data collection, the researcher will then use analytical techniques to interpret them, with the aid of the relevant research literature (Crotty, 1988).

3.12 Qualitative Research Method

I chose the qualitative method, in preference to the quantitative method, because my purpose was to conduct an exploratory study of participants' perceptions of the TPD Programme and not a programme evaluation using a logic model. This TPD Programme, as was previously stated, had not been investigated before and I was, therefore, exploring new educational territory. The diversity of the nation's teachers and its schools, as well as their differences, meant that no teacher might have had the same experiences and views of the TPD Programme (Merriam, 2009; Fives & Buehl, 2016). I needed to be able to get an in-depth understanding of these teachers and so utilised several data sources.

*"You never really understand a person until you consider things from his point of view... until you climb into his skin and walk around in it." (Lee, 1960, p.30).*

3.13 The Sample

The sampling method (see Figure 5) that was preferred for this study was the random purposive approach which suited the exploratory nature of this study, as well as the limited accessible data. The size of the teaching population is approximately 13,000 as previously indicated. However, the number of teachers who attended the workshops did not exceed 800 participants in any of the years in the period 2010-2018.

Consideration was given also to conducting interviews with teachers who had not participated in the Programme, to understand why they chose not to attend.   The deliberation was short-lived when the focus of the topic was recalled, which entailed making judgements on the workshop experiences.



 Figure 5 The Selection of the Sample

Seven teachers were selected from the teachers who attended the workshops during the period identified.  This number of teachers corresponded to that of the number of Educational Districts in Trinidad and, as previously stated, due to the differing administrative system governing bodies in the twin-island state of Tobago, no representation was sought.  For each year of the 2010-2015 duration, the names of the participants who had attended the workshops were obtained from the lists of those who were to receive certificates of participation.  The lists of names were merged using Microsoft Excel and sorted, based on the number of workshops they had attended. The participants who attended the most workshops per year were then identified. In cases where there were teachers who attended the same number of workshops in the same year, another filter was applied.  Alphabetical ordering per surname was applied to select the participants for each year in situations where two or more teachers had attended the same number of workshops.  Other criteria were used for sorting: gender, school type and the educational district in which the teachers taught. The ‘randomness’ was maintained by not discriminating against ethnicity, religion, academic qualifications, job position nor years of teaching experience.

Additionally, for each of the five years of this professional development programme, teachers whose attendance at workshops was close in number to those selected were saved as backups, in case the latter were unable to participate. The criteria listed above: gender, school type and the educational district in which the teachers taught, had to be used as well in identifying possible alternative participants.  The preceding strategy was adopted to ensure that the approach to sample selection process was consistent.

In constructing the design, care was taken to achieve as close as possible a representation of the gender balance in order to give voice to both groupings. Contact information was obtained from the application and registration information from the files of the TTDD which were entered on Microsoft Excel sheets, because the Division did not have a database. I telephoned all potential participants to invite them to participate in the research study.  All participants were contacted by both telephone and e-mail address, using an email account which was specifically created for this study.

My initial intention when I set out to conduct this exploratory study was to get a basic understanding of the Programme as an entity. Participants were purposively selected based on several criteria: the number of workshops they had attended during the period 2010-2015, their gender and the educational districts in which they taught. The intention was also to incorporate three levels of the education system : the ECCE, the primary and the secondary. The available data could not fit the criteria for the data plan which I had designed. The parameters which I had identified were too many to match with the available data: gender, attendees who had attended the most workshops for the years 2010-2015: level in the education system, educational district, government and government assisted schools, single-sex, co-educational, five- year and seven-year schools. However, after an examination of the criteria, what took precedence was the number of workshops attended, because my aim was to get an in-depth insight into the participants’ perceptions of the Programme from the teachers who had attended the most in each year.

Five sources were utilised to gather data which were needed for this exploratory study: two telephone interviews, seven semi-structured interviews, 351 workshop evaluation forms and forty-one written interview forms /surveys. Additionally, archival documents were consulted to supplement the data. The three principal ones were: The Original Proposal , reports on the Baseline Survey of Teacher Performance, Parent and Student Attitudes and Achievement 2013.

| Pseudonym, Year, Selected& No. of W/shops attended | Years of Teaching when Interviewed | School & Educational District | Date and Time of Interview | Venue | Comments |
| --- | --- | --- | --- | --- | --- |
| MJ2010/2 | 21yrs. | Primary/POS & Environs | 26/07/16A.M. | TTDD, London Street | Accepted |
| JGHOD/P. (Ag.)2011/3 | 22yrs. | Secondary Sch/Caroni | 13/07/16P.M. | Participant’sSchool | AcceptedFamiliar with me.Willing to meet at her school. |
| NB2012/3 | 26yrs | Secondary School/Victoria | 28/07/16A.M. | Participant’sSchool | Accepted.Puzzled. Went to various w/shops. Cannot remember.Initially I spoke to the Principal, who asked participant, who was not in to call. |
| SDL2015/3 | 10 yrs. | Secondary School /POS & Environs *formerly taught at Secondary Sch/St. Patrick* | 12/08/16 | TTDD, London Street | Accepted |
| MR2014 | 6yrs. | ECCE/ST. George East | Originally scheduled on 20/07/16 changed to 18/07/16A.M. | Participant’sSchool | AcceptedInitially thought was female, then it was revealed that the person was male, when contacted |
| GWHead of Department2015/4 | 23yrs. | Secondary School, /St. George East Ed.*formerly at Central Secondary* | 14/09/16P.M. | Participant’sSchool | AcceptedInterviewed during the School Day |
| SLHDean2014/3 | 35yrs. | Denominational Single Sex Secondary School/Victoria | 16/09/16P.M. | Participant’sSchool | AcceptedInterviewed after the end of the School Day |

Table 1 Schedule for The Conduct of the Face-to-Face Interviews

3.14 Profiles of the Participants for In-depth Interviews

Participant 1, MJ, has been a primary school teacher for the past twenty-one (21) years . She was selected for her participation in 2010 Annual Professional Development Workshops for Teachers and works in the POS and Environs Educational District.  MJ continues to attend this Programme up to the present time. The participant was interviewed on 26th July 2016 at the TTDD’s former office on London Street, Port of Spain.

Participant 2, JG, is a Head of Department at a secondary school and has been a teacher in the system for twenty-two (22) years.  JG attended the Programme in 2011 and was from the Education District of Caroni.  JG has been and remains a frequent participant in the Programme throughout the years.  JG was the first to be interviewed on 13th July 2016 at her school.

Participant 3, NB, is a secondary school teacher who joined the system approximately twenty-six (26) years ago. He was selected for his participation in the Programme in 2012 and is from the Education District of Victoria. He is a teacher who has not participated in the Programme frequently and was interviewed at his school on 28th July 2016.

Participant 4, SDL, is a secondary school teacher with ten (10) years’ service and was selected as a teacher in the St. Patrick Education District for the 2015 Programme. However, she obtained a transfer to a school in the Port of Spain and Environs District of which I was not aware until we met at the interview.  SDL has often been a participant in the Programme.  The interview with SDL was conducted at the TTDD on 12th August 2016.

Participant 5, MR, is a Teacher Assistant at an Early Childhood Care and Education Centre and has been teaching for six (6) years. He was selected for his participation in the Programme in 2014 and is from the St. George East Education District.  An effort was made to obtain a proportionate number of male and female teachers, however in error, this teacher’s name was misconstrued to be that of a female.  MR has been a frequent participant in the Programme and was interviewed at his school on 18th July 2016.

Participant 6, GW, is a Head of Department at a co-educational secondary school in the St. George East district and has been in the profession for twenty-three (23) years.  He was selected for his participation in the Programme in 2015 and was thought to have been teaching in the POS and Environs Educational District. However, he had obtained a transfer to the St. George East Education District which was not known until we met for the interview. EW was interviewed at his school on 14th September 2016 due to personal commitments during the school vacation period and continues to participate in the Programme.

Participant 7, SLH, is a Dean at a single -sex school in the Victoria Education District and has been teaching for thirty-five (35) years at a denominational institution. SLH was selected for her participation in the 2014 Programme and has frequently participated and continues to participate in Continuous Professional Development activity throughout the years. SLH is from the Victoria Education District and was interviewed on 16th September 2016, due to a personal loss during the vacation period.

3.15 The Research Instruments

| Interview | Evaluation Form | Survey |
| --- | --- | --- |
| 1) What is your understanding of continuous professional development? | Reaction to ContentExcellentGoodSatisfactoryWeak | 1)What is your perception of the term ICT Professional Development? |
| 2) Did the professional development workshops meet your needs?  | Reaction to PresentationExcellentGoodSatisfactoryWeak | 2)Did you learn any new knowledge and skills about teaching and learning from attending the Ministry of Education ICT workshops? |
| 3) What do you think of the support provided by the Ministry of Education for these workshops? | Overall ,how would you evaluate this workshop training session?FacilitiesLunchHandoutsDuration of programDaily ScheduleQuality of trainersAdministration of the program | 3)State the different ways in which you are able to use knowledge and skills of ICT in your classroom teaching.  |
|  | 1)Please indicate anything that should be improved to make the experience more rewarding. | 4)In what ways did the use of ICT knowledge and skills in teaching improve student learning? |
|  | 2) How will you implement what you have learned from this workshop? |  |
|  | 3) Kindly indicate professional development needs for future workshops: |  |

Table 2 An Overview of the Research Instruments and Questions

3.16 The Semi- Structured Interview

The Interview schedule was modelled on that of the Teacher Interview Questions that Work (see Appendix XV) and the content was drawn from Guskey’s Five Critical Levels of Professional Development Evaluation (2000).

3.17 Piloting

The three research questions and sub- questions were piloted by conducting the interviews via telephone with landline connection in the evening period after school had ended. The two teachers who agreed to assist me with the piloting of the questions had been employed in the service for sixteen (16) and thirty-three years respectively and are my relatives. I requested their assistance and they were willing to lend their support and were comfortable in sharing their views. I knew that they had attended professional development workshops in the Annual Professional Development Workshops for Teachers 2010-2018 but I did not know the details.

The exercise was very instructive in that I realised that several questions (see Appendix XIV) were repetitive and some had to be rephrased, either due to not being heard clearly, not having the best quality of telephone service, and some being deleted. I realised that the approach to asking the question was not suited to the interviewees at that time of the day. Questions one and two are examples of repetition: Question 1 What do you understand by the term continuous professional development? and Question 2 When you hear the term CPD, what comes to mind?

Question five “Would you consider getting fully involved in CPD. Why?” was deleted, because the interviewee responded that she would if others did, and because I did not want to venture into why teachers did not attend TPD activities . I was interested in why they attended and the benefits gained. An example of a question that was kept and was not directly connected to a Research question was Question 4: What do you think effective continuous professional development looks like? Asking the question in that way could allow participants to be able to define TPD by describing what a good version of it would be like for them. The responses to this subject were informative. For example: A good presenter, getting resources via e-mail or paper copy, follow- up sessions within two weeks of completion of the workshop via either face to face or e-mail.

I also benefitted from that piloting exercise because I became somewhat confident. I had rehearsed the interview process and was mindful of being flexible in trying to obtain the relevant information. I also learned that teachers who attended more than one workshop would have more to say than others who had attended only one was the case of both respondents. The piloting of the questions was, therefore, one approach to validating the questions and ensuring that what was meant to be asked was asked and in a way that was easy to understand.

3.18 The Interview Protocol

Each participant was greeted, and appreciation was expressed to them for their acceptance to participate in this research study. I shared with each person the purpose and aim of the interview and an explanation of how each was selected. The participant was then asked to indicate their preference, whether they preferred to respond to three general questions which were the research questions or the same questions which were deconstructed into more detailed aspects. Participants were also invited to discuss any other related matter.

3.19 Interviews

The decision to use the interview as a data collection method was not a difficult choice due to the aim of the study, which was to inquire about the experiences of the teachers in the workshops (Spradley,1979; Seidman, 2006; Anyan, 2013). The methods which were used to conduct the research were primarily the semi-structured interview, the electronic survey form and the evaluation feedback forms which are archived at the TTDD.  The semi-structured interview was selected, over the structured, unstructured and focus group type, to recreate a conversational setting yet retain a sense of inquiry (Seidman, 2006; Anyan, 2013).  Interviews facilitated reflection and the expression of ideas, which, using a face- to- face approach, allowed the interviewees the latitude to speak about related areas other than those identified.

Access to the records and documents was a privilege I was able to experience. Because of my position as Head of the TTDD, my epistemic privilege, (Turgo, 2012; Fricker, 2013), I was mindful of having to follow the required protocol.  The search for data was somewhat difficult for many reasons. Ultimately, I retrieved much of the information from external storage devices and information stored on the Google Drive of the TTDD.

The research data for this study were drawn from three main sources: semi-structured interviews with the sample of teachers who were participants in the CPD programme, feedback documents from the Teaching and Teacher Development Division and electronic survey responses from teachers who participated in ICT in Education workshops in the Programme. The data were used to explore and analyse, for the first time, the teachers’ perceptions of the Programme with a focus on gaining insights into their understanding of the concept of CPD, the benefits, if any, that were derived from their attendance and any impact that the new knowledge and skills had on their teaching.

3.20 Reflections on the Interviews

Great care was taken to be mindful of the tone that could possibly have prevailed due to my position as Head of the Division, which is largely responsible for the design and conduct of the Programme of workshops (Goodson and Gill, 2011).

The process of interpreting all the interview data was not a simple or straightforward one (Wellington, 2000; Braun and Clarke, 2006; Yin, 2012; Adu, 2016), but the best attempt was made to do so. I decided to pilot my data analysis strategy by using one of the transcripts so that the approach would be transparent, systematic, consistent, and thorough (Wellington, 2000). I must confess that I experienced some sense of regret when I was coding the transcripts and creating the themes. The sense of regret was experienced because I felt that I was deliberately reducing the richness of the dialogue and that the true sense of the Participants’ views would not be appreciated.

Teachers are not often presented in an admirable light by the media and other stakeholders. The reason for this perception may largely be due to the large number of non-contact days they enjoy. Teachers have the same number of vacation days which the students enjoy, except for two and, additionally, are entitled to non-contact days: fourteen days occasional/casual leave and the same number if they become ill. Teachers are also entitled to two hours monthly to conduct banking transactions, and in the case of rural schools, those teachers may be granted the afternoon session off because of the remoteness of their schools from the banking institutions. Many have been said to have extended the maximum number of days allowed for sick leave.

The negative image of teachers may be redeemed. The interviews revealed that there are teachers who are willing to engage in professional dialogue. These teachers gave up their vacation time, except for two due to personal situations, to share their thoughts about a Programme in which they had participated on more than one occasion. The continuous expression of thanks which were stated by the participants was noteworthy. These teachers, as will be revealed in the following chapter, seek to improve themselves of their own volition because they want to improve their job performance.

Teachers’ perceptions of the Programme varied although there were many commonalities stated, which may suggest that participants came with different levels of experience, skills, and knowledge. The individual differences of teachers need to be considered just as those of their students are, which was drawn to our attention by one of the Participants.

3.21 The Workshop Evaluation Forms

The workshop evaluation forms were found to be in either print or electronic format. The Form (see Appendix V) was structured in two sections with three questions each. The focus of the first section was on the Content which was comprised of five questions, then on Presentation, with four questions and then an Overall evaluation, which was made up of seven questions. All responses in the first section were designed using a Likert scale ranging from Excellent to Good, Satisfactory, Weak. The second section was comprised of three open-ended questions which sought recommendations for improvement of the workshop, secondly on their proposed implementation of what was learned and lastly a request to identify their professional development needs for future workshops.

The format of the Workshop Evaluation Forms was generally maintained throughout the 2010-2018 period, except for the inclusion of the level of school or Division at which the participant taught or administered: at the ECCE, Primary, Secondary, School Supervision, Curriculum Planning and Development Division or the Student Support Services Division. This was included on the recommendation of the Monitoring and Evaluation Unit at the TTDD’s request for them to review the Form.

3.22 The Written Interview / Electronic Survey Form

The content of the survey was developed within the framework of Guskey’s Evaluation Model which I modified for the purpose of this research study to include participants’ perceptions of ICT Professional Development. The question on participants’ views of Continuous Professional Development was also asked in the seven in-depth interviews based on research that teachers’ beliefs impact on their engagement.

 3.23 Data Analysis Techniques

3.23.1 Transcription

Each interview was audio-recorded with a SONY IC Recorder ICD-PX333 and was backed up in both flash drive and Cloud storage. Each interview was transcribed verbatim electronically using Microsoft Word. I did not have access to software programmes which can convert audio to text, although I did make several attempts to do so. The cost of the software was too expensive considering the likelihood of using it in the near future and the limited number of years covered by the license.

The transcription of the audio- recorded interviews has been recognised as the first step towards making sense of the data item (Braun and Clarke, 2006; Gibbs, 2010). The interviews were transcribed verbatim which amounted to a total of two hundred and sixty-three (263) pages of data. On completion of the transcription of the interviews, which was quite a task, the next step was for me to become further familiarised with the data by way of reading and re-reading the contents.

This task was very demanding due to the painstaking nature of the activity and the length of the interviews. The participants spoke at their normal speed and so did I, given that the interview took the form of a conversation between professionals. Both the interviewer and interviewee’s questions and answers were transcribed. The language used was Standard English for the most part; however, there were instances where both interviewee and interviewer used non-standard English and non-verbal utterances. The non-verbal utterances were minimally transcribed.

The interviews were transcribed from audio to text because it was easier to work with transcripts, even though it was time-consuming to transcribe. Additionally, the change of medium from the spoken word to the written allowed for faster access to the data (Gibbs , 2010). In reality, it is not always easy to remember everything that is said. Hence, transcription proved to be a proactive strategy for preserving the integrity of the content of the interview. Another reason for the decision to transcribe the interviews was that this qualitative exploratory case study set out to obtain in-depth information from the Participants which, therefore, called for a close examination of their views.

The research literature reports that there are challenges to be encountered in the transcription process, because people do not always speak in sentences; they may “ hesitate, they stress words and syllables, they overlap their speech with others and they raise and lower both volume and pitch in order to add meaning to what they are saying” (Gibbs, 2007, p. 16). Transcribing can be approached in several ways: just the gist, verbatim, verbatim with dialect and discourse level. (Gibbs, 2007). Great care is, therefore, required when transcribing, because it is quite likely that unforeseen errors might occur for many reasons: background noises, the equipment used, the accent of the interviewee may be unfamiliar or he/she may stutter. Member checking (Koelsch, 2013) was practised on completion of the transcription of the interviews, which allowed all the Participants the opportunity to read their transcripts, which were emailed to them to confirm the validity of the document by ratifying its content, the authenticity of the dialogue, grammatical correctness, and possible expansion of their responses if desired. (Jaffe, 2011).

All the transcripts were printed, stapled together, and placed in a folder with a cover sheet glued with the date of the interview, morning or afternoon period and pseudonym of the Participant. All the transcripts are to be archived, which was indicated in the consent or information form, the transcripts themselves in case the University requires them. The data should be stored just for the specified time (Gibbs, 2010), and it is also advisable to always save a clean or untreated version of the transcripts to ensure that the dialogues are not unintentionally tampered with during the rigorous analytical process (Gibbs, 2007).

3.24 Thematic Analysis

The Thematic Analysis (TA) approach was selected for making sense of the data set from all the data collected. Thematic analysis can be used for the identification of themes or:

 “… key ideas about the data concerning the research question and which represents some level of patterned response or meaning within the data set” ( Braun and Clarke, 2006, p.82).

 One of the aims of this research study is to gain an understanding of the teachers’ perceptions of the TPD programme of workshops. In order to obtain that information, I needed to select an effective method to analyse the data.

Several methods can be used to analyse data from the selected research methods: thematic analysis, narrative analysis and computer software. I chose the TA model, which was shaped by Braun and Clarke, whose approach is aligned with a constructionist paradigm (Braun & Clarke, 2006). The lens I used is a social constructivist one which supports my beliefs that I will be able to gain knowledge through social interaction with those who have the experiential knowledge of the Programme. I adhere to the belief that we are all created as different individual human beings who may experience growth differently due to our various types of environment. The varying experiences of all the Participants were analysed systematically in order to obtain a rich understanding of the Programme from their perspectives.

Thematic Analysis is comprised of six phases (Braun & Clarke, 2006) which do not follow a linear approach because the continuous refinement of ideas is conducted as the process is followed. The six phases which have been suggested by Braun and Clarke (2006) are: familiarisation with the data, generation of initial codes, development of themes from among the codes, revision of the themes, defining and giving names to the themes and authoring the report. The themes which were developed from the data are patterns detected within the data which appear to be similar ideas or concerns which participants expressed. Ultimately, when all the themes from all the transcripts were merged, and reported in Chapter 5, they describe the outcome of the research study in great depth.

The interviews were completed during a three-month timeframe in 2016. One of the primary sources of data was the seven in-depth interviews. However, another source of data acquisition was the evaluation feedback forms from the 2010 -2018 Programme and the electronic survey instruments which focused on the ICT in Education Workshops.

3.25 Applicability, Relatability and Generalisation

The criteria for the evaluation of qualitative research are not fixed; however, there appears to be some possible guidelines (Gibbs,2012; Cresswell,2012; Leeung, 2015), to accommodate this multimodal research paradigm. The recommendation is that researchers can validate every stage of the research for transparency and systematicity, namely: the theoretical foundation, research design, sampling process, data collection and analysis , the findings and conclusions (Leeung, 2015). Alternatively, Shipman’s criteria (2014) may be applied: reliability, validity, generalisability and credibility. Reliability refers to the quality of replicating the research by other researchers and gaining results consistent with the study being viewed (Leeung, 2015). Validity refers to the appropriateness of the tools, processes and data that were used to conduct a research study so that what is measured is what the researcher set out to investigate (Gibbs, 2012). Generalisability is not generally an expected outcome of qualitative research; that is to say, it is quite unlikely that what is characteristic of a sample of the population will be representative of the entire population. Nevertheless, it is possible that contextual details of a study can be similar to those of another, thereby allowing a comparison (Bassey, 2001). The concept of identifying commonalities which bear relevance to another context is called relatability or “fuzzy generalisation” Bassey (2001, p.5).

The research study’s design is to create an understanding of the participants’ perceptions of the ICT in Education workshops of the MOETT’s CPTD Programme which was obtained through the sharing of an authentic and critical insight by the key informants into their experiences.  An in-depth and comprehensive discussion of their views of the CPTD workshops, which were previously unknown, was socially constructed during the interviews held.  There may be expectations of this Programme possibly conceptualised like international best practices and outcomes; however, it may be impractical to use these benchmarks given our unique religious, cultural, historical, social, economic, and professional context (Miller, 2015). The concern over the applicability of the findings from research studies may be indicative of the belief that research must be purposeful  (Caroll, 2010) even though the outputs may seem to be primarily data and theories. Additionally, the purpose driving the research should be humanitarian in nature, seeking to help to improve the quality of life being lived.  Given the size of the sample and that of the total teacher population, it was never my intention to lay claims to generalising the findings of this study.  However, it was possible to relate comments, emotions and recommendations to the common themes which were presented in the literature review (Dzakiria, 2012; vom Brocke et al., 2015).

The perception and findings of this study may be of interest to educators at varying levels of teaching experience and from diverse cultures.  We often hear the cliché that ‘one size does not fit all’, the cry to level the playing field, that learning can be facilitated through the many intelligences (Dolati and Tahriri , 2017). We may apply learning theories such as constructivism which promotes learning based on your interaction with your previous knowledge and the specific experience being focused upon.   The research context of this study is located in Trinidad, part of the twin-island state of Trinidad and Tobago in the post-colonial era. However, the context may be viewed by some as neo-colonial.

3.26 Ethical Considerations

All ethical practices which were proposed in the Research Proposal were observed. Participants were given the option to withdraw from the research activity if they were not satisfied with any aspect of the data collection exercise. The contribution of each participant was respected, and gratitude was expressed where possible except in the cases of anonymity which existed with the survey forms which were developed using the Google Form and the workshop evaluation forms. However, each participant was thanked in the Consent Form and in anticipation of a positive response to the letter or email message of invitation.

Member checking was undertaken for the in-depth interviews where participants were sent the transcription of their interviews and were requested to make modifications if anything was inaccurately reported. Confidentiality has been observed and data have been secured so that participants will be protected from any roving eye.

3.27 Limitations of this Research Study

3.27.1 The COVID 19 Epidemic

The time period of the study was July-August 2010-2018. After undertaking and reporting on the findings of this study, I believe that I am obligated ethically, morally, and academically to discuss the limitations which were experienced. Combined with self-reflection and, where applicable, the discussion on legitimation by Benge, Onwuegbuzie, and Robbins (2012), the limitations of this study are identified.

The findings were primarily drawn from the number of participants who responded to the invitation to complete the Written Interview Form which was individually emailed to them. The findings are, therefore, limited to these participants and those workshops which they attended. Hence, the perceptions are not based on all the workshops which were offered as listed in Appendix IV , but they do provide an insight into what participants thought about the workshops: the benefits, the deficiencies, and recommendations for future improvement.

The unavailability and inaccessibility of archival data also limited the undertaking and findings of this study. As previously stated, the TTDD did not have a data management system which was formalised. Data was consequently gained from what was electronically stored and what was readily available and accessible. Data on the 2012 Programme was very difficult to locate; in fact at the point of writing this thesis, I await further response to my request from the TTDD on this matter. One of reasons for the dearth of a more comprehensive data set may be attributed to the placement of ‘old’ files in a separate building some distance away from the present Head Office of the MOETT.

The accuracy of the memory of the participants, particularly of those from the early years of the Programme, may appear to be a source of concern regarding credibility. One may ask whether the participants who attended the workshops in 2014 truly remembered what the workshop(s) was/were about. Weak memory may indeed be seen as a limitation. However, after looking at the quality of the recollections of their experiences and their ability to reflect on the application of the skills, knowledge and mindset developed, what emerged was ‘evidence’ of the sustainability of the PD initiative.

The data collected are gained from the perceptions of participants and not from empirical quantitative research. Quantitative data have been highly regarded for decades and although qualitative data have found their way into the scientific fields, such as in nursing and medicine, the latter may not appear as robust as the former. Perceptions necessitate qualitative data sources which may be regarded as a limitation, depending on the epistemological outlook of the reader.

Researcher bias can be viewed as a possible limitation to the findings of the study in light of my insider/outsider status. Measures were put in place to minimise this limitation with the triangulation of data which was derived from multiple sources: in-depth interviews, written interview forms, electronic data and archived documents. Additionally, member checking was used to validate the content of the transcripts. Cognisance of the ethical guidelines of the University, as well as the requirements stipulated by the MOETT, furthermore, functioned throughout as warning signals. Researchers are required to submit a copy of the final version of their Thesis to the MOETT which, in this case, is likely to be scrutinised because of its relevance to the Ministry’s Strategic Priorities.

The limitations may appear to be many. However, if one is reminded of the aim of the study which sets out to be exploratory, the richness of the qualitative data would suffice as substantial and credible.

3.28 Conclusion

In this chapter I have explained how my philosophical orientations influenced the steps I took in identifying the methodology adopted to answer my research questions. I sought to show the compatibility of the qualitative exploratory single case methodology in examining the previously unknown perceptions which teachers had formulated of a professional development workshop programme. The steps taken for the randomised purposive sampling were pointed out and the participants were introduced. I indicated that thematic analysis would be used to analyse the data collected from the three sources: semi-structured interviews, workshop evaluation forms and electronic survey. Ethical considerations and related requirements for conducting my research study were described for the purpose of the protecting the participants from harm both during and after completion. I presented what I perceived were limitations to the study based on guidelines in the research literature.

Chapter 4, will present in its entirety, the findings from the data from all the interviews and the feedback evaluation forms from the MOETT’s Annual Professional Development Workshops July-August 2010. A narrative on each participants’ perceptions that were expressed and a discussion on the findings of each will be examined under these headings: the rationale for the selection of the Participant, the Participants’ experience in the Programme, the most surprising thing that I learned from the interview, the most interesting things(s) that I learned from the interview, something that the Participant told me that I already knew and significant quotations noted which are meaningful to my research study. The findings of the electronic survey forms and the workshop evaluation forms will be discussed in depth as well. A discussion on the similarities, differences and issues which may appear to be controversial, as they are viewed from different perspectives, will be provided also, and in what way and to what extent the research literature supports or refutes the argument presented.

CHAPTER 4: PRESENTATION OF DATA AND FINDINGS

4.1 Introduction

In Chapter 3 the data collection methods were presented and assessed for their suitability for the exploratory case study approach which was chosen for the examination of teachers’ perceptions of teacher professional development in Trinidad and Tobago. In Chapter 4 we get one step closer to learning what the participants’ experiences and thoughts were, through the analysis of their responses to the questions posed. The data and findings of this exploratory case study on the examination of participants’ perceptions of TPD in Trinidad and Tobago, will be presented in this chapter.

The data was obtained from the seven interviewees which were the primary source, as previously stated, and are supported by responses to a qualitative electronic survey, and to a minor extent, the workshop evaluation forms. Responses were largely based on teachers’ reflections on their engagement in the MOETT ‘s Annual Professional Development Workshops for Teachers July-August 2010-2018. Few participants referred to TPD workshops which were hosted by other organisations to compare and contrast with the MOETT’s. The teachers in this study attended workshops which spanned the following categories: Leadership and Management, Literacy and Numeracy, ICT in Education, Curriculum Content and Pedagogy. Additionally, most participants attended one or more ICT related workshops during the 2010-2018 period.

The qualitative case study research methodology facilitated the data collection from the participants who attended, in most cases, more than one workshop. The analysis of this vast amount of data was systematically conducted using the thematic analysis method (Braun and Clarke, 2006) and guided by 3 of Guskey’s Five Levels of Professional Development Evaluation (2002). The analysis of the data from the Interviews, the open-ended questions in the Workshop Evaluation Forms, and then the Electronic Surveys will be presented to provide an insight into participants’ reflections on the workshops which they attended.

| Research Question | Interview | Electronic Survey | Workshop Evaluation Form |
| --- | --- | --- | --- |
| R.Q. 1 How do teachers in Trinidad and Tobago conceptualise teacher professional development? | Q.1: What is your understanding of the term Continuous Professional Development? | Q.1: What is your perception of the term ICT Professional Development? |  Not Applicable |
| R.Q. 2 What skills and knowledge do teachers develop because of their participation in the professional development activity? |  | Q. 2: Did you learn any new knowledge and skills about teaching and learning from attending the MOETT ICT workshops? | Q.4/ 5: How will you implement what you have learned from this workshop? |
| R.Q. 3 To what extent do teachers think they are able to apply their learning to their practice? | Not Applicable | Q.3: State the different ways in which you are able to use knowledge and skills of ICT in your classroom teaching? | Q.4/ 5: How will you implement what you have learned from this workshop? |
| R.Q. 4 How do teachers perceive enhanced student learning in their classrooms? | Not Applicable | Q. 4: In what ways did the use of ICT knowledge and skills in teaching improve student learning? | Not Applicable |

 Table 3 The Research Questions and Data Sources

1. How do teachers in Trinidad and Tobago conceptualise teacher professional development?

2. What skills and knowledge do teachers develop because of their participation in the professional development activity?

3. To what extent do teachers think they are able to apply their learning to their practice?

4. How do teachers perceive enhanced student learning in their classrooms?

4.2 The Interviews: RQ 1: Teachers’ Concept of TPD

Interview Question 1: What is your understanding of the term Continuous Professional Development?

RQ 1 was directed to obtaining participants' perceptions of professional development and was the primary data source for the study, The interview questions were derived from Guskey's 5 Levels of Professional Development Evaluation which sought to direct teachers to reflect on matters which pertained to Levels 2, 3 and 4. Interviewees were able to share many views of what they conceptualised as TPD, due to the flexibility of the research method used (Silverman, 2017).

After conducting a rigorous analysis of the data collected for this research question six major themes were identified. The major themes were 1) Teachers’ philosophy of learning, 2) TPD builds teachers’ capital 3) Collaborative Learning, 4) Components of good TPD 5) Leadership support is required and 6) The MOETT’s approach to TPD. The six categories were further synthesised under two main themes: teacher professionalism and institutional support.

4.3 Teacher Professionalism

The major finding in the analysis of the 7 in-depth interviews was firstly, that all the interviewees wanted to improve their practice. All the interviewees perceived Professional Development as an avenue to upgrade their skills, knowledge, and attitudes, by keeping abreast with advancements in the profession.

4.3.1 Teachers’ Philosophy of Learning

The teachers’ philosophy of learning is constructed on their personal experiences, experiences with teaching and learning and knowledge (Pajares, 1992; Shah 2021). Consequently, teachers’ philosophy of learning is subjective and may be inclined to espouse teacher-centred or student-centred beliefs (Kaya and Kaya, 2017). The data indicated that these teachers’ philosophy of learning was comprised of two perspectives: ongoing learning and self-directed learning.

TPD engagement was seen as largely influenced by the teacher’s' “philosophy” of learning. JOYCAPS expressed “Well, I think that it has to do with your philosophy, your thinking, your belief because your philosophy is what drives you”. MARTAC expressed the view that the willingness to learn is “based on the mentality, I think, of the individual teacher”. Similarly, SDLBELSEC, affirmed that “for me Continuous Professional Development um, is an integral and necessary part of any profession because um, time waits on no one”. GWSASEC stated that “as a basic philosophy I believe that learning is never final, you are always learning, once you are alive, there is always something to learn" “Another interviewee (NBDEBSEC) likened seeking knowledge to improve oneself to rapid technological advancements, that if teachers did not keep improving, their knowledge would soon become obsolete. Teachers, the Interviewee continued to explain, would face the consequence of losing their “competitive advantage” … in a short period in anything you know.”  MJGLMOR’s perception was that TPD engagement was prompted by an interest in a topic or a need in the school: “I mean based on interest and so on and need.” SLHSTJO commented that participation in professional development workshops was regarded as a “professional task for the day” during which she would “participate and listen and enjoy and absorb”.

4.3.2 Ongoing Learning

The Interviewees viewed TPD as continuous professional learning which would be pursued on an ongoing basis due to increasing information produced and the need to keep abreast. SDLBELSEC commented that “everything needs continual improvement teachers need to continuously learn to be equipped to teach because “people are always coming out with different ideas and different models and different views and different aspects”. The interviewee compared TPD to technology and “that in this technological age especially um, things are moving at a way faster pace and as you say a laptop that comes out today in six months’ time its old”. NBDEBSEC shared a similar position that knowledge soon became outdated as with technological advancements: “Continuous Professional Development means that seeking knowledge to improve yourself throughout the years because as technology improves and we know how rapidly technology improves that you become obsolete within a short while”. The interviewee proffered that teachers’ marketability in the profession would be negatively impacted if continuous learning were not practised: “Your competitive advantage as a teacher is just lost in a short period in anything you know”.

Similarly, MJGLMOR expressed her perception of TPD “as a process of ongoing training where teachers will be exposed to different best practices and strategies that they can apply in the classroom”. The interviewee also viewed TPD as “Continuous Professional Development, well as the words imply, continuous so that can be something that is ongoing from time to time on a regular basis”. JOYCAPS commented: “You have to see yourself, see your career, see your profession as something that is ongoing, it is ongoing learning”. The interviewee expounded on this statement by reiterating and expanding “So if you are a teacher and you not serious about what you do, you may not see ongoing learning as critical for you”.

GWSASEC and MARTAC added another perspective on TPD as ongoing learning. The two interviewees pointed to the likelihood of forgetting what they learned so that further TPD activity would also function as a refresher GWSASEC stated “It tends to disappear, yes so you have to keep going back and it’s not something to study, it’s really something to do. You need to be actively engaged in whatever it is”. MARTAC actually described additional TPD activity as a refresher: “Education is not static- we will always need some sort of refresher course or as we do the workshops, for teachers to be able to improve their skills in teaching”.

SLHSTJO indicated that the word development in the term professional development suggested the continuous process of developing: “You know so many hours completed because the thing about professional development it is something that development, it is just that it is something ongoing”. The Interviewee illustrated the need for continuous learning further in the interview when she spoke about the need for TPD in curriculum areas: “Now I have not seen Curriculum offering us anything again, nothing, nothing, nothing”.

4.3.3 Self-directed Learning

All Interviewees stated that engagement in TPD reflected the teachers' mindset that they were willing to learn and not that the need to continue learning was imposed on them. Additionally, the participants themselves selected the workshops they wished to attend. One interviewee (SLHSTJO) expressed her satisfaction with the MOETT's Programme, saying "the nice thing about this programme is that this was not mandatory" and continued "I was not there because my principal sent me or my V.P. sent me". SLHSTJO continued to explain that:

 “a teacher must feel a need as well that I need help, I need to find out more, I need to some assistance and if you not thinking that way you know, ok I go to class and I’m ok with what I do and I go back home. But if you, if you are the kind of person you feel you need help you need assistance, you need more guidance”.

NBDEBSEC underscored that the onus was on the teacher to seek “relevant educational institutions that can improve your skills, your understanding of what you are teaching and find better and newer ways to do it”. NBDEBSEC stated that the help sought should be “appropriate, necessary knowledge”. MJGLMOR’s view was similar to that of NBDEBSEC; however, she emphasised that TPD should allow for the discovery of “alternate ways of doing something and provide exposure to best practices.” The former expressed “it is a voluntary thing and you chose to go based on your own personal interest and needs”.

 MJGLMOR continued to explain that she had a purpose for attending workshops: “When I attend a workshop, I want to leave with some hands on something as I mentioned before, something that works practically that I can try tomorrow, I can try the next day, kind of thing.” MARTAC explained “so if there is something that could improve the way that I do something well in the sense of teaching. I am always interested in finding out more about it”. The TPD workshops provided him with ways to help him to do his “job better and feels better to do so.” MARTAC noted however, that all teachers were not of his mindset “persons may feel that they good at where they have reached and they good with that”.

JOYCAPS stated that she participated in TPD workshops as a means to provide answers to issues faced: “you found me coming to workshops year after year because there were certain issues on my table, I will say it like that and when I read what you were offering apparently those were some of the workshops that I seeked (sic) out to actually get the answers”. The interviewee revealed “I took it upon myself to enrich myself by attending the various, um, workshops that were offered to us during the vacation”.

GWSASEC viewed the TPD as transformative and chose to attend the TPD workshops to “welcome different ways of looking at things, even using technology. I love technology from way back”. SDLBELSEC explained that her reason for attending TPD activities was that “we have to upgrade and we have to keep up with the times” because “the children are not the same the, the children are not faced with the same situations…they don’t live in the same world that we use (sic) to live in”.

The joy in learning was highlighted in this reflection by GWSASEC on his discovery of the Q.R. code at an ICT in Education workshop "when I saw it, I said this was something I can use. I was getting excited. I felt like a new teacher" (p. 191). Teachers may be willing to continue learning due to their professional outlook and some may not because “persons may feel that they good at where they have reached and they good with that”. (MARTAC).

4.4 TPD Builds Teachers’ Capital

All interviewees commented that TPD contributed to building their knowledge and skills’ base or capital in areas which they identified.

4.4.1. TPD Builds Competency

JOYCAPS reiterated that having attended workshops on the topic of data-driven decision- making she “was able to actually understand what the principle behind such topic and apply it to whatever I do day to day”. Additionally, the Interviewee commented that the knowledge gained assisted her in her role of classroom teacher and a Head of Department”. MARTAC described the competencies he developed when he attended “the one with drama and how you can use music and dance in Early Childhood. Right, I am not prone to music and dance right but I still went. I was pleasantly surprised, in fact I wondered how come we didn’t get something like this before”. The Interviewee informed that subsequent to the PD workshops there was immediate implementation of the visual and performing arts into the ECCE curriculum.

MJGLMOR’s expectations of the TPD workshops were strategies which could be applied immediately to her context “When I attend a workshop, I want to leave with some hands on something as I mentioned before, something that works practically that I can try tomorrow, I can try the next day, kind of thing”. SDLBELSEC expressed great concern that teachers need to undergo PD in order to be better prepared to teach the generation of students who are using technology yet will be taught by teachers who use teacher-centred chalk and talk strategies. The Interviewee feared that the untrained teachers would misdiagnose their students as having ADHD because the latter would not be interested and be inattentive in the classroom

 “We have to upgrade and we have to keep up with the times”. “The kids who are coming into the situation now who are, I saw a two year old or three year old with their tablet on their hands and they pressing so when they come into primary or secondary school and we’re still using chalk and talk method, of course, they going to get bored”. “Consequently, they would be wrongfully diagnosed with ADHD”.

Both GWSASEC and SLHSTJO recalled that, having attended TPD workshops, they were better equipped to do their job. GWSASEC stated that he realised the utility of the QR code: “So I was able to, I downloaded the QR code before, never really used it so when I saw him, I said OK let me start using this thing and realised potential of it”. The joy in GWSASEC’s learning was highlighted in his reflection on his discovery of the Q.R. code at an ICT in Education workshop "when I saw it, I said this was something I can use. I was getting excited. I felt like a new teacher”. SLHSTJO recalled the number of workshops she had attended earlier in her career and regretted that that offering was no longer available to teachers. “A professor came and taught all of us how to teach literature at A’ level, how to teach culture. I attended all those workshops in the first fifteen years of my career”.

NBDESEC recalled that through his participation in a workshop, which was conducted by an external entity in collaboration with the MOETT, he had developed a good understanding of how to use a Moodle, from which his students would benefit. The Interviewee commented that “students here will learn how to use Moodle and when they go to University to apply, to do stuff, they will see the similar Moodle site”.

4.4.2. TPD Provides Guidance

Participants were able to obtain guidance on job procedures which in several cases had legislative consequences if not followed. Handouts which were provided at a workshop, supplied legal information which empowered interviewees and fostered confidence as a result of " knowing that I am doing what I am suppose (sic) to be doing and that the protocol that is required in my position" (SLHSTJO)

MARTAC spoke of instances where the guidance he obtained from the TPD workshops assisted him in not only learning about relevant legislation, but it was also corrective. MARTAC’s comment illustrated the discovery he made at a workshop based on legal issues: “Protection of, one of the things he spoke about was about the fact that how do we deal with when we suspect there are incidents of child abuse at the home. And what he shared with us was quite different to what I thought were the procedure was supposed to be”. MARTAC commented that "in my private life, I share that with somebody if I know of something and as a professional and I don't report and somehow it came to being that I knew, I am also liable". The Interviewee pointed out that at the ECCE level workshops were held to address weaknesses which caught the attention of the authorities: “if maybe somebody in authority has seen maybe some negligent thing that is happening and they may have to address that by the means of a workshop”.

SLHSTJO stated “I have been a Dean for the last number of years, I think I selected workshops that would help me in my role as a Dean”. The Interviewee shared similar comments as MARTAC’s with respect to relevant legislation: “The ones with Child Care and Protection that comes under my responsibility so clearly I would need to know and anything related to the legal aspects of education things like that I mean, I feel I need to know because you not supposed to go wrong”. SLHSTJO added that “the only way I would get this legal document if I went to an attorney or if I went to the government printery and secured all these documents”.

JOYCAPS, in her capacity as a Head of a Department, voiced similar thoughts to SLHSTJO. JOYCAPS was able to benefit from a TPD workshop dedicated to Heads of Departments and remarked “whoever did it saw the gap. They tried to address the needs of the Heads and told them how, you know, how you should be able to do particular things so you left with hands on, knowing that when you return, listen to me, that I could write a report”.

4.4.3 Collaborative Learning

The Interviewees perceived TPD as an opportunity to engage in collaborative learning. Teachers were able to participate in learning activities with colleagues. Several (3) stated that they were able to maintain communication with fellow teachers post workshop and developed professional relationships with them.

JOYCAPS recalled her reaction when annually she would see familiar faces at the workshops. She felt a bond. The Interviewee felt a bond in their coming together with a common purpose:

 “what I must tell you that by going to those workshops I saw people, the same people year after year attending the workshops. So it means their philosophy like my philosophy is about ongoing, the need, you know to do the ongoing learning”.

Both JOYCAPS and SLHSTJO reported that they networked with others after the PD workshops. “She took it on her own to network with me”. SLHSTJO referred to the socialisation as a “’hidden benefit’ and was one the undercurrent or the underlying benefit which would have been the opportunity to have met colleagues and people from all other schools”. SLHSTJO was not aware that teacher networking was one of the stated intentions in the Original Proposal (See Appendix I). SLHSTJO noted that when teachers come together “they going to talk about what they familiar with anyhow and share their problems and their concerns”. NBDEBSEC pointed out that “forming community of learners to share experiences, that is part of the professional continuous learning.

|  |  |  |
| --- | --- | --- |
| Code | Theme | Exemplary quote |
| Adequate notification | Institutional support | “Well, I would like that the whatever courses that they have, that we could have earlier notification”. MARTAC |
| Leadership support | Institutional support/ Agency | “And if the principal thinks that I will benefit from it and she sees the needs for it in the institution that we are in then she will send me.” SLHSTJO |
| Incentives | Job Conditions | “And probably we need to put some incentive in place to encourage teachers”. MJGLMOR |
|  Scheduling of TPD | Job Conditions | “Well, we need the holidays to de-stress”. GWSASEC |
| Facilitator expertise | Pedagogical support | “Of course, the facilitator should be someone knowledgeable and experienced in the field. Not just the book knowledge but have some kind of hands on experience in whatever field. They should have been teachers themselves at some point in time so that they can relate and understand the context in which we work MJGLMOR |
| Required resources | Pedagogical support | “Best Practice is a beautiful expression that sometimes may have no teeth because to achieve Best Practice you have to have resources”. MARTAC |
|  Selection of Topics | Pedagogical Support | “So, I guess current issues and local issues”. MJGLMOR |
| Useful strategies | Practical pedagogical support | “Where teachers will be exposed to different best practices and different strategies that they can apply in the classroom”. MJGLMOR |

Table 4 Perceptions of Good TPD

4.5 Good TPD

One of the themes which permeated the dialogues with the Interviewees was their view on what constituted good TPD. The views have been collated in the above Table: Good TPD. The teachers have, essentially, identified the need for a wide range of support for TPD to be beneficial to their learning and that of their students. Additionally, the Interviewees pointed out that need to review teachers’ job conditions in order for the teacher population to engage in TPD activities.

4.6 Institutional Support

4.6.1 Adequate Notification

Teachers underscored the need for the MOETT to be better organised, so that they will be advised at least a month before the commencement of the TPD activity whether it was being conducted during the school term or in the vacation period. Both JOYCAPS and SLHSTJO requested that the MOETT share an annual calendar of all events, thereby avoiding clashes and disruptions in their professional and personal lives. The quotation by MARTAC in the Table above is just one example of the interviewees’ repeated recommendations that the MOETT provide early notification of the dates and offerings of the Programme or any other related activity.

4.6.2 Leadership Support

Interviewees saw it as their principal’s responsibility to encourage them to participate in TPD activities. Both SLHSTJO and MJGLMOR believed that the principal could inform them of the workshops and insist that staff members should attend, since the latter would know the needs of the school. The quotation from SLHSTJO in the table above referred to a TPD activity which was not offered by the MOETT where payment to an external provider was required. The quotation illustrates her willingness to comply with her principal’s advice to participate in a TPD activity to address an area of weakness in the school. The Interviewee informed that at times when such workshops were marketed by private bodies, the principal would pay for the entire cost of the workshop or the participant would pay fifty percent.

MJGLMOR stated that “the role of the principal is very important for it to really spread and be beneficial for the whole school” and that “the principals need to buy into it and really encourage their staff to attend”. JOYCAPS commented that some principals were “very selfish. They will go home with all the circulars, they wouldn’t train”. The Interviewee’s use of the word ‘train” was clarified in a later comment “you could train people, develop them professionally so they there, they have the knowledge”. The ‘circulars’ refer to communication from the senior management of the MOETT in the form of Memoranda which inform the recipients of updates or new guidance on practices. The recipients are not classroom teachers nor middle management personnel but Heads of Divisions in the MOETT, Principals and School Supervisors depending on the issue being addressed.

4.6.3 Pedagogical Support

The Interviewees pointed out that teachers should be provided with pedagogical support if they were to make good use of TPD. SLHSTJO stated that the most important component of good TPD was the facilitator who should be “well versed in what they have come there to say and talk about, examplebeing there was one I think last year on Mediation and Conflict…” Facilitators with the relevant expertise on topics of interest were expected to provide useful strategies. The Interviewee added though that she was concerned about the confidentiality practised by personnel when they conducted workshops privately. JOYCAPS pointed out facilitators should keep their promises to both provide the resources and to ensure that they were of good quality. GWSASEC recounted that the resource Windows 10.1 was made available to workshop attendees but he was not aware that its use was only free for one month. The Interviewee explained the plight he experienced when almost all this work was lost

JOYCAPS highlighted a situation in her school that they needed “remedial teachers because we have seventy-four children under 30% who can’t read” at the Form One level. The Interviewee continued to highlight the need for assistance “to do diagnostic, we don’t have nobody. Where we getting that from? We don’t have, right now the teacher, the Form 1 Dean, he searching around to find where we get people with the competency to really diagnose”.

SLHSTJO perceived PD in terms of the “provision of resources to assist them in the execution of their duties and their functions and so on, whether you are a dean, teacher, principal or whatever. Resources by way of lectures, workshops, conferences, it could even be online resources”.

4.6.4 Job Conditions

4.6.4.1 Incentives

NBDEBSEC commented that teachers’ time had a cost attached- “I feel teachers tend to be financially motivated, you know they don’twant their time to be taken”. The Interviewee remarked that the MOETT could provide incentives to motivate them to participate in professional development activities. Externally. teachers “were doing classes and courses and they were being paid for it”. However, “if you do it free you get recognition which is good and you help others but you do feel slightly demotivated, you know”. The Interviewee reflected on his own situation in that he had been involved in a TPD project on Saturdays with no payment and that he felt demotivated because his glasses broke and no compensation was offered despite the weekly sacrifice of his time.

During the interview with GWSASEC he mentioned that he heard that the MOETT was about to embark on an ICT infusion initiative. The interviewee suggested that laptops be provided because this “might give them an incentive to really try”. The Interviewee revealed that the suggestion was made because “some people don’t have, they use it in the schoolbut they don’t have anything at home”. JOYCAPS made a similar comment with respect to implementation of what was learned at TPD activities and that support for teachers is needed for TPD to be effective.

4.6.4.2 Compensatory Time

 Interviewees suggested that compensatory time should be awarded to teachers who gave up their vacation time so that they would be able to enhance their teacher and student learning. The Code of Ethics compiled by the Trinidad and Tobago Unified Teachers’ Association and the Education Act Chapter 39:01 Subsidiary Legislation, Education (Teaching Service) Regulations Part VI Leave, Passage, Grants etc. Clause 44 informs of conditions for compensatory time. According to the Code of Practice:

 *A teacher may during a school vacation be required to perform such duties of his office as the exigencies of the Teaching Service may require. Where a teacher is required to perform duties during the school vacation, he may be granted compensatory leave in compensation for the time during which he performed such duties.*

However, on examination of the roles and responsibilities of teachers as issued by the Teaching Service, there is no stipulation that engagement in TPD is a either a duty or a responsibility of teachers, with exception of Head of Department.

The Code of Ethics of the Trinidad and Tobago Unified Teachers’ Association (TTUTA) was launched in 1988 and approved by the General Council for adherence by all teachers. In the Introduction of The Code of Ethics, the Code is defined as

 *a guide to the personal and professional conduct of teachers who, as they act “in loco parentis”, have to discharge their sacred, vocational duties in the education and training of students of all ages and at all levels in the society.*

The following clauses which are extracted from TTUTA’s Code of Ethics centre on teachers’ relationship with teacher professional development:

*4.07 A teacher shall be unselfish in response to colleagues who seek professional assistance.*

*4.13 A teacher shall strive to keep abreast of educational developments in his field through ongoing study and research.*

*4.14 A teacher shall maintain high standards of professional competence.*

*76. Authorities and teachers should recognize the importance of the participation of teachers, through their organizations and in other ways, in steps designed to improve the quality of the education service, in educational research, and in the development and dissemination of new improved methods. (TTUTA,1988).*

4.6.4.3 Scheduling of TPD

Most of the interviewees expressed dissatisfaction that the TPD workshops required that they use their vacation time for their professional learning. The Table 2 represents the typical number of weeks for schooling per academic year and is included to better present the teachers’ justification for TPD not to be offered during the July-August vacation . The school year is comprised of three (3) academic terms which are generally of different duration. For example, the school year 2021-2022 is divided accordingly:

|  |  |  |  |
| --- | --- | --- | --- |
| School Term | Beginning | Ending | Duration |
| Term 1 | 6 September, 2020 | 10th December 2020 | 14 weeks |
| Term II | 3 January 2022 | 1 April 2022 | 13 weeks |
| Term 111 | 19 April 2022 | 8 July 2022 | 12 weeks |

Table 5 School Academic Year 2021-2022

We see that the school year is thirty-nine weeks long and that the vacation period between the terms is three (3), two (2) and nine (9) weeks, respectively. Teachers are required to report to school on the last two days of the July – August vacation. Non-contact teaching time is further reduced by seven (7) public holidays, two (2) days for Carnival celebrations, three (3) days for site-based TPD and one day (1) TPD organised by the Teacher Association which is district-based.

The scheduling or timing of TPD activities was a concern which was expressed by most interviewees (6). However, unlike their colleagues to whom they referred, their passion for their professional learning motivated them to engage in TPD workshops during the school vacation period. It was reported that many of the colleagues of these interviewees preferred not to participate in the programme, because it was always held during the vacation period, and this was their time. All but two of the interviewees acknowledged that the vacation period might not have been the best time for them. An interviewee (JOYCAPS) stated that even though attending the workshops would provide teachers with strategies to aid student learning, this should not be at the “expense my um (sic) vacation” and continued to make this statement. “You have to be a die hard, extinct kind of species to just be going and going and going.” (p. 29).

On the other hand, the timing was not problematic for MARTAC, an early childhood educator, who had to report to work during the vacation period and participation in TPD was a requirement for him. The other interviewee who voiced a preference for the timing of the programme commented that he/she (SLHSTJO) was less distracted then than during the school day. The interviewee explained that he/she (SLHSTJO) did not “have to juggle schoolwork” and be “leaving the children unattended and feeling badly about that.” (p. 218).

The interviewees were not able to indicate when it would be suitable for teachers to attend TPD activities. SDLBELSEC stated that teachers would not agree to attend TPD workshops during any of the vacation weeks:

 “The teachers who will come out in August will come out in December and they will come out in April. The teachers who won’t come out in August, won’t come out in December and they won’t come out in April”.

4.7 Organisational and Institutional Support

4.7.1The MOETT’S Approach to Teacher Professional Development

The interviewees shared many views on the concept of TPD, highlighting how they benefitted. Nevertheless, they made numerous observations about the challenges posed by the MOETT which did not foster a suitable environment for teacher learning. JOYCAPS revealed that the TPD activity could be very enriching but of what use would be the knowledge and skills developed?

4.7.2 Teacher Workload

JOYCAPS spoke at length about the numerous responsibilities the middle management team had, which seemed to have created anxiety because of the impossibility of completing the tasks.

 “I am saying to you the workload today from what has become a little too heavy for the Deans and the HODs to become effective in the school. So, we need to revisit that, we need to revisit that so it doesn’t matter, I don’t think I would have gone to a wealth of training, I have… I have a wealth of knowledge I know what to do, but time.”

JOYCAPS described a scenario that Deans might frequently encounter: “Yes, the Dean could be a teacher. A child giving problem in the classroom you could pull that child out, have the child and thing and deal with the child on a one and one”.

4.7.3 Student Learning

All seven Interviewees connected TPD to student learning when they spoke about their conceptualisation of teacher professional development.

JOYCAPS identified her ongoing learning as a requirement for teaching students in her reflexion that “education is an ongoing thing and we need to expose ourselves especially when we are dealing with lives on a daily basis”. The interviewee continued to explain that teachers needed to be “relevant to the children” because “we really have to prepare these children, these students for the world of work”. SDLBELSEC shared a similar outlook on the support that TPD provided to integrate technology thereby instructing students in ways that were meaningful to them, explaining that students will get bored if teachers continue to use the “chalk and talk method” given that the “children are not the same, the children are not faced with the same situations… they don’t live in the same world that we use to live in”. The interviewee did say that technology integration did not always guarantee immediate success and that the learners’ stage in the education system needed to be considered. SDLBELSEC narrated that she showed a video to illustrate “how an egg can be hatched outside a shell” to a Form One class. She then asked what constraints there might have been. The students were indifferent in their response which caused her to comment that students at the Primary School level were accustomed to the dictation of notes and not to active engagement.

GWSASEC recalled that he attended an ICT in Education workshop in which the facilitator illustrated the possibility of using the WhatsApp application in and out of the classroom. The Interviewee recounted his enlightenment, saying “I haven’t thought about using it in the classroom with students and the way he brought it across I said this can be a good tool. The WhatsApp”. GWSASEC stated he created a WhatsApp group with his Form Five classes and that “most of them are happy and even start some communication”. NBDESEC used the knowledge and skills gained at the TPD on ICT in Education which was hosted by the Commonwealth of Learning (COL) to allow his students to familiarise themselves with the Moodle platform which they would use at the tertiary level.

JOYCAPS explained that the students pay the price as a result of the job overload.

 The workload for the Heads and Deans is different to that of a classroom teacher, the former teaches fifty per cent of the required contact hours. JOYCAPS related that despite the selection of Principles of Business (POB) by students, only one class was offered the subject because a dean was the POB teacher and could not have been scheduled accordingly.

4.7.4 The Annual Professional Development Workshops for Teachers July-August

Several questions were posed about the MOETT’s hosting of this Programme. MARTAC enquired why the MOETT catered for such a small percentage of the teacher population: “14,000. Let’s say 7,000 people apply, could you address 7,000 people? So, the system itself does not support what you trying to do”. Several interviewees asked why the notice for the workshops was communicated increasingly later and later when the MOETT ought have been aware that teachers have families and would need to make their vacation plans, especially if they involved foreign travel.

SLHSTJO commented that TPD workshops created the opportunity for networking and collaboration since during the school year they would have “remained isolated from anybody else teaching everywhere”. The interviewee continued to point out that when teachers came together they would interact and talk about “what they familiar with anyhow and share their problems and their concerns”, concurring that many of their colleagues, however, did not choose to attend the workshops, so did not benefit from the opportunity to interact with others.

4.7.5 The MOETT’s Leadership and Management

SLHSTJO commented that the MOETT ‘s operations seemed ad hoc and that the organisation should act professionally with respect with notifications, that it should share an annual calendar of events. SLHSTJO explained that constructing a calendar of events was a requirement for schools and that one from the MOETT would avoid clashes and disruptions. JOYCAPS expressed similar concerns.

GWSASEC opined that the MOETT should create an “environment” which he explained referred to both physical and human resources because this was an important factor for drawing teachers to engage in professional development. He expanded on his suggestion saying that “if the environment is nurturing you will find a lot more people who may not be so passionate might be able to develop some passion”. GWSASEC stated that it would take a very strong teacher to go against all the obstacles encountered to opt to take day(s) from their vacation time to get involved with school-related work.

GWSASEC and MARTAC noted that teachers are underappreciated and not valued. GWSASEC stated that “so many roles you have to play and it can be very stressful”, yet your efforts are not recognised. MARTAC commented that teachers are not valued and the focus is on the students and their learning, endorsing the suggestion of others that they should be compensated for giving up some of their vacation time and suggested that the Certificate of Participation awarded on completion of the workshop should be accredited with the universities who offer the Bachelor of Education (ECCE), and ultimately be used for promotional opportunities. This interviewee explained in detail the sacrifices experienced by those pursuing their studies:

 “You have to consider your study time, you have projects to do, you have assignments to do so when are you going to get the time to do that. You are working during the day so it’s on the evenings, on the weekends. If you have a family how does that work out so I had a suggestion that where we use the vacation period and we have these type of courses where you can do during the vacation period that contributes to you finishing, you credited for your degree”.

4.7.6 Voluntary or Mandatory Participation

Should TPD be mandatory or optional? This issue was discussed with several interviewees. SLHSTJO regarded it as a teacher's professional task, and participation should be intrinsic. MJGLMOR initially thought that TPD should not; however, she concluded that it should be made compulsory because TPD contributed to the growth of the profession. MARTAC remarked that the authorities should not give teachers the option because the system "will not get anywhere" (p.14). The institutionalisation of TPD would warrant it being included in the job conditions agreement; however, SDLBELSEC stated that if that were to happen, teachers would take to the streets to protest against it. Interviewees argued that institutional and by extension, organisational, support would be required for professional development to be deemed important by the teacher population. Additionally, the implementation of what may be gained from the engagement in TPD workshops would be realised when the institution and the organisation supported it.

4.8 The Electronic Surveys

The number of respondents from teachers at the Primary School Level was initially thirteen (13); however, after scrutiny of the Survey Forms, it became apparent that one had not attended any of the ICT in Education workshops during the set period. The participants at the Primary Level were those who had attended the pennacool.com workshop(s) or any other. The pennacool.com workshops were specifically for teachers at the Primary Level on account of the content of the software, which covered the curriculum requirements for Standards 4 and 5.

4.8.1 Research Question 1

What is your perception of the term ICT Professional Development?

This research question aimed to gain an understanding of the participants’ perspective on what, ICTPD, a category of TPD, meant to them and what they sought to gain. The rationale for the inclusion of this R.Q. was to attempt to gain an insight into the value participants attached to professional learning, which would have influenced them to use some of their vacation days for such activity when most of their fellow teachers did not.

4.8.2 Secondary Level Participants

The submissions that were made to Research Question 1 were categorised into three bands based on the number of responses to a shared idea. The foci of these categories were first, the application of ICTs in the classroom in general, secondly, the utilisation for curriculum delivery and thirdly, to upgrade teachers in the use of advancing ICT tools in their practice.

Teachers stated that they understood the purpose of ICTPD was, as expressed by one participant, to “train teachers to be competent in using ICT in the classroom” (Participant 14). The view was expressed that ICTPD sought “to keep trainees up to date on the latest ICT tools" (Participant 12). Participants’ thoughts were that ICTPD equipped them “with the skills and knowledge to use the technology to bridge the gap” (Participant 12). Many teachers reported that ICTPD was preparing teachers “for the constantly evolving world of the digital natives” (Participant 25).

Secondly, participants (23) shared the perception that PD would facilitate the development of "ICT skills to infuse ICT use and learning in the curriculum" (Participant 22). The third category. made up of nine (9) responses, was to “effectively use ICT in and out of the classroom” (Participant 9).

4.8.3 Primary Level Participants

 Figure 6 Primary Level Participants’ Concept of ICTPD

At the Primary School Level, the Participants’ concept of ICTPD focused on 3 main areas: Professional Descriptors, Building Teachers' Capacity and the Expected Impact. The expected impact on both teachers and other stakeholders was seen as having equal weighting. On the other hand, 2 other dimensions were offered, which highlighted ICTPD as a requirement for professional advancement and that it was an ICT-enhanced form of CTPD. One of the objectives of ICTPD, which was reported was to build teachers' capacity. The skills and knowledge sought were referred to in general terms. Participants’ Expected Impact was that ICTPD activities should facilitate the integration of ICT skills and knowledge to make teaching more meaningful. The expectation was, additionally, that these skills and knowledge would also assist teachers at both the individual and organisational level

4.9 Interviews

4.9.1 Research Question 2

What skills and knowledge do teachers develop because of their participation in the professional development activity?

4.9.2 Interviewees

Procedural Knowledge

MARTAC’s participation in a workshop based on children’s rights provided him with the legislative knowledge about the procedure for dealing with a situation in which child abuse is suspected. According to MARTAC he could be punishable by law for not reporting the abuse of a child even though it may be suspected. MARTAC was therefore empowered to introduce relevant procedures in the ECCE school, educated the parents and in his personal life educated his colleagues. MARTAC explained “even in my private life, I share that with somebody if I know of something and as a professional and I don’t report and somehow it came to being that I knew, I am also liable”.

JOYCAPS reported that she benefitted significantly from attending a ten-day long TPD for Heads of Departments. The Interviewee pointed out that she had then completed a postgraduate diploma in education and was pleased that the MOETT’s TPD provided her with the practical knowledge she needed to perform her job, more so than the other programme, explaining “so you left with hands on, knowing that when you return, listen to me, that I could write a report, I could do an analysis”.

Curriculum Enhancement

MARTAC was enabled to introduce Visual and Performing Arts (VAPA) in the curriculum of the ECCE school. Two (2) colleagues accompanied him to the VAPA workshop and on their return, other teachers attended the workshop based on the information shared. The ECCE teachers were then enabled to use VAPA in delivery across the curriculum. MARTAC recorded his students’ performances and shared it with the respective parent.

Mindset

MJGLMOR and JOYCAPS related that the TPD experience allowed them to return to school in the new term with a positive mindset. JOYCAPS stated if teachers attended TPD workshops, they would have a changed mindset and think “differently when they re-enter the classroom.”

4.10 Electronic Survey

4.10.1 Research Question 2

Did you learn any new knowledge and skills for teaching and learning from attending the MOE ICT workshops?

4.10.2 Secondary Level Participants

The range of responses to this question which were submitted was wide. The skills and knowledge which participants reported as having learned were many. The majority who responded to this question stated that they “discovered a myriad of helpful sites and apps to enhance what is done in the classroom” (Participant 8). Secondly, in terms of the number of responses, some teachers remarked that they were better able to assist their students with “class content”. (Participant 16). A small number of respondents indicated that they were able to make use of "ICT /sites for (online) assessment", make content "more readily available to students", obtain the "latest and updated info on teaching" and benefitted from the "ease of using an online classroom". A minority of participants commented that they were able to use "office 365 and cloud storage", apply ICT tools to "simplify professional and personal life", aid the development of organisational skills and the "competence to evaluates (sic) uses of software."



Table 6 ICT Resources Identified by Secondary School Participants

4.10.3 Primary Level Participants

 Figure 7 Areas of Teacher Learning

The range of responses was quite wide because participants reported having learned varied skills and knowledge. All but one participant affirmed that they did learn from their ICTPD engagement. Participant 6 indicated that he/she had not learned anything and qualified this by stating that he/she had not attended the pennacool.com workshops. The participant did state in his/her response to R.Q. 4 that varied uses of technology were utilised in teaching, such as videos for teaching content and illustrating experiments.

The responses from the participants indicated that they were enabled to create resources, use ICTs in the assessment process and use various ICT platforms and programmes to enhance their classroom instruction. Several participants affirmed that they had learned but did not expand and a participant stated that he/she was able to "capture new information" but did not expand because he/she had not attended the pennacool.com workshops. She stated, however, that she had attended others.

The resources which were created were online content: “I learnt many new skills. These include creating online content” (Participant 1), such as programmes, flyers and handouts for the end of term tests. “I learnt about using Microsoft Presentations to make programs, flyers, text wrapping etc. these skills assisted me in preparing handouts and End of Term tests for my students.” (Participant 4)

Respondents reported that they were able to utilise ICT programmes and platforms. They indicated that they made use of them in varied ways: "I learnt about additional ways in which I can use Computers & Computer programs, Projectors and even my cell-phone in my classroom to improve my teaching and learning" (Participant 5). They utilised ICTs in assessing their students. Participant 8 was able to create online assessments, and another reported that "It taught me how to access the Pennacool.com website, record class performance on the site and use activities to aid in test practice."

4.11 The Workshop Evaluation Forms

The Workshop Evaluation Forms (Forms) were collected at the end of the workshop from those participants who complied with the MOETT’s request for feedback; there were some who did not submit. Only one open-ended question from the entire form was extracted by the researcher to obtain an indication whether participants perceived learning had taken place.



Figure 8 The Categories of Responses in the Workshop Evaluation Forms

The majority of responses which were submitted on the ICT Workshop Evaluation Forms were directed to the issue of improvement in teaching. There was a large number of participants who identified the possibility of applying technology to the classroom, which they foresaw would motivate students and increase student engagement. The second most ascribed area was on Information Sharing and thirdly, Administrative Tasks. As stated previously, the responses to this question were utilised to add valuable insight to Research Questions 2 and 3. Responses to these questions indicated the intended application of the ICT knowledge and skills by the participants, which comprised details of what they had learned and how they intended to use them to enhance their teaching.

Participants commented, to a great extent, that they would use the skills and knowledge gained to help their students learn by engaging them through numerous approaches, which were to be adopted to improve student learning.

4.11.1 Research Question 3

RQ 3. To what extent do teachers think they are able to apply their learning to their practice?

4.11.2 Interviewees

Successes

MARTAC was able to make others aware of procedure for reporting suspected child abuse in both private and professional life with the cognisance that the law is applicable to all situations. He explained that there were incidents of child abuse at that early age and that with knowledge of the legislation, it would be possible to “nip in the bud when detected early”. SLHSTJO stated that she was able to share with other Deans in her school. However, – she recounted that sometimes on return to the school, sharing was not possible due to various schedules and the hustle and bustle of the school.”

MARTAC was instrumental in introducing VAPA into the curriculum with seemingly immediate implementation and it was now an integral part of the curriculum.

NBDEBSEC emphasised that he gained confidence to have an online Moodle which students could access and upload which would later allow them to be familiar with the LMS at the universities they attend.

NBDEBSEC stated that at his school, teachers lacked basic computer literacy skills, for example, not knowing how to save files and not knowing where to save them. Teachers did not know how to create folders and subfolders, which allowed others open access to their private information. NBDEBSEC showed some of them since teachers were required to share computers as a staff. MJGLMOR also conducted informal and formal TPD sessions with her colleagues, though not all were interested in participating.

SDLBELSEC shared her knowledge and skills with teachers at staff meetings and with the Head of Department. She also applied the ICT skills and knowledge to classroom instruction. She taught teachers ICT skills for the classroom with the Principal’s approval. The teacher said she showed her colleagues how to attach the phone to the projector so there was no need for a laptop. SDLBELSEC further commented that many teachers were willing to learn. They would not give up their vacation but would learn from someone in the school. Teachers were willing to learn but not on their time, she. said. One suggestion was possibly between classes. She stated that she taught her students similar skills

Challenges encountered.

NBDEBSEC was disappointed that access was not given by the facilitating body for use of Open Education Resources (OER) after the workshop ended. Students were then unable to gain the practice that he anticipated they would have benefitted from with the approved access.

GWSASEC recounted the bad experience he had when the free license for the software that was shared at a workshop expired. His laptop was old and because he used updated software everything was deleted. He stated that he felt he had fallen into a trap. He said that there was a promise made by the authorities for fifty laptops but he did not know if they were for teachers and students. Teachers were interested in finding out if they were going to get a laptop. GWSASEC thought that would encourage them to try because some teachers did not have any at home.

4.11.3 Electronic Surveys

State the different ways in which you are able to use knowledge and skills of ICT in your classroom teaching?

Secondary Level Participants

 Figure 9 Overview of Responses to R.Q. 3

This R.Q. prompted a wide range of responses, referred to as components, and consequently, the numbers were smaller. Approximately nineteen (19 ) components or similar areas of implementation were identified, which were then classified into three (3) categories: Assessment, Enhanced Teaching and Information Gathering and Sharing. There were more responses given for the Category Enhanced Teaching than for Assessment and Information Gathering and Sharing.

Respondents’ reflections on their implementation of the skills and knowledge gained from the ICTPD workshops revealed that most were applied in developing and using strategies to enhance teaching in the classroom. Several approaches were presented, and it was found that the most frequently identified application was using ICT to engage students’ attention to facilitate curriculum delivery. Participant 1 reported that she had “created websites and also gotten students to do the same during lessons”. Many respondents stated that they were able to make use of their ICT skills in the assessment of their students, seemingly for formative aims. Teachers stated that they assessed learning online, were able to send assignments and feedback to students. One participant applied the knowledge and skills gained in “planning for delivery of SBA by using online calendar” (Participant 24).

 4.11.4 Primary Level Participants

 Figure 10 Implementation of ICT Knowledge and Skills

The phrasing of this survey question was based on the assumption that the participants were able to incorporate what they had learned from attending the ICT in Education workshops; however, they were not able to respond if this was not their experience, due its open-ended nature. All participants responded with varying amounts of details provided. Participants submitted many responses to this question (51), and these contained the range of ways they incorporated their ICT skills and knowledge in their classrooms. Initially, the responses were analysed into components which were based on each different approach that was used. The 12 components were further analysed and were then categorised into four main groupings: Created Technology-enabled Classroom, Alternative Pedagogical Approaches, Preparation and Planning and Information Sharing.

Participants reported that they applied ICTs to their classroom instruction. Many of the respondents combined both traditional and technological approaches to enhance their students’ learning experiences. Hence, one participant reported he/she used ICTs as “reinforcement - online quizzes that the children engaged in to solidify their understanding” (Participant 8). The technology was used to support what was taught “I had children use their or their parent's devices to take photos on field trips - to be used later for recall and discussion” (Participant 13). Participant 1 stated that the blended and flipped classroom approaches became part of his/her practice.

4.12 Research Question 4

 How do teachers perceive enhanced student learning in their classrooms?

4.12.1 Interviews

Three (3) interviewees spoke about student learning in terms of engagement and satisfaction; the other four (4) were more teacher-centred in speaking about student learning. The latter focused their responses on how they prepared themselves to be better able to teach them.

Student Engagement

SDLBELSEC and GWSASEC perceived increased student engagement so that students would not be bored. For example, SDLBELSEC would insert “a little video here so you never get a chance to be bored and tired”. GWSASEC pointed out communication with students and with each other in a group activity indicated that learning was taking place . The latter stated that technology lent itself to continued learning in the classroom. NBDESEC pointed out that increased learning took place when students used what was taught or experimented with the ideas or strategies.

GWSASEC remarked that the teaching-learning experience should be enriched and rewarded when teachers use a ICT Curriculum Integration approach .

 Student satisfaction

GWSASEC pointed out that student satisfaction, when they were actively involved in class/ group activities, signalled that most of them are happy and even start some communication and say “OK, well that is good.”

4.12.2 Electronic Surveys

 In what ways did the use of ICT knowledge and skills in teaching improve student learning?

4.12.3 Secondary Level Participants

|  |
| --- |
| AREAS OF IMPROVED LEARNING |
| SKILL DEVELOPMENT |
| MOTIVATION |
| BEHAVIOUR |
| CONTENT/CONCEPTUAL UNDERSTANDING |
| COMMUNICATION |
| RESPONSIBILITY FOR LEARNING |
| CREATIVITY |
| ACTIVE INVOLVEMENT |
| INCLUSIVENESS |

 Table 6 Responses to R.Q. 4 Secondary

Participants gave multiple perspectives on what they perceived were areas of learning, which were positively impacted by their acquired ICT knowledge and skills. Student learning was noted to have improved in 9 areas; however, there were 2 categories which were identified by a more significant number of respondents than the others. Participants saw that student learning improved due to increased skill development and motivation. Also identified, though with fewer responses, were improved behaviour, conceptual understanding and communication. Several teachers observed that their students were more creative, actively involved in their learning and demonstrated greater responsibility for their learning. Another participant noted that ICT enabled teaching to reach more students with varied abilities.

Increased student learning was reported in their improved use of ICTs. Participants reported that their students “were better able to use ICTs generally as digital citizens”. (Participant 5). “Students are able to connect with the concepts through visual stimuli and hands-on use of the various applications”. This was the observation made by Participant 19 and some of them “even tried out different apps outside of the suggested ones” according to Participant 4. Another area of skill development which was cited was the development of team-building, problem-solving, listening and pronunciation.

Students were observed to have been more motivated to learn as a result of their ICT- enriched teaching. Improvement was reported in their attitude to learning which was illustrated in these responses: that students “are happy for me to take them even when I don’t have them” (Participant 1) and “more enthusiastic when technology is used and social media mentioned.” (Participant 8). This observation was shared by several teachers: “Student motivation/enthusiasm ... noticeably improved” (Participant 11). Respondents commented that despite the closure of their schools( pre-Covid-19 pandemic) due to sanitation problems, students "were able to access information online while school was shut down" (Participant 24).

Teachers indicated that students’ “overall satisfaction have (sic) improved” (Participant 1). Behavioural changes were also noted in the comment that students rushed to class, and "some modify their behaviour and are even more motivated" (Participant 8). Several respondents noted improvement in their students’ understanding of content and concepts. The comment by one respondent indicated that ICTs “made learning fun and comfortable for students (Participant 22).

Participants noted that their students demonstrated responsibility for their learning in the following ways: more students did homework assignments, research was done on a timely manner, portfolios were completed and “students are able to track their progress through the points system” (Participant 8). A respondent observed that he/she “reached students of different intelligences” (Participant 12), and they were more focused as a result of using ICTs in the classroom.

4.12.4.Primary Level Participants

The responses to this survey question were categorised into two main themes: student satisfaction and student engagement. The observations which were made by the participants were varied and overall included 16 indicators of what represented improved student learning. After closer examination, the components of what was illustrative of improved student learning were clustered into three themes. Two of the three themes were highlighted more than the third; the latter was then assimilated in the theme of student engagement.

|  |  |
| --- | --- |
| Student Engagement | Student satisfaction |
| Increased student participation | Interest increased |
| Aided memorisation/long term memory | Happy about learning and participating in class activities involving ICT/s, |
|  |  |
| Caters for varied types of learners | Attention span improved |
| Learnt quicker | More confident learners |
| Interaction, Collaboration & Collaborative Learning | Settled very quickly |
| More advanced in many subject areas. | Get vicarious experiences on a regular basis to enhance their learning abilities. |
| Increased vocabulary | Access to more examples, explanations than can be given face to face. |
| Children demonstrate critical thinking skills and excellent problem-solving aptitudes. | Allowed students practice at home. |
| Timely feedback from assessments |  |

 Table 7 Responses to R.Q. 4 Primary

Student Satisfaction

The consensus was that students had a better attitude to learning and collaborating with each other due to the medium used for teaching. The observation was made by several participants that ICTs extended their students’ learning opportunities, that they had access to information beyond the classroom walls. Participants commented that their students had a positive attitude to learning. The respondents noted that the application of ICTs seemed to have enhanced their teaching, given the improved student response. The observations that were shared by most of the participants were that student interest had increased and their state of well-being seemed positive, as expressed by Participant 5 “I know for a fact my students are pleased, happy about learning and participating in class activities involving ICTs”. Students were excited to learn in what Participant 7 referred to a learning environment that was more student-friendly, “engaging, interactive and self-motivating (sic)”. Participant 6 remarked that students were eager to help set up the projector, rushed to sit at the front of the class and seemed to settle down to work quickly.

Student Engagement

Most of the respondents identified the medium as a factor which contributed to their students' improved learning, as was illustrated in this comment that ICT "allowed me reach children using a medium that is of particular interest to them” (Participant 8). The participant who did not comment on the positive impact of ICT integration in his/her teaching stated that "the lack of a functioning IT lab in the primary school along with the fact that many children do not posses (sic) a smart phone, limited the roll out of ICT infusion in my class” (Participant 9). The respondent did state that he/she made use of a projector and television which were used to show videos and “administered a mental mathematics test as a PowerPoint presentation” (Participant 9)

Participant 11 pointed out that that technology extended the students’ learning experiences, though no further clarification was provided, this observation may have been clarified in the responses of several others. Several respondents stated that the application of ICT knowledge and skills seemed to have fostered “student interaction and collaboration in and out of the classroom” Participant 1.

Content learning and improved memorisation were noted by Participants. Participant 4 observed that his/her students demonstrated improvement in “long term memory due to the images, sounds etc. that provided multi-sensory stimulation.” Participant 3 in a similar vein stated that “activities completed aided in memory and allowed students practice at home”. At the early childhood/ lower primary level “children have learned time lapse and life cycle of plants, chicken, butterfly” (Participant 13). Participant 7 stated that his/her students demonstrated “critical thinking skills and excellent problem-solving aptitudes” which was attributed to students being more receptive to the teaching and learning experiences which were afforded by the integration of ICTs.

Student learning improved with the application of the ICT enriched teaching and digital resources, as illustrated above. The many experiences that were shared resonated with the sense that students had benefitted to some extent. Participant 12’s reflection may be quite insightful in determining one possible contributing factor to improved student learning: “Students were better engaged as I was able create better lessons”. (Participant 12).

4.13 Additional Comments: Secondary Level Participants

A section of the Survey Form was dedicated to giving participants the opportunity to make any comment they wished. No restriction was given on the nature of the comments; however, the nine teachers who responded mainly focused on the implementation of ICTs in teaching. Participants commented on the challenges encountered which would have to be surmounted for ICTs to be integrated into teaching. Inadequate and non-functioning ICT resources were mentioned once more, together with hindrances posed by teachers and students. Participant 28 stated that they attempted to share the knowledge and skills gained which was received with mixed reactions by the staff: some showed improvement whereas others preferred not to waste their time due to the prevailing paucity of ICT resources in schools.

4.14 Additional Comments: Primary Level Participants

Teachers described ICT- enabled teaching as less stressful and less monotonous and pointed out the significant improvement in student learning brought about by incorporating videos to provide students with rich learning experiences. Participants 23 and 27, respectively, expressed appreciation for the “knowledge shared in the sessions” and that training “should never stop”.

4.15 Conclusion

The major findings from the 3 data sources indicate that for the most part teachers were enabled to utilise ICTs in their instructional strategies. It would appear that most of the schools in which the participants taught, were differently equipped with ICTs, which was noted in their comments. In some cases, teachers referred to the various hardware and software available; however, several stated that they did not have adequate or functioning equipment. Few teachers reported that they used their own technological devices, such as smartphones, to implement their ICT skills and knowledge to enhance their teaching. Participants commented that students had demonstrated improved learning in both the behavioural and cognitive perspectives. Not all teachers reported improvements and apart from those who did not have ICT resources, several stated that they had not learned anything new from attending the workshops. . Participant 6's pronouncement may safely summarise the positive findings noted from having participated in the ICT in Education workshops: "Technology is fun for them and for me as a teacher, I love it!"

CHAPTER 5 DISCUSSION OF FINDINGS

5.1 Introduction

The aim of this research study is to conduct an exploratory study of teachers’ perceptions of professional development with a focus on how programmes improved their knowledge and skills and enhanced student learning. This study seeks to contribute to the ongoing research on building capacity and its relationship with improved student learning in a small postcolonial nation state. My research sought to investigate the perceptions of teachers who participated in TPD workshops in Trinidad and Tobago with respect to the possible benefits they and their students derived from these workshops. Four research questions were constructed to guide the enquiry:

1. How do teachers in Trinidad and Tobago conceptualise teacher professional development?

2. What skills and knowledge do teachers develop because of their participation in the professional development activity?

3. To what extent do teachers think they are able to apply their learning to their practice?

4. How do teachers perceive enhanced student learning in their classrooms?

The participants in this study were engaged in reflecting on essentially four main aspects of TPD, which together created a comprehensive understanding of their concept of TPD in Trinidad and Tobago. The findings of this research study, which was conducted in Trinidad, are, to some extent, consistent with aspects of studies on teachers' perceptions of TPD activities. The views generally expressed by these teachers indicated that they were able to improve their teaching, and many commented on the positive impact this had on their students' learning. However, the teachers did state that despite the benefits anticipated and experienced, there were undercurrents in the education system which often did not allow them to even experiment with them in the classroom. The major findings will be discussed in alignment with the research questions and themes, which were drawn primarily from this and other research studies which were highlighted in Chapter 2.

Both Interviewees and Respondents perceived the concept TPD as purpose driven. The aim of professional development was seen firstly to keep teachers abreast of educational advancements (Interviews) and the parallel observation from the participants in the ICT in Education workshops identified the aim as to keep teachers up to date on the latest ICT tools (Electronic Surveys). Day (2019) pointed out that teachers at all phases in the profession are required to build their capacity due to their changing needs and contexts. The bodies responsible for the teachers’ development are the hiring agency and teacher preparation institutions (Day, 2019). Based on Day’s (2019) findings, the majority of participants in this study, who were teachers with 16-27 years of service, would be categorised as at the later stages in the profession. In the case of the teachers in this study, the TPD workshop programme was conducted by the employer and there is no requirement for teachers in Trinidad and Tobago to engage in TPD. In my years as an educator, I have seen many teachers enter and leave the profession with the same qualifications and receive the same salary as those in a similar job position having attained, for example, the Postgraduate Diploma in Education.

Professional Development was conceptualised as an on-going activity in acknowledgement of the growing body of knowledge that is characteristic of the Information Age. The TPD model used for the workshops in this study incorporated sustainability through its continued yearly occurrence in the July-August vacation 2008-2018. The duration was limited to generally 2-3 days in cognisance of the timing of the vacation programme. Initially, Desimone and Garet (2015), regarded sustained duration as one of the 5 features for effective PD activities. However, it was later removed, as reported in their 2015 review. Nevertheless, the feature was regarded as critical by Darling-Hammond, Hyler and Gardener, 2017 and Baird and Clark, 2018. The former, referred to above, emphasised the adequacy of the time allocated for the PD activity (Darling-Hammond, Hyler and Gardener, 2017) and the latter conceptualised its duration in terms of years of sustained PD activity (Baird and Clark, 2018).

The Professional Development Programme in general sought to build the capacity of teachers so that they would be able to apply what was learned to facilitate the fulfilment of their professional responsibilities. An advanced level of teacher competency was regarded as a requirement to teach (Electronic Surveys) as well as legislative regulations, in managing the affairs of students (Interviews). The notion of building capacity Fullan and Hargreaves, (2013), which is both updated and meaningful to the teachers' context, was referred to as remaining "relevant" (Interviews: JOYCAPS).

Teacher development was widely seen in the research literature as supportive of the thinking that teachers were not born nor did they enter the profession with all the required skills and knowledge; however, it was possible for them to learn and develop them (Muzaffar and Malik, 2012; Desimone and Garet, 2015; Darling-Hammond, Hyler and Gardner, 2017; Day, 2019).

TPD prepared many teachers with varying levels of competencies in ICT as was related by the participants. Numerous teachers gave instances where they were able to implement strategies and were pleased with the students’ responses. I recall GWSASEC’s narration of the collaborative network he created with his Form Five students using the WhatsApp application. The teacher’s attempt to enhance his teaching, and more so his students’ learning, took place in 2016, years before the Covid-19 pandemic besieged the world. GWSASEC retold that they were able to communicate with their students using an online mode when the school was closed because of sewerage problems. The three data sources provided evidence from the teachers that they had developed varying skills from having engaged in TPD in ICT.

The Covid-19 pandemic did impact the mode of schooling traditionally practised, that of face- to- face teaching and learning, transforming it to the online approach. Though there may have been many teachers who would have developed some level of ICT competency, if we were to consider the hundreds of teachers who would have participated throughout the life of the Workshop Programme as evidence, there would have been a large percentage of the fourteen thousand teacher population who did not. Neither the teachers nor the leadership of the education system seemed to have considered TPD as a measure of teacher learning and that capacity building is a requirement for improved teacher quality (Fullan and Hargreaves,2013).

5.2 Teachers’ perceptions of Teacher Professional Development

Teachers' beliefs of the value of professional development, as they conceptualised it, may well have has an impact on their engagement in the Programme. Teachers' perceptions of TPD can be defined, based on the 3 data sources in this study, as their views on the value which they attached to their professional development to bring about improved teaching and learning. Participants’ beliefs about TPD, formed the lens through which they viewed and reflected on their workshop experiences in this study. Teachers’ beliefs are responsible for the approaches they adopt and practise in their teaching, these are driven by commitment and a belief in student learning (Knowles, 1973; Pajares, 1992; Fives and Buehl, 2016).

The positive perception of professional development, which emerged in this study was in line with those which were conducted by Rabah, 2015, Qasem and Viswanathappa, 2016, Fives and Buehl, 2016. The attitude towards TPD which was expressed by the participants was enlightening, especially given that their participation was not a stipulated job requirement and they did so during the school vacation period. The impact of teachers’ attitude to professional development was seen to have influenced the extent to which they benefitted from the activities (Dana et al., 2017).

Participants argued that the employer should support engagement in TPD by making attendance compulsory, credits should be awarded by teacher education institutions, or the employer should consider the certificate of participation for promotional opportunities and in the annual staff appraisal. Principal leadership support was valued where participants opined that principals should encourage staff members to attend and do so themselves when workshops are offered in leadership and management. Principal leadership and support have been deemed to be very influential for school improvement which includes their role in the development of their teachers (Walker, Lee and Bryant, 2014; Jensen, Sonnemann and Roberts-Hull, 2016).

Participants often referred to the need for adequate resources to be available and accessible for TPD to be meaningful. Research studies that have been conducted in Trinidad have indicated that the classroom must be suitably fitted with ICT resources and equipment for possible implementation of new technological and pedagogical strategies (Rampersad, 2011; Kamalodeen et al., 2017). The observations made by participants about the relative paucity of ICT resources are illustrative of the inequitable distribution of resources in schools in Trinidad. The prestigious denominational schools are very likely to possess well-equipped classrooms and laboratories with ICT hardware and software. However, the 5-year government co-educational schools, which are lower in the hierarchy of schools, may not have many functioning computers nor adequate internet access, if any. Access to ICT resources was defined as 1 of the 7 factors which may influence teachers’ perceptions of TPD (Li, Yamaguchi and Takada, 2018), this was regarded as having more impact on ICT integration than their beliefs and attitudes in an earlier study by Ertmer. et al. (2012).

Nevertheless, there is also extensive research expressing the view that there is no guarantee that TPD would lead to improved student performance, that it is difficult to measure in light of the numerous variables which interplay in teaching and learning (Szell, 2013; Slutsky, 2016; Li, Yamaguchi and Takada, 2018). Few participants in this study stated that they were unable to confirm that there was a causal link between engagement in TPD and improved student learning on account of the multiple factors that may impact on students, teachers, teaching, and learning. Additionally, the workshop model, which has been used by the MOE has been perceived (Kennedy, 2005; Darling-Hammond, 2013) as an ineffective PD model. Teachers’ perceptions of the ICT in Education workshops suggest differently.

5.3 The knowledge and skills gained

Positive attitude to learning

 Participants had a positive attitude towards learning and could learn, which was illustrated in their beliefs and engagement in the workshops coupled with the numerous examples of all that they learned. Teachers can learn what is required to teach effectively (Darling-Hammond, Hyler and Gardner, 2017). Enhanced teaching was reported by many. Students were taught through the use of photo story, wikis, blog, applications. Teachers were able to use ICTs to plan and organise their lessons and ICT enabled assessment activities. Planning was cited by many to be facilitated through the use of technology in the teaching process.

The willingness to learn ICT skills was also noted in Adegbenro et al.,'s (2017) study on the training needs of the participants and their attitude to learning ICT skills for effective integration in their teaching. The teachers in the study anticipated challenges in the form of inadequate ICT equipment for ICT integration, these were regarded as barriers to ICT integration (Buabeng- Andoh, 2015). Several participants in this research study, voiced the concern that they would not have been able to put into practice what they had learned, which was somewhat demotivating. Hence teachers may have a positive attitude to learning how to use ICTs to enhance their teaching with the intention of improving student learning but the prospect of implementation may seem dim (Adegbenro et al., 2017)

The teachers in this study created strategies for utilising ICTs, which were found in the Workshop Evaluation Forms and the Electronic Surveys. Many were able to document the results of their attempts or in a few cases, the challenges faced for non-implementation. These teachers illustrated, in their perceptions of CTPD and TPD, a desire for their students to improve. Although teachers in this study took days from their vacation for their professional development, they were willing to share with their colleagues who did not attend. It appeared that several non- participants were willing to learn from the participants on their return to school.

The responses by several participants revealed a problem of inadequate and inequitable distribution of ICT resources in the various schools, which was stated earlier in the discussion on the challenges encountered for implementation of their proposed strategies. Many Survey respondents referred to the varied applications, internet access and resources which they were able to use to enhance their teaching. It may then be assumed that ICTs were available and accessible for implementation to have taken place. A few respondents indicated that their schools had limited resources but used what was available, whether it was a television and/or a projector. However, there were those respondents who were not fortunate to access functioning laboratories, internet access or ICT hardware and software. Similar references to inadequate resources were made by several who filled out the Workshop Evaluation Forms. The distribution of school resources has been regarded as one of the 5 dimensions proposed in the model to evaluate educational equity (Sun and Su, 2015). A plethora of research has been undertaken on equity and equality in the school context (Levin, 2002; De Lisle, 2012; Sun and Su, 2015).

Organisational support

Participants reported the importance of principals’ leadership support and the importance of their endorsement of the professional development initiative. The support of principals for school development initiatives has been researched quite extensively; one such study was the review of international best practices for school improvement (Day and Sammons, 2013). The review pointed out that one of the critical roles of school leaders is to motivate their staff to build their capacity and improve their performance (Day and Sammons, 2013).

Layered support was deemed to be critically important for the success of the activity as for any initiative for school improvement, which was noted by Hackett (2002). Hackett, a teacher educator from Trinidad and Tobago, recommended that systemic and systematic support was warranted due to the complexity of teacher professional development. The need for adequate support, in the form of mentor support, was suggested in order for participants to fully benefit from the TPD activity (Kubalíková and Kacian, 2016).

Participants recommended that the employer support its TPD initiative by recognising the efforts of those employees, who sacrificed their vacation days to improve their pedagogical and technological skills and knowledge for improved student learning. Recommendations were provided primarily by the interviewees, and few respondents to the Electronic Survey were of the same view. Teachers in this Programme suggested that their employer endorse the importance of engagement in professional development through its acceptance of the Certificates of Participation for career advancement, at both the institutional and organisational levels. Incentives for compensatory time were also suggested. Teachers’ request for recognition of their engagement in PD activities by the employer was cited in research on teachers’ perceptions on a Massive Online Open Course (MOOC) as a medium for PD. The authors recommended that MOOCs should be recognised by the Government as an acceptable form of PD which would improve teachers’ participation (Castaño-Muñoz et al., 2018).

What participants learned.

Technological and pedagogical skills and knowledge were developed which constitute aspects of TPACK, the framework of required knowledge for ICT integration in the classroom (Mishra & Koehler, 2006). Participants learned how to integrate ICT tools and resources into their teaching to improve their pedagogical practices. ICTs were seen to have the potential to transform their classes from a teacher-centred approach to learner-centred ones. Participants reported that their classes were more interactive, students were collaborative and more engaged. Teachers applied their ICT pedagogical skills in the assessment of their students and in many cases timely feedback was afforded to them. Several participants were able to share test results via platforms they created for that purpose.

Numerous examples were provided on the application of the technological skills and knowledge the participants developed. Teachers stated that they used platforms such as Edmodo and utilised cloud storage, applications (Apps) such as Photostory and Office 365 software. Participants reported that they successfully attempted integration of the television, projector, computers and even smartphones in their teaching. Transformation was not experienced by all; several teachers indicated in their responses that they had not fully embraced the technology which resulted in a combination of traditional- technological strategies.

The ICT in Education workshops were not designed to develop teachers’ content knowledge, the third aspect of TPACK. The CPDD is responsible for the PD of teachers in their subject-specific area as well as that of the generalist teachers at the Primary Level. Participants, therefore, did not refer to any increased knowledge or skills in curriculum-content areas. The CPDD did, however, request the TTDD to include the Robotics in Education workshops twice in the Programme in 2013 and 2018. Participants from the Robotics in Education Workshops were secondary school teachers of Science, Technology and Mathematics and other content areas. There have been some studies which have indicated that ICTs could facilitate learning in the STEM subjects more easily than in non-stem subjects, although they have been used in music education with some measure of success (Uptis and Brook, 2015)

Several participants stated that they did not, on completion of the PD activities, have the time to share their knowledge and skills because of their workload, and lack of support from their principals to allocate time to do so. The importance of time and its impact on teachers' professional development was examined in a comparative study on collaborative professional development in England and China (Zeng and Day, 2019). The increasing responsibilities and external demands for accountability for student performance may be seen as restrictive to collaborative professional development opportunities (Zeng and Day, 2019). Teachers were stressed, and their time was regarded as valuable, which limited their engagement in TPD.

The findings from the Workshop Evaluation Forms and the Electronic Forms were similar to some extent. The perceptions shared by both the interviewees and participants were that TPD would prepare them to use ICTs to improve the delivery of the curriculum. Both groups of respondents were able to identify the type of ICT tool that they would use or used and stated that this pedagogical shift would enhance their teaching. The data from the Evaluation Forms described participants’ intended implementation of what they learned and Question 4 of the Survey Forms reported the results of the implementation of the transformative attempts. Although it was impossible to match the identities of the participants who completed the Evaluation Forms and those who responded to the Electronic Survey, it may be reasonable to conclude it was possible to implement what was intended.

5.3.1 Implementation of Knowledge and Skills

The approaches in which the participants of the workshops anticipated they would utilise their ICT skills and knowledge seemed to have been adopted, to some extent, by the respondents of the Electronic Surveys. The former envisioned that they would be able to build the capacity of other stakeholders after having been engaged in the TPD programme. The stakeholders whom the participants identified were their peers, students, parents and, in the case of the few who were no longer schoolteachers but were educators, members in their Districts.

The respondents of the Workshop Evaluation Forms commented that they saw the possibility of utilising ICTs to enhance their teaching, that their students would enjoy their classes and be more motivated to learn. The participants who were secondary school teachers identified areas in which they implemented ICTs which were similar to their primary school counterparts. However, the approaches which were adopted differed to a minor extent. The participants at the secondary schools reported that they used the ICTs to improve their classroom instruction, particularly in enhancing curriculum implementation, assessment, information-gathering and sharing. The statements by the Primary school participants collectively presented indicators for creating technology-enabled classrooms in which they combined both traditional and technological pedagogical approaches. Preparation and planning for curriculum implementation were highlighted as important; information-sharing, though, was not given the priority which the secondary school teachers gave.

Information sharing and building the participants’ capacity, their students’ and that of their colleagues were reported as well. Participants indicated that they did learn and also elected to share with others, whether at in-house sessions or on a one-to-one with their peers. Teachers' capacity continued to increase, and several teachers referred to sharing knowledge and skills with students and in some instances, parents for whom they shared a platform to post test results and homework assignments.

5.3.2 Improved Student Learning

The findings from this research question unearthed essential considerations for determining student learning. Student learning has been viewed in multiple ways based on the perceptions of the aims of education. Traditional forms of testing, have identified improved or satisfactory test scores as evidence of student learning, yet these may not always be fair (De Lisle, 2012) However, others, like many participants in this study, have viewed improved student learning in terms of student satisfaction and increased engagement. Improved student learning and not only improved student performance may be considered as benefits of TPD. Guskey (2002) stated that the determination of the effectiveness or usefulness of teacher professional development should begin by deciding on the desired outcomes. It was also referred to as the point from which TPD activity should begin its design, that is, with the end in mind, which he termed backward planning.

The challenge lies in deciding if student growth should be as valued as improved student performance. Standardised testing locally and globally seems to be driving educational goals at present (De Lisle, 2016), yet there is the call for inclusion signalled by the slogan Education for all. Teachers are faced with completing the curriculum syllabus or teaching their students; it would be ideal if these were not regarded as choices. ICT was noted both in this study and others, for being able to be used to teach students of varying abilities and intelligences (Ali et al., 2015).

Teachers reported improved student improvement or growth, which was derived from formative assessments or observations and not standardised tests. The integration of ICTs in teaching and learning showed evidence of increased student engagement and improved student behaviour and morale. Students demonstrated a more significant interest in learning and communicated more easily with teachers. In Bartleton’s study (2018) the majority of the respondents concurred that the updated knowledge of technology, which they gained from participating in TPD workshops, enabled them to apply them effectively in their practice. Informative evaluations are needed, which should be well-designed to obtain the desired data (Guskey, 2002; Baird and Clark, 2018). However, what can be gained from this study, is that listening to the voices of the participants of TPD activities may provide deep insight into their strengths and weaknesses.

Research Question 4 required the respondents of the Electronic Survey to reflect on the possible impact on student learning after they adopted ICT strategies in their classrooms and schools where possible. The responses of both secondary and primary school teachers identified two significant areas of improvement, which were demonstrated by their students: student engagement and student satisfaction. At the secondary level students were seen to have improved on their skills in ICTs, team -building and problem-solving. The participants remarked on the improvement in the attitude of their students towards learning. The Primary School respondents observed that their students were learning faster; their attention span had increased, and their vocabulary also. Students demonstrated happiness in learning, more so when ICTs were used, and teachers noted that there were indications of increased confidence, students settled down quickly and showed greater interest in learning.

Teachers reported improved student learning which was not based on standardised tests, but on improvement or growth which was derived from formative assessments or observations. The integration of ICTs in teaching and learning showed evidence of increased student engagement and improved student behaviour and morale. Students demonstrated a more significant interest in learning and communicated more easily with teachers. The literature points to several contributing factors which may bring about improved student learning.

5.4 The Weaknesses and Strengths of TPD

Participants perceived shortcomings in their programme which the MoE could use to improve the TPD experiences in forthcoming activities. The comments were varied and indicated that there was room for programme improvement, and a few were unable to implement what they learned. The weaknesses which were identified in the implementation of the workshops were the lack of ICT proficiency of the facilitators by Participant 6 Primary and that the Primary School workshops should also cater to the ECCE teachers. (Participant 13 Primary). ECCE teachers are entitled to teach from 1st Year level up to Standard 2 in the Primary Schools so that a workshop which is offered at the Primary level should include this grade of educators.

Participants were restricted from enhancing their classroom instruction due to inadequate ICT resources in their schools. Participant 9 Primary stated that the ICT laboratory in the school was not functioning which "limited the roll out of ICT infusion in my class”. The participant further explained that many students did not own smartphones, so they had only the projector or television to utilise. In the case of Participant 17 Secondary, they did not have access at times to a projector. Participant 29\* Secondary stated that their students could not attempt any practical application to the concept that was taught because there were no robots available.

Several participants from the Secondary Schools commented that they had not learned anything new, but they all indicated in their responses to RQ4 that they used ICTs and saw improvement in their students' learning. Participants 11 and 28 Secondary remarked that they could not confirm that improvement in student learning resulted only from their application of ICTs in their classroom pedagogy.

5.5 Unexpected Findings

The participants provided extensive data to this study: 576 responses from the Workshop Evaluation Forms, 7 in-depth interviews and 39 Electronic Survey Forms. Several issues emerged which may warrant further investigation and may be considered in the design and implementation of PD activities. One of the interviewees commented that teachers are told to be mindful of students' abilities and to cater to disabilities reported or observed. Nevertheless, the interviewee stated this was not applied to adult learning, especially where the disability or handicap was not visible, as in the case of mental well-being. The interviewee underscored this shortcoming when she described her own experience in a professional development programme which was conducted at one of the higher education teacher preparation institutes. The interviewee had to withdraw from the programme because the mental pressures were too much for her.

Another issue that was mentioned in the interviews, which warrants closer and further examination is that of teacher stress. Stress was reported to have hindered several of the interviewees’ colleagues from attending any of the workshops, because the latter were overwhelmed by their increasing workload and did not want to think or see anything related to their job during their vacation time. The distant relationship between the non-teaching management and administrative staff in the Education Towers and teachers in the schools which was hinted at in the interviews may be exacerbated due to the levels of stress experienced.

5.6 Conclusion

The findings of this exploratory case study suggest that the participants' overall perceptions of the TPD were positive. . As stated previously, Guskey's Level 1 Participants' Initial Reactions was adapted to a minor extent to include teachers' perception of PD. Participants regarded TPD as a means for accessing knowledge and skills which would enhance their teaching in order to improve their students' learning experiences. Participants reported that they were able to use various ICTs to assist them along the teaching process from lesson planning to the assessment of what was taught. Participants remarked that their students seemed to have benefitted from the ICT-driven instruction and noted improvements in students' attitude to learning. Participants pointed out aspects of the programme with which they were not pleased and, in many instances, made recommendations for improvement.

In the discussion of the findings on teachers' perceptions of the ICT in Education workshops, the issues which were identified may be perceived to be related to broader educational issues. The teachers’ working conditions which were revealed in the 7 Interviews, when juxtaposed with the numerous benefits participants reported in the Workshop Evaluation Forms and the Electronic Surveys, revealed significant initial findings related to the teaching profession. Furthermore, the teachers’ skills and knowledge were reported to have expanded after having attended the ICT in Education workshops. The importance of data collection should be underscored, as it is through this practice that educators and other stakeholders would get an understanding, as in this case study, of the value of the initiative in focus. In summary, the findings have presented a positive outlook on teacher professional development in a turbulent context.

CHAPTER 6 CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The aim of this research study is to gain an understanding of perceptions of teachers who participated in the MoE’s ICT in Education July-August workshops during the period 2010-2018. An exploratory case study methodology was adopted within a qualitative paradigm to investigate the thoughts of these teachers who voluntarily participated in the ITPD programme of workshops. The lens used to explore this phenomenon was that of the participants whose voices are prominent throughout and they, together with the researcher, collaboratively constructed the information presented. This research contributes to the extensive research literature on both TPD and ITPD from the standpoint of a postcolonial developing Caribbean nation. A study of these workshops, henceforth called the Programme, has not been previously undertaken, though it was launched in 2008 and was continuously offered until 2018. The aim is to share the participants’ reflections on different aspects of the workshops which they attended so that those who did not participate would be enlightened about the PD activity. Additionally, it is anticipated that the employer will consider these research findings and give greater prominence to ITPD and by extension TPD.Participants developed ICT skills and knowledge which they incorporated into their instructional strategies. Therefore, teacher learning was achieved from the workshop experience. Teachers reported the ways in which their students responded positively to their ICT-based teaching.

Case study methodology was selected for its suitability to achieve the intention of closely examining the phenomenon, the Programme, within the boundaries of the time frame 2010-2018. A thorough understanding of the views of the Programme was sought which was developed through close and deep investigation for which 3 research methods were selected: face to face interviews, workshop evaluation forms and an electronic survey. A crystallised perspective of the Programme was expected to be created from the data collection and analysis which were derived from the 3 data sources.

The chapter opens with the contribution of this study, followed by an overview of the findings of each research question, its possible contribution to the field of research on teacher and student learning, the strengths and weaknesses of the study, recommendations and a reflection on the research journey. The chapter ends with concluding remarks.

6.2 Contributions of the Study

The ICT in Education workshops was one of the focal areas of the Ministry of Education’s Annual Professional Development workshops for Teachers July- August which was launched in 2008. Due to the unavailability of data, the period of study was limited to 2010 -2018, notwithstanding the fact that there were also some gaps. However, the 3 data sources combined served to provide adequate information to address the research questions. The study sheds light on this ITPD activity, a customary event which took place during the July-August vacation and was closely followed by the re-opening of school for the new academic year. This study seeks to enlighten stakeholders on what the participants’ perceptions were of the ICT in Education workshops and the benefits derived. In the 38 years of working as an educator, affirmation that teacher training is regarded as a worthwhile occurrence is voiced by parliamentarians in Parliamentary discussions to boast of providing quality teachers in the nation’s schools. The focus is habitually on reporting the numbers of teachers who attended and the areas in which they were trained.

PD is an internationally acclaimed school improvement initiative due to its focus on a main function of the education system (White Paper, 1993) which is to ensure that there are good teachers in schools so that students will learn. The study adds to the prevailing research on the increasing awareness of the linkage between effective PD and teachers’ beliefs and expectations of ITPD. The findings endorsed that teachers can derive benefits from ITPD; however, what is gained will vary because of their individual learning differences (Clarke and Hollingsworth, 2002). The role of teachers is to teach, therefore the assumption inbuilt in that role definition is that teachers can teach, and students will learn from their teaching. The focus of ITPD and PD in general is to enrich teachers so that they can expand and develop their repertoire. This study has found evidence that has been cited in the research that there is a relationship between teachers’ improved practices and student improvement. The issues of teacher professional outlook on continuous learning and what is perceived as student learning are future areas of research.

The participants’ perceptions were very insightful and comprehensive which indicates that their voices are integral for professional development planning and gaining feedback on PD workshops. Emerging from the data analysis process, the findings and related research literature are areas which may be considered for the construction of a conceptual framework (see Table 8 below), for an ITPD workshop activity in Trinidad and Tobago and similar contexts.

The presentation of the findings and recommendations to the MoE may draw the attention of the decision-makers to the need to consider the inclusion of engagement in PD in description of the teacher’s job conditions. The findings of this study support the research that has recognised the positive benefits PD can have on the enhancement of teaching and increased student learning. The constantly changing conditions of the world in which we live and work, and increasing global information advocate for teachers to be continuously updated for ease in their tasks. The inclusion of PD as a job requirement needs to be implemented with great caution and should be undertaken in cognisance of the required supporting contextual structures.

The voices of the teachers who participated in the ICT workshops throughout the nine-year period under exploration needed to be heard to inform the MoE on the applicability of what they learned to enhance their teaching. The study has to some extent provided a forum for their views of the MoE’s ICT in Education workshops. Far too many years have elapsed since the commencement of the Programme which was offered yearly and the employer did not meaningfully request their feedback. In attempting to minimise researcher bias in the analysis of the data, there was great reliance on what the participants identified in their responses for use as the headings in the matrices created.The words used by the teachers in their explanation of what they perceived were used consistently in the presentation of the findings and to a lesser extent in the Discussion section. The qualitative approach used in this study facilitated the reporting of both major and minor findings, the lone voice was included to highlight the issue identified, for example, the request by one participant that PD planners be cognisant that all teachers are not of the same ability.

 The participants willingly took the time to respond to this inquiry to reflect on their participation in the workshops. The seven interviewees were gracious and welcomed me in their schools or met at the Division where I worked to participate in this study. The workshop participants took the time to complete the workshop evaluation forms at the end of the sessions, even though they may have wanted to leave immediately to avoid the traffic on the roads. The respondents to the electronic surveys were immersed in teaching and other school responsibilities, yet found the time and means to respond, and responses were submitted in some cases as photo images for ease of transmission.

The conceptual contribution made by this study is the examination of the well-researched focal area of education reform , teacher professional development, and its relationship with student learning from the perspective of teachers who engaged in TPD in the postcolonial nation of Trinidad and Tobago.

6.3 The Research Questions

1. How do teachers in Trinidad and Tobago conceptualise teacher professional development?

2. What skills and knowledge do teachers develop because of their participation in the professional development activity?

3. To what extent do teachers think they are able to apply their learning to their practice?

4. How do teachers perceive enhanced student learning in their classrooms?

The following is a summary of the findings for each RQ which is presented to restate the participants’ perceptions

Research Question 1: What were participants’ perceptions of ICT teacher professional development?

Two data sources were used: The Interviews and the Electronic Survey Forms. Teachers who participated in the ICT in Education workshops perceived ITPD as an opportunity to build their capacity to become better teachers with the aim of impacting positively on their students’ learning. The participants’ beliefs that the ITPD activity would help them to develop the ICT skills and knowledge may have influenced them to participate in these workshops during their vacation period. The sample population of teachers demonstrated a professional outlook which was seen in the literature review to influence their pursuit of continuous learning and dedication to improving their pedagogical knowledge and skills. The participants identified the need to improve their practices by integrating ICTs in their classroom instruction and expressed the desire to keep abreast of advancements in education to meet the learning needs of their charges. Many participants stated that their desire was to meet and teach their students, digital natives, in their world.

Research Question 2: . What skills and knowledge do teachers develop because of their participation in the professional development activity?

The two research methods used to obtain data were the Workshop Evaluation Forms and the Electronic Survey Forms. Workshop participants were asked to respond to how they intended to use what they had learned from the workshop, a question from Level 2: Participants’ Learning, in Guskey’s model (Guskey, 2002). Participants described what they learned and were able to give examples of how they would implement them in the classroom (Guskey, 2002). Question 2 on the Survey Forms was worded exactly as RQ2. Technological and pedagogical knowledge and skills were developed as evidenced in the numerous examples of hardware and software they said they would use, and used, in their new strategies for teaching. The participants did not only state that but the impact of their implementation was revealed in their students’ development. The aim of the ICT in Education workshops was not to develop content knowledge unless requested, as was the case for the IT Online and Robotics in Education workshops.

Research Question 3 To what extent do teachers think they are able to apply their learning to their practice?

Data was sourced for this RQ from the Workshop Evaluation Forms and the Electronic Survey Forms. Workshop participants commented on how they intended to utilise ICTs when they returned to their classrooms, which is aligned to Participants’ Use of New Knowledge and Skills, Level 4 (Guskey, 2002). Responses provided in the workshop evaluation forms indicated that participants would apply the skills and knowledge developed to enhance their teaching, lesson planning and, to a lesser extent, assessments.

On the other hand, the respondents to the Survey Form provided feedback after implementation: they combined traditional and technological approaches to enhance their teaching (Primary School teachers) using varied platforms and tools, with e-handouts and e-worksheets. The teachers from the Secondary schools reported in the main, that they used ICTs to engage student’ attention in the delivery of the curriculum and for online assessments.

Research Question 4: How do teachers perceive enhanced student learning in their classrooms?

The aim of the ITPD activity was to build teachers’ capacity to enhance their teaching, with the expectation that their students will demonstrate improved learning (Level 5, Guskey,2002). Primary and Secondary School respondents to the Survey Forms stated they perceived improved student satisfaction and increased student engagement. Students at the secondary level notably demonstrated improved use of ICTs. Both levels showed greater interest in learning, while those at the Primary level were noted to be happier when ICTs were used. Several participants from the Primary Schools stated that greater visualisation of content was afforded, which helped their students remember what was presented. Neither of the two levels referred to improvement in the quality of the assignments given, though they mentioned that the ICTs were used for online assessment. Nor was any definitive statement made on increased grades or marks. Participants were pleased with their students increased interest and participation which may have been problematic before. The perceptions of improved learning reflected what participants wanted to achieve in their classrooms (Pajares,1992; Gilakjani and Sabouri, 2017) which was accomplished through ICT usage.

6.4 Strengths and Limitations of the Study

6.4.1 The Strengths

The research topic

 Generally, not much is known about the MoE’s ICT in Education workshops or how teachers perceived them. Consequently, this study may create interest in this contemporary school improvement strategy,for example by hosting a forum where participants can enlighten their peers on how they developed from participating in the PD workshops(Fullan and Hargreaves, 2013; Darling-Hammond, Hyler and Gardner, 2017; Zeng and Day, 2019). The influence of teachers’ beliefs on their decisions to engage in ITPD, and the positive perception of the implementation of the ICT skills and knowledge, can be applied to other aspects of teaching and learning such as extra-curricular activities.

Positionality

My positionality as the researcher of this study and former Head of the TTDD proved to be a major strength. I became aware of this advantage when I requested additional data after retirement and had to guide the new personnel how to retrieve it because I knew it existed. At the data analysis stage, the knowledge that I had of both teaching in the system and the design and implementation of the workshops assisted in the interpretation of the data. The need to adhere to the ethical guidelines prescribed by the University Ethics Committee, the commitment given to the participants and the MoE to share the findings and my responsibility as an educator minimised insider interferenceThis was achieved as it served as a reminder of the importance of listening respectfully to what was talked about and looking at the workshops from different standpoints.

The methodology

The research questions were aligned with the exploratory case study approach in its affordance to ask how and why questions (Yin, 2009). The qualitative paradigm supported the aim to get an in-depth understanding of participants’ perceptions of the phenomenon, the ICT workshops. The insight was achieved through the interpretation of the qualitative data. The large data set did require initial quantification to manage the data, as in the case of the 689 responses accumulated from one question on the workshop evaluation forms. The responses were categorised under similar themes subsequently and interpretation was qualitative.

The Methods

Consideration was given to have an assistant conduct the interviews to reduce the possibility of interviewee reactivity but this was dismissed due to my wish to gain first-hand knowledge of their thoughts and experiences. The interviews took the form of professional dialogues which minimised the challenge of power relationships between interviewer and the interviewee (Silverman, 2017). The duration of most interviews was generally one hour. I saw it as an opportunity to share and clarify issues pertaining to the workshops if asked, out of respect as a professional for those for whom the programme was designed. The participants were given the opportunity to learn from the process and not to be treated as data providers only. Participants asked questions about the planning of the workshops, clarification about the aims and shared their thoughts on other related initiatives.

The 3 data sources which were utilised for data collection allowed for finding similarities and differences in the participants’ responses for construction of meaningful findings (Guskey, 2002). The data that was obtained from the research instruments presented participants’ postworkshop reflections which differed in the number of years from engagement in the ITPD. The Workshop Evaluation Forms were completed immediately at the end of the last session of each workshop, the interviews were conducted 1-4 years after participation and the Surveys, 1-9 years after attendance.

6.4.2 The Limitations

The research questions

Guskey’s model (2002) was designed to evaluate a professional development programme using five criteria or levels, 3 levels focused on the participants (Levels 1, 2, and 4), 1, on the organisation in which they worked (Level 3) and 1, on their students (Level 5). The mandate to incorporate ICT into curriculum delivery from a transmissive to transformative instructional orientation was relatively new to educators. Hence, the study explores the extent to which participants viewed that the workshops may have provided support for them in the classroom. Future research can focus on a Level 3 aligned investigation which would highlight the type of support that organisations can supply to support teachers’ development.

The sampling schemes.

The research methods used brought in a vast amount of data which was time-consuming to analyse and difficult for me as a novice researcher to manage. The data was insightful; however, in retrospect, it may have been more suited to the nature of this case study, which is exploratory, to have purposively sampled the workshops as opposed to collecting and analysing data from 32 workshops.

Research design

On reflection the order of the data collection could have been positioned differently, placing the distribution of the electronic surveys before the interviews. A preliminary analysis of the data would then have led to the selection of the sample of participants for face-to-face interviews which could have been conducted virtually or in person. Data analysis would have begun at this stage. The review or consultation with the literature would be iterative, continuously consulted for clarification of previously identified and emerging issues in the data.

Data collection

Perhaps, as stated above, the order of the data collection could have been re-arranged by issuing the surveys before conducting the interviews. The interviewees would then have been selected from the respondents whose submissions warranted further inquiry to obtain in-depth details. The interviews in this study served also to provide contextual information which assisted in interpreting the data and producing the findings.

The design of the electronic survey forms was constructed to allow respondents to proceed only if they completed questions with asterisks. This was tested by the researcher and a former teacher facilitator of several ICT workshops. However, several participants typed in sentences which may not have addressed the question, and were able to move on the next.

Data analysis and interpretation

Data analysis software such as NVivo may have facilitated data analysis by its management of the data and providing another lens for interpretation on this single-handed research undertaking. An attempt was made to familiarise myself with the software but post-training access to NVivo and the many hours required for experimentation were both limited.

The ICT in Education workshops were one of the categories of workshops which comprised the MoE’s TPD programme. The findings from the data on the ITPD workshops should not be regarded as representative of the entire Programme. Further research may be embarked upon to obtain information on the 4 other categories (Pedagogy, Curriculum Content, Induction Programme, Leadership and Management) for a more comprehensive understanding of the MoE’s programme in its entirety.

The research on ITPD is extensive; however, it was very challenging to access studies which focused on gaining insights into such a professional development activity which focused on all the aspects of this study. This study differs in that this is not a programme evaluation and therefore does not investigate the successful achievement of the ITPD objectives. The study does, nevertheless, examine what teachers thought of the workshops, principally the extent to which they were rewarding for them. Research has pointed out that teachers’ interpretation of the improved learning of their students should not be disregarded because they know their students’ starting-point and the extent to which any improvement was demonstrated. Day, (1992) and Guskey (2002) argued that teachers are qualified to state what they see as improvement. Teachers’ perceptions influence how they view a phenomenon and what they view as its purpose (Pajares, 1992).

6.5 Suggestions for Future Research

Research can be undertaken to examine teachers’ perceptions of their ICT enhanced teaching by expanding the design to include their students’ perspectives and possibly that of their supervisors. Further research can be leveraged on the data and findings of the Survey Forms which revealed commonalities and differences in the perceptions of the Primary and Secondary school participants in this study. Another area which could be researched in-depth is that of teacher professionalism with focus on teacher’s professional outlook with reference to TPD and ITPD. The repeated reference to teacher stress by the interviewees called attention to the need to examine teacher morale and the barriers which teachers perceived due to an increased workload and added job responsibilities. It may be possible to access the data from the Annual Statistical Returns which are requested from all Principals by the MoE to compare the impact of the performance of teachers who have attended PD and those who have not. The necessary protocol for confidentiality and disclosure of findings would be followed.

6.6 The Implications of My Findings

 Importance has been attached to teachers who have been identified as possibly the single most important factor impacting student achievement (Marzano, Marzano and Pickering, 2003). The participants’ responses have provided evidence that their engagement in ITPD enabled them to facilitate student learning. There is research that states that the evidence that ITPD improves student learning outcomes is inconclusive (Livingstone, 2012).

Teachers’ beliefs influence their behaviour, action, practice (Nespor,1987; Pajares1992. The participants in this study had a positive attitude to ITPD and regarded it as an avenue for building their ICT skills and knowledge to improve student learning. Teachers’ beliefs can be developed in ways such as the sharing of feedback from others who benefitted from TPD (Fives and Buehl, 2016). Alternative views do exist, that a person’s actions do not always reflect their belief (de Vries, Jansen & Van de grift, 2013); they may state their views on an issue but their behaviour may be diametrically opposite.

Teacher professionalism may foster the perspective that teachers are responsible for their own ITPD/TPD., teachers would have the mindset to identify their PD needs and seek the help. Another perspective in the literature was that TPD would develop a sense of professional responsibility (Sugrue and Mertkan, 2017)

These findings might impact on other areas of the MoE: policymaking, funding, budget prioritisation, restructuring, and teacher appreciation. The MoE is a post -colonial bipartite system hierarchical organisation with the power of authority over the employees. Resources are limited. Although the MoE receives a large budgetary allocation, expenditure is high. Priority is given to physical infrastructure, management of the schools, wages, examinations, student meals, and books.

Nations and education systems need not embrace global mandates without paying heed to their contextual differences which was an observation made by one of the interviewees. Educators are expected to be more critical in their examination of recommendations from external bodies. The interviewee stated the local authorities tend to be gullible and accepting of a consultant’s recommendations despite the absence of resources or the unsuitability of the suggested approach.

 Professional development seems to be becoming a source of capital in the business of education which was pointed out by several interviewees who spoke about other professional development workshops which had a cost attached*.*  One interviewee termed this “competing interests” which seem to capitalise on a need and the inadequate resources of the employer. The providers offered professional development workshop packages with lunches, refreshments, venues and the distribution of certificates at the end of the activities. The costs were funded by the school. Several of the interviews indicated that they too had attended workshops which were sponsored by banks and other institutions

The positive outlook on ITPD which influenced participants to engage in self-improvement for their job on their time was illustrative of the professional outlook they constructed from the many facets of their lives. The question arises, given the benefits of ITPD, can teachers who are not guided by these beliefs be exempted from such activities? The employer may need to make some provisions to encourage participation.

 One strategy that was suggested for developing an interest in ITPD is through sharing with colleagues by providing insights on what was learned and how it can be used. Teachers may learn that there is much to gain and that ITPD may be an avenue for enhancing their teaching and minimising the levels of stress.

Teachers’ adoption of new practices requires PD support and they must experience successful implementation of the practice (Guskey, 2002). Adequate time for experimentation may be required to develop the required level of competences.

The findings which have been highlighted in the participants’ concept of ITPD and TPD and remarks noted throughout the data analysis were collated to create a possible framework for the design and implementation of ITPD activities. The conceptual framework is made up of 7 strands which should be considered in the design of the proposed ICTD activity. The table is to be read downwards and has been shaped by my experience and research on PD design (Desimone, 2009, Boylan et al, 2017). Column1 is focused on the creation of profiles of the teachers, which would assist in the preparation of a brief on the target group for the facilitator. The inclusion of abilities and disabilities has become an important consideration as teachers may also have special needs. The recommendation in Column 2 is for teacher input into the design and Column 3 covers the venue and physical amenities. In Column 4 there is a range of evaluative approaches which can be used, from a simple telephone call to a summative evaluation. Layered support is highlighted in Column 4, as are the PD needs in Column 6. The 7th column lists the beneficiaries and identified learning outcomes.

6.7 Recommendations:

The postcolonial nation, through its education arm the MOETT, needs to re-examine whether it believes that teaching is a profession and that teachers should be treated as professionals - professionals who are required to increase their knowledge to increase student learning (Darling-Hammond, Hyler and Gardner, 2017). The perceptions of the teacher professional development programme presented by the participants were favourable; however, the question the employer needs to reflect upon is its belief that teaching is indeed the most important factor for student achievement. The question was, was the MOETT prepared to provide ICTPD to all its teachers and what was the practicality of offering the Programme during the school vacation period, which was tantamount the teachers’ vacation period, when no incentive, or perhaps one of little or no value, was awarded. The Programme existed for many years and the number of teachers trained was the focal area of interest, yet if the MOETT had demonstrated a firm commitment to the ICTPD teaching and learning which was transferred online due to the constraints of the Covid -19 pandemic, the challenges experienced would have been avoided, or at least minimised. The transition to virtual learning , technology integration , teachers’ level of familiarity with ICTs and ICT integration would have made the adoption and adaptation less difficult.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Strand 1 Teacher | Strand 2Design of ICT TPD | Strand 3Implementation of ITPD | Strand 4 Evaluation | Strand 5Support | Strand 6ITPDNeeds | Strand 7Beneficiaries |
| Perception of ICT professional development | Teachers’ conditions areconsidered  | AdequateNotification | Formative | Provision of adequate and accessible resources  | Development of technological skills and competencies | Students: Learning outcomes |
| Passion for learning | Teacher agency | Venue with functioning facilities and parking. | Summative | Leadership support | Pedagogical Knowledge-Student-Centred | Teachers:Learning Outcomes  |
| Stage of teacher development | Collaborative/ – networking | -Adequate and appropriate hardware and software-Adequate internet access-Air -conditioning | Periodical feedback | Institutional | Content Knowledge | Parents: Information sharing and communication |
| Abilities and disabilities | Experienced and qualified facilitators | Refreshments | Formal | Organizational- incentives, recognition of participation  | Teachers’ Needs identified | School |
| Level of competency | Hands-on and Interactive |  | Informal: telephone/ email |  | Reform Initiatives | Community |
|  | Timing and duration of the activity  |  | Student evaluation of teacher’s classroom instruction |  | Classroom management skills | Nation |

Table 8: A conceptual framework for ITPD workshops

6.8 Reflections on My Research Journey

My research journey has been rewarding in that I have increased my capacity as a researcher though it has been fraught with sharp bends, road humps, uphills and downhills. I have experienced the iterative process of conducting qualitative research which was intriguing because it required an interplay of many skills and at no stage was there a plateau. The ethical guidelines are indeed applicable in our personal and professional life. I have, therefore, learned to be very mindful of the need to honour the work of others by recognising their contribution and ownership of the knowledge which they advanced. I am satisfied that I have tried as best as possible to fulfil the commitment to the participants to share their views and collaboratively made recommendations for improving ITPD. This undertaking was challenging; however, I trust that it has made a small contribution to educational research.

6.9 Concluding Thoughts

The role of the teacher is one of the most important in preparing students for their future . All students deserve to have well- prepared teachers who will be equipped to facilitate their learning in technology-enabled classrooms. Teachers are not born with the knowledge and skills they require for effective teaching and they too will be required to learn. ICT professional development may open an avenue for teachers to build their capacity to enhance their teaching and increase student learning.

POSTSCRIPT

This overview of the thesis summarises the main themes which emerged from teachers’ reports of teacher professional (TPD) policy with references to their personal and professional lives, and highlights the disconnect between teacher professional development policy and teachers’ interpretation of the policy. Based on findings, I elaborate on specific implications for education policy, teachers, and the wider society in Trinidad and Tobago. I conclude with reflections on my doctoral journey, to communicate what I have learned and how the process transformed my thinking.

I approached the investigation initially from the stance of an official of the Ministry of Education of Trinidad and Tobago (MOETT), but subsequently re-examined and revised that bureaucratic perspective. If I were going to succeed in examining the teachers’ perceptions, I had to shift to an approach that would allow me to understand the teachers’ responses from within their personal and professional lives (Goodson, 1996). I could not be appeased by the interest demonstrated throughout the years, and the praises from participants for the skills and knowledge gained, without attempting to foreground the context in which the teachers live and work. This approach was expected to provide a deeper understanding of their responses, and why they chose to attend professional development activities. Additionally, I intended that the research would reveal how official policy mandates intersected with the personal and professional lives of teachers.

A summary of the main themes that emerged from teacher accounts of TPD policy and how they were enacted in their personal and professional lives.

The MOETT in the Original Proposal for the Annual Professional Development Workshops for Teachers (see Appendix 1) made an assumption that teachers were aware of the importance of TPD and that many engage in this activity. The Interviewees all stated that TPD engagement was based on their philosophy of learning which reflected their drive to learn and not of those who did not seek improvement.

While teachers generally indicated that TPD was beneficial, several teachers reflected as the interviews progressed and began to question themselves. One area of concern was whether it was reasonable that attendance should be at the expense of their vacation. Additionally, they stated that when they returned to their schools, they had to resume their duties and did not have time to implement what they learned. Moreover, several teachers remarked that they do not receive additional salary, nor did TPD engagement entitle them to a better performance appraisal. These issues had implications for their professional careers.

Another concern related to voluntary as opposed to mandatory participation in TPD programmes. While most interviewees did not believe that the MOETT intended to be punitive and deprive teachers of their vacation time, they believed that teachers’ tasks could be made easier to improve student learning. The possibility of serious protest if professional development was made mandatory was also raised because it effectively changes teachers’ condition of employment.

Teachers further suggested that some form of incentivisation should be built into the TPD policy to improve their qualifications and encourage others to participate. Other recommendations were that there should be a form of accreditation attached to the Certificate of Participation issued for successful completion, and participation used as credits towards academic degrees in education. Another suggestion was for participation in professional development to be considered for promotional opportunities within the MOETT. In fact, the suggestion was made that the MOETT should include TPD as a job condition or in the job appraisal. In the absence of such a stipulation, teachers had the option to abstain or participate in the TPD programmes.

Teachers stated that the MOETT was not mindful of their personal lives since TPD activities were continuously hosted during the school vacation when teachers’ focus was on their families and their personal well-being. Teachers gave up several vacation days and were not compensated, although this was indicated in the Education Act as a possibility. Additionally, most of the interviewees stated that the MOETT advertised the programme details progressively later, and this impacted on their vacation plans.

Elucidation of how teachers’ life and career mandates are rooted in and reflect the contextual themes highlighted.

In Trinidad and Tobago’s post-colonial context, there are factors which constrain the kind of teacher professionalism which the policy documents target. There are tensions between what was desired and stated, and the reality of the infrastructure and the context. Tensions arise from the mismatch that can occur between policy statement and teacher mandates. With respect to the policy context, the education system is hierarchical in structure in continuance of the colonial system that provided the foundation for the current reality. The schools managed by denominational boards of education are high performing and regarded as superior to the government schools. The dual structure of denominational schools and government schools breeds inequality. A prime example of this is the Secondary Entrance Assessment (SEA) competition for placement in the top performing schools, which are the denominational schools.

Teachers largely felt that they are expected to demonstrate professionalism when they work in a context which does not support teacher professionalism. This highlights the tensions and dilemmas at the micro level because of policy decisions made at the macro level. At the macro level the Education Act 39:01 Clause 5 (GORTT, 1966) stated that professional training was to be provided for all teachers in the system, and that standards be established for teacher recruitment, training and with regard to their conditions of service. However, during the 30 to 40-year career span of teachers, there is no stipulation that teachers must seek to improve their qualifications or skills. Teachers can enter the system meeting basic qualification criteria and can leave the system with the same. This situation suggests a need for more incentives as extrinsic motivation for teacher professional development to encourage teachers.

Educators’ remuneration is not awarded on the number of hours of teacher professional development engagement. On the other hand, although they are not paid based on their students’ performance, they are likely to be informally categorized as good teachers depending on the number of passes and grades students obtained. De Lisle (2019) and the Edu Nova Report (2013) both described the education system in post-colonial Trinidad and Tobago as assessment driven, and at the end of secondary school, student are expected to be successful in at least five subjects at the CSEC level. When students fail, teacher performance often comes under scrutiny, even in the absence of a consistent professional development plan.

Policy requires that teachers who seek promotion to managerial positions such as a Head of Department or a Dean of Discipline must obtain Diploma in Education certification. Likewise, teachers whose goals are posts of principalship or vice principalship must be holders of a Master of Education degree. Hence teachers who wish to stay solely as classroom teachers are not required to obtain additional qualifications. Oftentimes, teachers who are promoted to the managerial positions become overworked because, as exemplified in the case of one participant who was a Head of Department, taught several classes and simultaneously acted as Vice Principal or Principal.

[Analysis of the disjuncture between policy and teachers’ interpretation of policy](file:///E%3A%5C0%20Minor%20Ammendments%5CData%5CAnalysis%20of%20disjunctures%20between%20policy%20and%20teachers%27%20interpretation%20of%20policy%20%20Notes.docx)

The TPD policy of the MOETT provided professional development opportunities to teachers to develop their competencies. There are several policy documents which together create a framework for teacher professional development in Trinidad and Tobago. The Education Act 39:01 stated that the Minister of Education is responsible for the provision of teacher development and standardsfor teaching. The White Paper stipulates that every child can learn and therefore taught by trained teachers. The Code of Ethics formulated by the teachers’ union stipulated that teachers have a duty of care towards their students to facilitate learning. The Minister of Education’s Original Proposal for the annual professional development programme of workshops was driven by perceived truths that teachers were ready for professional development and would network to improve their practice.

The MOETT’s outlook on teacher professional development was questioned by the teachers interviewed. Teachers attached great importance to TPD because the benefits they derived from attending the workshops made them better prepared to teach and safeguard themselves from accusations of negligence. Their motivation was largely intrinsic and individual, depending on their personal life and circumstances.

In the Original Proposal for the TPD activity (see Appendix 1), the Minister of Education’s aim was for participants to form a community of learners to collaboratively learn. The teachers were expected to talk about common interests, share their problems and their concerns. There seems to be a disconnect between the aim and the implementation of the policy. As indicated previously, participation in the TPD programme is not a condition of employment and no incentives are offered. Teacher attendance at the workshop programme was minimal, when the total number who attended (approximately two thousand) is compared to the number of teachers in the system (approximately fourteen thousand).

[The impact,](file:///E%3A%5C0%20Minor%20Ammendments%5CData%5CA%20statement%20of%20the%20impact%2C%20consequences%2C%20and%20ramifications%20of%20her%20findings%20for%20education%20policy%2C%20for%20teachers%20and%20for%20society%20in%20Trinidad%20and%20Tobago.%20.docx) consequences, and ramifications of findings for education policy, teachers and society in Trinidad and Tobago.

1. An education policy should be grounded in equity and there should be measures to ensure that it is effectively implemented and sustained. Additionally, policies should not be subject to change because of the change of governments as was seen with the One Laptop per Child Initiative. The focus of the education policy should therefore not be constrained by the five-year minimum term of government, but by the number of years the initiative is anticipated to be fulfilled.
2. TPD must be supported at all levels of the system. Failing to provide support signals that TPD is not worthwhile. The MOETT should therefore consider budgetary allocations for teacher development.
3. TPD engagement should be incentivised, not only to foster interest in participation but to award teachers for sacrificing their time and demonstrating the willingness to improve their skills and knowledge to be better prepared to teach.
4. TPD policy largely appears to be fulfilled as an obligation. The commitment to the professional development of teachers by the MOETT by past and present governments appears to be weak because the challenges have persisted for so long.
5. An education policy should be comprehensive; that is to say, the whole teacher should be a focus. The recruitment system of teachers needs to be reviewed, with adjustment of current minimal qualifications, and requirements so that the teaching profession might attain a higher professional standing. The conditions of service should be clearly stated and not inferred, to clarify TPD policy, particularly with respect to vacation. Teachers’ vacation, public and non-public holidays, daily or weekly contact and non-contact hours should be included as well as the sick and occasional leave. Time is an important consideration for teachers with regard to both timing of TPD and sustaining the learning that takes place.
6. The teachers pointed out that institutional and leadership support were needed for the TPD Programme to be viable. Frequently, workload was heavy and they needed resources to implement the strategies. Leadership support of the MOETT and school principals for teachers’ professional development was perceived to be ambivalent. Such a situation does not augur well for attaining the positive educational outcomes articulated in policy documents and therefore consultation is needed to develop a sustainable TPD programme beneficial to all stakeholders.

Reflections on what was learned from the doctoral journey.

I often wondered why more teachers did not attend the MOETT’s annual TPD Programme, since those who did usually found them useful and continued to participate. Insights gained throughout the undertaking of this doctoral research revealed new perspectives and taught me not to be prejudicial and tenaciously maintain preconceived notions. One participant’s comment which reflected my initial thoughts about those who did not participate in the TPD programme of workshops is: “… if you are a teacher and you not serious about what you do, you may not see ongoing learning as critical for you”.

My view changed. I learned that the teachers who did not participate in the workshops might have very cogent reasons. They might be were either stressed, or their tasks were made difficult because of conditions in their personal and professional lives working in a constraining, post-colonial education system. Even some who were intrinsically motivated to participate, struggled with some of the same constraints, but I appreciate that individual circumstances vary and mindsets are important factors that determine how teachers respond.

During my doctoral journey, I grew increasingly aware of the role of education policy and responsibility of the researcher. I became more sensitive to give voice to teachers, and to understand the context of teaching and teacher development as guided by official policy mandates. In my multiple roles, I was the researcher, the TPD programme manager, a teacher, an administrator, a parent, and a citizen of a postcolonial country. I had to recognise how my subjective perspective was influenced by those roles, and how to bracket my biases and declare my positionality to allow participants’ perspectives to emerge without judging what they had to say.

The inconsistencies or disjuncture I have identified are masked by the political rhetoric and adoption of global initiatives which are not always suited to our context. TPD seems to be the panacea which the administrators have identified as the solution to education’s ills. However, complex situations demand more broad-based solutions and successful resolutions depend on whether all voices and perspectives are heard. What I have learned from the teachers’ accounts point to a disconnect between the policy and practice, and the impact of policy on their professional and personal lives. This highlights the importance of unearthing contextual issues to better understand policies and how they impact practice. It is therefore crucial that education planners of TPD in Trinidad and Tobago be cognisant of the post-colonial context in which teacher learning and professional development occur.

REFERENCES

Adegbenro, J., Gumbo, M., and Olakanmi, E., 2017. In-Service Secondary School Teachers’ Technology Integration Needs in an ICT-Enhanced Classroom*, The Turkish Online Journal of Educational Technology,*16(3,) pp. 79-87.

Adu, P., 2016. *Qualitative Analysis: Coding and Categorizing Data.* Available at: <<https://www.youtube.com/watch?v=v_mg7OBpb2Y>> [Accessed 25 Feb. 2018].

Ali, S., Barras, D., Bitu, B., Geofroy, S., Lochan, S., and Mc Leod, L., 2015. ‘Did they learn anything? Experiences of social sciences teachers on an initial in-service post-graduate teacher education programme’. *Caribbean Teaching Scholar*, 5(2), pp. 63–78.

Alibakhsi,G.,and Dehvari,N., 2015. EFL teachers' perceptions of continuing professional development: A case of Iranian high school teachers, *PROFILE Issues in Teachers' Professional Development,* [online] Available at:<<<http://www.scielo.org.co/pdf/prf/v17n2/v17n2a02.pdf>>> [Accessed 17 January 2016].

Alleyne George, 2003. Govt must rethink the 1960 Concordat. *Trinidad and Tobago News, blog,* [blog]12 March, Available at:< http://www.trinidadandtobagonews.com/selfnews/viewnews.cgi? > [Accessed 15 November 2021].

Alvaré, B., 2017, ‘Do they think we live in huts?’ – Cultural Essentialism and the Challenges of facilitating Professional Development in Cross-cultural settings. *Ethnography and Education,* 12(1), pp. 33–48.

Anderson, J., George, J., and Herbert, S., 2009. Factors Impacting on Student Learning: A Preliminary at the National Test of Trinidad and Tobago. *Caribbean Curriculum,*16(2), pp.99-126.

Anglia Ruskin University, 2010. *Guide to the Harvard Style of Referencing*. [online] Anglia Ruskin University Library. Available at: < [https://dl.icdst.org/pdfs/files/343a749e755cfd2e437fefc483188520.pdf](https://libweb.anglia.ac.uk/referencing/files/Harvard_referencing_201718.pdf%20) > [Accessed 15 March 2011].

Anglia Ruskin University, 2019. *Guide to the Harvard  Style of Referencing*. [online] Anglia Ruskin University Library. Available at: <[https://libweb.anglia.ac.uk/referencing/files/Harvard\_referencing\_201718.pdf](https://libweb.anglia.ac.uk/referencing/files/Harvard_referencing_201718.pdf%20) > [Accessed 15 May 2019].

Anyan, F., 2013. The Influence of Power Shifts in Data Collection and Analysis Stages: A Focus on Qualitative Research Interview, *The Qualitative Report*, 18, pp.1-9.

Avalos, B., 2011. Teacher professional development in Teaching and Teacher Education over ten years. *Teaching and Teacher Education*, 27(1), pp. 10-20.

Avidov-Ungar, O., 2016. A model of professional development: teachers’ perceptions of their professional development. *Teachers and Teaching*, 22(6), pp.653-669.

Badenhorst, C., 2015. *Writing the Methodology chapter in a dissertation*. *YouTube*. Available at: <https://www.youtube.com/watch?v=l6ZoCuzixao> [Accessed 9 Sep. 2017].

Bahous, R., Busher, H., and Nabhani, M., 2016. Teachers' views of professional learning and collaboration in four urban Lebanese primary schools, *Teacher Development,* 20(2), pp. 197-212.

Baird, T., and Clark, L., 2018. ‘The ‘look-ahead’ professional development model: A professional Development model for implementing new curriculum with a focus on instructional strategies’, *Professional Development in Education*, 44(3), pp. 326–341.

Bakla, A., Çekiç, A., and Köksal, O., 2012. Web-based surveys in educational research. *International Journal of Academic Research*, 5(1), pp.5–13.

Bandura, A., 1997. *Self-efficacy. The exercise of control*. New York:
W.H. Freeman and Company.

Barr, R., and Tagg, J.,1995. ‘From Teaching to Learning - A New Paradigm for Undergraduate Education.’ *Change Magazine*, Nov/Dec. pp. 13-25.

Bartleton, L., 2018. A case study of teachers’ perceptions of the impact of continuing professional development on their professional practice in a further education college in the West Midlands. *Educational futures,* 9(2), pp.82- 109.

Bassey, M., 2001. A Solution to the Problem of Generalisation in Educational Research: Fuzzy Prediction. *Oxford Review of Education*, 27(1), pp.5–22.

Baum, F., 2006. Participatory action research. *Journal of Epidemiology & Community Health*, 60(10), pp.854–857.

Baxter, P. and Jack, S., 2008. Qualitative Case Study Methodology: Study Design and Implementation for Novice Researchers. *The Qualitative Report*, 13(4), pp.544–559.

Bayar, A., 2014. The Components of Effective Professional Development Activities in terms of Teachers’ Perspective. *International Online Journal of Educational Sciences*, 6 (2), pp. 319-327.

Beckles, H., 1998. *The Development of West Indies Cricket, Volume 1: The Age of Nationalism.* Jamaica:The Press University of the West Indies.

Bele, A., and Wasade , N., 2018. Perception, Use and Experience of Urban Open Spaces- Case Studies of Neighbourhood Public Parks in Nagpur. *International Journal of Science and Research*, 7 (9), pp. 712-717.

Benge, C.L., Onwuegbuzie, A.J. and Robbins, M.E., 2012. A Model for Presenting Threats to Legitimation at the Planning and Interpretation Phases in the Quantitative, Qualitative, and Mixed Research Components of a Dissertation. *International Journal of Education*, 4(4).

Blank, R., and de las Alas, N., 2008. Effects of Teacher Professional Development on Gains in Student Achievement: How Meta-Analysis Provides Scientific Evidence Useful to Education Leaders. In: Society for Research on Educational Effectiveness. *Critical Outcomes and Pragmatic Decisions*. Washington, D.C. March 2-4 ,2008.

Boodan, S., 2019. Francis: Education system skewed. Shortage of skilled labour killing industries. Trinidad Guardian, [online] 23 February. Available at :<< [https://www.guardian.co.tt/business/francis-education-system-skewed>>[Accessed17](https://www.guardian.co.tt/business/francis-education-system-skewed%3E%3E%5BAccessed17) March].

Boylan, M., Coldwell, B., Maxwell, B., and Jordan, J., 2018. Rethinking models of professional learning as tools: a conceptual analysis to inform research and practice, *Professional Development in Education*, 44(1), pp.120-139.

Braun, V., and Clarke, V,. 2006. Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), pp.77–101.

Bristol, L., 2010. Practising in betwixt oppression and subversion: plantation pedagogy as a legacy of plantation economy in Trinidad and Tobago. *Power and Education*, 2(2), pp. 167-182.

Bryman, A., Stephens, M., and à Campo, C., 1996. The Importance of Context: Qualitative Research and the Study of Leadership. *Leadership Quarterly,* 7(3), pp. 353-370.

Buabeng-Andoh, C., and Yidana, I., 2015. ‘Teachers’ ICT usage in second-cycle institutions in Ghana: A qualitative study’. *International Journal of Education and Development using Information and Communication Technology*, 11(2), pp. 104-112.

Caena, F., 2011 ‘Literature Review: Quality in Teachers’ continuing professional development.*’* Education and Training 2020 programme. Thematic Working Group ‘*Teacher Professional Development’* The European Union [online] Available at:< https://pdfs.semanticscholar.org/> [Accessed Dec. 12, 2018].

Cambridge Dictionary <https://dictionary.cambridge.org/us/dictionary/english/belief>

Campbell, C., 1997. *Endless Education*. The Press University of the West Indies Mona.

Caney, S., 2016. Political Short-Termism. *Academic Foresights* [online] Available at:< [https://www.academic-foresights.com/>[Accessed](https://www.academic-foresights.com/%3E%5BAccessed) 10th September,2021].

Çapuk, S. and Kara, A., 2015. A Discussion of ICT Integration within Developed and Developing World Context from Critical Perspectives. *Procedia - Social and Behavioral Sciences*, 191(2015), pp.56–62.

Carroll, M., 2010. Levels of Reflection: On Learning Reflection, Psychotherapy in Australia, 16, pp.24.

Castaño-Muñoz, J., Kalz, M., Kreijns, K., and Puniea, Y., 2018. ‘Who is taking MOOCs for teachers’ professional development on the use of ICT? A cross-sectional study from Spain’, *Technology, Pedagogy and Education*, 27(5), pp. 607–624.

Chadderton, C., and Torrance, H., 2011. Chapter 6 Case Study. Translated by C. Lewin. In: B. Somekh, ed., *Theory and Methods in Social Research*. London: SAGE Publications Ltd., pp.53–60.

Christopher, J., 2017. *Testimony in narrative educational research: a qualitative interview, narrative analysis and epistemological evaluation*. PhD thesis (Doctor of Philosophy), University of Iowa.

Chun Tie, Y., Birks, M. and Francis, K. 2019. Grounded theory research: A design framework for novice researchers. *SAGE Open Medicine*, 7, pp.1–8.

Clarke, D., and Hollingsworth, H.,2002. Elaborating a Model of Teacher Professional Growth *Teaching and Teacher Education*,18(2002),pp. 947-967.

Coldwell, M., and Simkins, T., 2011. Level models of continuing professional development evaluation: a grounded review and critique. *Professional Development in Education*, 37(1), pp.143–157.

Coleman, J., with Campbell, E., Hobson, C., McPartland, J., Mood, A.,Weinfeld, F., and York, R., 1966. *Equality of Educational Opportunity*. Washington, DC: U.S. Government Printing Office.

Collins Dictionary <https://www.collinsdictionary.com/us/dictionary/english/perception>

Corbin, J. and Holt, N.,2011. Chapter 13 Grounded Theory. Translated by C. Lewin. In: B. Somekh, ed., *Theory and Methods in Social Research*. 2nd ed. London: SAGE Publications Ltd., pp.113–120.

Creswell, J., 2012. *Educational research: Planning, conducting, and evaluating quantitative and qualitative research*. 4th ed. Boston: Pearson.

Creswell, J., and Miller, D., 2000. Determining Validity in Qualitative Inquiry. *Theory into Practice*, 39(3), pp.124–130.

Creswell, J. and Poth, C., 2018. *Qualitative Inquiry and Research Design:  Choosing Among Five Approaches*. 4th ed. London: SAGE Publications Ltd.

Crotty, M., 1988. *The Foundations of Social Research: Meaning and Perspective in the Research Process*. London: SAGE Publications.

Dana, N., Pape, S., Griffin, C., and Prosser, S., 2017. Incorporating practitioner inquiry into an online professional development program: the Prime Online experience. *Professional Development in Education,* 43, (2), pp. 212-231.

Darlaston-Jones, D., 2007. Making connections: The relationship between epistemology and research methods. *The Australian Community Psychologist* [online] Available at :< http:// www. aipa.groups.pyschology.org.an/Assets/Files/ACP\_19 (1)-incomplete.pdf#p=19)> [Accessed 20 February 2012].

Darling-Hammond, L.,1998. Teachers and Teaching: Testing Policy Hypotheses from a National Commission Report. *Educational Researcher*, 27, pp.5-15.

Darling-Hammond, L., 1999. *Teacher quality and student achievement: A review of state policy evidence.* Washington, D.C: Center for the Study of Teaching and Policy.

Darling-Hammond, L., 2013. Want to Close the Achievement Gap? Closing the Teaching Gap. *American Educator,* Winter 2014-2015, pp. 14-18.

Darling-Hammond, L., Beardsley, A., Haertel, E., and Rothstein, J., 2011. *Getting Teacher Evaluation Right: A Background Paper for Policy Makers.* Washington: AERA American Educational Research Association and National Academy of Education.

Darling-Hammond, L., Hyler, M., and Gardner, M., 2017. *Effective Teacher Professional Development*. Palo Alto: Learning Policy Institute.

Day, C., 1999. *Developing Teachers: The Challenges of Lifelong Learning*. *Educational Change and Development Series*. London: Falmer Press.

Day, C., 2019. What is teaching about? Professionalism and the limitations of standards and competences. *European Journal of Education,* 54, pp. 315-318.

Day, C., and Sammons, P., 2013. *Successful leadership: a review of the international literature*, [ online] Available at: <<<https://files.eric.ed.gov/fulltext/ED546806.pdf>.>> [Accessed 21st March 2020].

De Lisle, J., 2012. Secondary School Entrance Examinations in the Caribbean: Legacy, Policy and Evidence Within and Era of Seamless Education. *Caribbean Curriculum*, 19(2012), pp. 109-143.

De Lisle, J., 2016. Unravelling continuous assessment practice: Policy implications for teachers’ work and professional learning. *Studies In Educational Evaluation*, 50, pp. 33-45.

De Lisle, J., 2019. Insights on the Marginalization of Poor Children in the Education System of Trinidad and Tobago. In: S. Blackman, D. Conrad and L. Brown, eds. 2019. *Achieving Inclusive Education in the Caribbean and Beyond: From Philosophy to Praxis*. Cham: Springer International Publishing. Ch. 6.

de Vries, S., Jansen, E., and van de Grift, W., 2013. Profiling teachers’ continuing professional development and the relation with their beliefs about learning and teaching. *Teaching and Teacher Education,* 33, pp.78–89.

de Vries, S., van de Grift, W., and Jansen, E., 2013. Teachers’ beliefs and continuing professional development. *Journal of Educational Administration*, 51(2), pp.213–231.

Dei, D., 2018. Assessing the Use of Information and Communication Technology in Teaching and Learning in Secondary Schools. *Library Philosophy and Practice,* pp.1-17.

Denzin, N., 1986. “Postmodern Social Theory.” *Sociological Theory*, 4(2), p.194.

Denzin, N., 2016. Critical Qualitative Inquiry. *Qualitative Inquiry*, 23(1), pp.8–16.

Desimone, L., 2009. Improving Impact Studies of Teachers’ Professional Development: Toward Better Conceptualizations and Measures, *Educational Researcher,* [online] Available at<:<http://edr.sagepub.com.content/38/3/181> > [Accessed 17 March 2012].

Desimone, L., 2011. A Primer on Effective Professional Development. *Phi Delta Kappan*, 92(6), pp.68–71.

Desimone, L., and Garet, M., 2015. Best Practices in Teachers’ Professional Development in the United States. *Psychology, Society and Education,* 7(3), pp. 252-263.

Dewey, J., 1909. Chapter One- What is Thought? In: *How we think*. Boston: D.C. Heath & Co., pp.1–14.

Dlamini, R., and Mbatha, K., 2018. The discourse on ICT Teacher professional needs: the case of a South African’s teacher union. *International Journal of Education and Development using Information and Communication Technology* (IJEDICT), 2018, 14(20), pp. 17-37.

Doering, A., Veletsianos, G., Scharber, C ., and Miller, C., 2009. Using the technological, pedagogical, and content knowledge framework to design online learning environments and professional development. *Journal of Educational Computing Research*, 41(3) pp. 319-346.

Dolati, Z., and Tahriri, A., 2017. EFL Teachers’ Multiple Intelligences and Their Classroom Practice. *SAGE Open*, 7(3), pp.1–12.

Dzakiria, H., 2012. Theory of Relatability as a Possible Alternative to the Issue of Generalising of Research Findings: The Case of Open and Distance Learning (ODL) at Universiti Utara Malaysia. *Malaysian Journal of Distance Education*, 14(1), pp.41–58.

EduNova Co-operative Ltd., 2013. *A Baseline Survey of Teacher Performance, Parent and Student Attitudes and Achievement Ministry of Education Republic of Trinidad and Tobago Final Report- Doc 1 of 10 Overview and Recommendations.* Halifax: EduNova Cooperative Ltd.

Ennis, D., 1999. A Theoretical Framework: The Central Piece of a Research Plan*. Journal of Teaching in Physical Education,* 18, pp. 129-140.

Ertmer, P., and Ottenbreit-Leftwich, A., 2010. Teacher Technology Change: How Knowledge, Beliefs, and Culture Intersect. *Journal of Research on Technology in Education*, pp.1-36.

Ertmer, P., Ottenbreit-Leftwich, A., Sadik, O., Sendurur, E., and Sendurur, P., 2012. Teacher beliefs and technology integration practices: A critical relationship. *Computers and Education*, 59(2012), pp. 423-435.

Fives, H., and Buehl, M., 2016. Teachers’ Beliefs, in the Context of Policy Reform. *Behavioral and Brain Sciences,* 3(1), pp. 114-121.

Foucault, M., 1980. Chapter 5 Two Lectures. In: *Power/Knowledge Selected Interviews and Other Writings 1972-1977*. New York: Pantheon Books, pp.78-.108.

Frankham, J., and MacRae, C., 2011. Chapter 4 Ethnography. In: B. Somekh and Cathy Lewin, eds., *Theory and Methods in Social Research*. 2nd. ed. London: SAGE Publications Ltd., pp.53–60.

Franklyn, G., 2010. Final Report: A Seamless Education System for the Ministry of Education of Trinidad and Tobago. Support the Transition of Children from Early Childhood Care and Education (ECCE) to Primary Education. Government of the Republic of Trinidad and Tobago.

Freire, P., 1970. *Pedagogy of the Oppressed*. New York: Seabury.

Fricker, M., 2013. Epistemic Oppression and Epistemic Privilege. *Canadian Journal of Philosophy* [online] Available at <<http://www.tandfonline.com/doi/pdf/1080/00455091> > [Accessed 29th August 2016].

Fullan, M., 1993. Why Teachers Must Become Change Agents. *Educational Leadership*,50 (6), pp.12-17.

Fullan, M., 2006. *Change Theory: A force for school improvement*. Victoria: Centre for Strategic Education..

Fullan, M., and Hargreaves, A., 2012. Reviving Teaching With ‘Professional Capital’. *Education Week*, 31(33), pp. 30-36.

Fullan, M., and Hargreaves, A., 2013. The Power of Professional Capital: With an Investment in Collaboration , Teachers Become Nation Builders. *Journal of Staff Development*, 34(3), pp. 36-39.

Gerring, J., 2004. What is a case study and what is it good for? *American Political Science Review*, 98(2), 341-354

Ghavifekr, S., and Rosdy, W., 2015. Teaching and learning with technology:

Effectiveness of ICT integration in schools. *International Journal of Research in Education*

*and Science (IJRES),* 1(2), pp.175-191.

Gibbs, G., 2007. *Analyzing Qualitative Data*. London : SAGE Publications Ltd.

Gibbs, G., 2010. Data preparation: Part 1 Transcription [video online] Available at: << https://www.youtube.com/watch?v=KfdrtpQDtBk >> [Accessed 10th May 2018].

Gibbs, G., 2012. *Documents in social research Part 1 of 2 on Documents and Diaries*. *YouTube*. Available at: <https://www.youtube.com/watch?v=Hk1i4aWuass> [Accessed 21st January 2017].

Gilakjani, A., and Sabouri, N., 2017. Teachers’ beliefs in English Language Teaching and Learning: A Review of the Literature in *English Language Teaching* Vol.10, No. 4 March 2017.

Gill, S., and Goodson, I., 2011. Chapter 18 Life History and Narrative Methods. In: B. Somekh and C. Lewin, eds., *Theory and Methods in Social Research* 2nd. ed. London: SAGE Publications Inc., pp.157–165

Goodall, J., Day, C., Lindsay, G., Muijs, D., Harris, A., 2005. Evaluating the Impact of Continuing Professional Development (CPD). The University of Warwick Research Report No 659.

Goodson, I. ed.,1992. *Studying Teachers’ Lives*. London: Routledge.

Goodson,I. and Hargreaves, A. eds., 1996. *Teachers’ Professional Lives*. London: Falmer Press

Government of the Republic of Trinidad and Tobago, 2007. *Vision 2020: Operational Plan 2007 - 2010*. Port of Spain: Caribbean Paper and Printed Products Limited.

Government of the Republic of Trinidad and Tobago, 2011*. Innovation for Lasting Prosperity: Medium-Term Policy Framework 2011 - 2014*. Port of Spain: Government Printery.

Government of the Republic of Trinidad and Tobago, 2012. *Trinidad and Tobago National ICT Plan 2012 - 2016.* Port of Spain: The National Information and Communication Technology Company Limited.

Government of the Republic of Trinidad and Tobago, 2013c. *smartTT National ICT Plan 2014 – 2018*. Port of Spain: Government Printery.

Government of the Republic of Trinidad and Tobago, 2017. *Fastforward II: Trinidad and Tobago's Draft National ICT Plan* *2017 - 2026.* Port of Spain: Government Printery.

Government of the Republic of Trinidad and Tobago, 2019a.. *Early Childhood Care and Education* [online] Available at :< NATIONAL ICT CO.LTD [TT]ttconnect.gov.tt> [ Accessed 9th September 2019].

Government of the Republic of Trinidad and Tobago, (2019b). *Primary Education and Schools.* [online] Available at :< NATIONAL ICT CO.LTD [TT] ttconnect.gov.tt> [ Accessed 9th September 2019].

Government of the Republic of Trinidad and Tobago, (2019c). *Secondary Education and Schools.* [online] Available at :< NATIONAL ICT CO.LTD [TT]ttconnect.gov.tt> [ Accessed 9th September 2019].

Gowrie, G., and Ramdass, M., 2014. Teachers’ Perceptions of the Dimensions of the Psychosocial School Environment in Primary Schools in Trinidad and Tobago. *Journal of Education and Training Studies,* 2(4), pp.126-137.

Grant., and Osanloo, A., 2014. Understanding, Selecting, and Integrating a Theoretical Framework in Dissertation Research: Creating the Blueprint for Your “House”. *Administrative Issues Journal:* Connecting Education, Practice and Research, 4(2), pp. 12-26.

Guba, E., and Lincoln, Y., 1994. Competing Paradigms in Qualitative Research. In: N. Denzin and Y. Lincoln, eds.1994. *Handbook of Qualitative Research*. Thousand Oaks: SAGE Publications. Ch.6.

Guskey, T., 1986. Staff Development and Teacher Change. *Educational Leadership*,15(5), pp. 5-12

Guskey, T., 2000. *Evaluating Professional Development.* Thousand Oaks: Corwin Press Inc.

Guskey, T., 2001. Backward planning: An outcomes-based strategy for professional development. *Curriculum in Context*, 28(2), pp.18-20.

Guskey, T., 2002. Professional Development and Teacher Change. *Teachers and Teaching*, 8(3), pp.381–391.

Guskey, T., 2020. Flip the Script on Change: Experience Shapes Teachers’ Attitudes and Beliefs. *The Learning Professional*, 41(2), pp. 18-22.

Hackett., 2002. Teacher Performance in Trinidad and Tobago, [online] Available at:<< <https://uwispace.sta.uwi.edu/dspace/handle/2139/8824>>> [Accessed 21st June 2018].

Hammer, D., and Elby, A., 2002. On the Form of a Personal Epistemology. In K. Hofer and P. Pintrich, eds. 2002. *The Psychology of Beliefs about Knowledge and Knowing.* Mahwah: Erlbaum. pp. 169-190.

Hammersley, M., 2012. Methodological Paradigms in Educational Research, *British Educational Research Association*, [online].Available at:<<https://www.bera.ac.uk/publication>>[Accessed 18 May 2021].

Hargreaves, A., and Fullan, M., 2013.The Power of Professional Capital: With an Investment in Collaboration, Teachers Become Nation Builders. *International Trends*, 34(3), pp,36-39.

Harris, A., Day, C., Goodall, J., Lindsay, G., and Muijs, D., 2006. What Difference does it make? Evaluating the impact of continuing professional development in schools. *Scottish Educational Review,* January 2006, pp. 90-99.

Hawkins, R., 2002. *Chapter 4: Ten Lessons for ICT and Education in the Developing World*. [online] World Bank, Available at: <https://cyber.harvard.edu/itg/libpubs/gitrr2002\_ch04.pdf> [Accessed 10 Oct. 2019].

Heller, J., Daehler, K., Wong, N., Shinohara, M., and Miratrix, L., 2012. Differential effects of three professional development models on teacher knowledge and student achievement in elementary science. *Journal of Research in Science Teaching*, 49(3), pp.333–362.

Hennessy, S, Dragovic, T, and Warwick, P., 2018. A research-informed, school-based professional development workshop programme to promote dialogic teaching with interactive technologies. *Professional Development in Education*, Vol. 44, (2), pp. 145–168.

Hofer, M., and Swan, K., 2006. Technological Pedagogical Content Knowledge in Action: A Case Study of a Middle School Digital Documentary Project. *Journal of Research on Technology in Education,* 41(2), pp. 179-200.

Hogg, M., and Vaughan, G., 2005. *Social Psychology* 4th ed. Edinburgh Gate :Prentice Hall.

Hossain, A., 2020. *From Liberation to Neoliberalism: Race, Mobility, and Masculinity in Caribbean Cricket in Sport, Migration and gender in the Neoliberal Age* Besnier, N., Calabro, D., and Guinness, D., eds. Oxon: Routledge.

Hyett, N., Kenny, A., and Dickson-Swift, V., 2014. Methodology or method? A critical review of qualitative case study reports. *International Journal of Qualitative Studies on Health and Well-being*, 9(1), pp.1–13.

Imants, J., and Van der Wal, M., 2019. A model of teacher agency in professional development and school reform. *Journal of Curriculum Studies*, pp. 1- 15.

Jaffe, I., 2011. ‘Is that what I said?’ Interview Transcript Approved by Participants: An Aspect of Ethics in Qualitative Research. *International Journal of Qualitative Methods*, pp.10 (3).

Jaipal-Jamani, K., and Figg, C., 2015. A case study of a TPACK-based approach to teacher professional development: Teaching science with blogs. *Contemporary Issues in Technology and Teacher Education,* 15(2), pp.161-200.

Jalali, S., and Wohlin, C., 2012. Systematic literature studies: Database searches vs. backward snowballing - IEEE Conference Publication. In: *2012 ACM-IEEE International Symposium on Empirical Software E*. [online] IEEE. Available at: <https://ieeexplore.ieee.org/document/6475394/>.

James, F., Phillip, S., Herbert, S., Augustin, D., Yamin -Ali, J., Ali, S., and Rampersad, J., 2013. Is Anybody Listening? Teachers’ Views of Their In-Service Teacher Professional Development Programme. *Caribbean Curriculum,* 20 (2013), pp. 77-100.

Jensen, B., Sonnemann, J., Roberts-Hull, K., and Hunter, A., 2016. *Beyond PD: Teacher Professional Development in Education*, 42(5), pp. 836–853.

Johnson, J., Adkins, D., and Chauvin, S.,2020. Qualitative Research in Pharmacy Education: A Review of the Quality Indicators of Rigor in Qualitative Research. *American Journal of Pharmaceutical Education,* 2020, 84(1) pp. 77-100.

Johnson, C., and Fargo, J., 2014. A Study of the Impact of Transformative Professional Development on Hispanic Student Performance on State Mandated Assessments of Science in Elementary School. *Journal of Science Teacher Education*, 25 (2014), pp. 845-859.

Jones, K., 2021. Foreword: Non-linear perspectives on teacher development: complexity in professional learning and practice. *Professional Development in Education*, 47(2-3), pp. 197-198.

Jorgensen, D., and Vu, K., 2016. The ICT revolution, world economic growth, and policy issues. *Telecommunications Policy,* 2008, 40 (5), pp. 383-397.2008.

Jules, T., and Williams, H., 2015. Education Reform Initiatives in the Caribbean Basin. In: I. Minto-Coy and E. Berman, eds. 2016. *Public Administration and Policy in the Caribbean*, Boca Raton: CRC Press. Ch. 12.

Kafyulilo, A., Fisser, P., and Voogt, J., 2016. Teacher design in teams as a professional development arrangement for developing technology integration knowledge and skills of science teachers in Tanzania. *Education and Information Technologies*, 21(2), pp. 301–318.

Kamalodeen, V., Figaro-Henry, S., Ramsawak-Johda, N. and Dedovets, Z., 2017. ‘The Development of Teacher ICT competence and confidence in using Web 2.0 tools in a STEM professional development initiative in Trinidad’. *Caribbean Teaching Scholar,* 7, pp. 25–46.

Katman, A., and Tutkun,O., 2015. Teachers’ Views Related to the Effectiveness of In-service Training Programs in Primary School. *Procedia -Social and Behavioral Sciences*, 174(2015), pp.1878-1885.

Kaya, C., and Kaya, S., 2017. Prospective Teachers’ Educational Beliefs and Their Views about the Principles of Critical Pedagogy. *Journal of Education and Learning*, 6(4), pp. 181-190.

Kennedy, A., 2005. ‘Models of Continuing Professional Development: A Framework for Analysis’. *Journal of In-service Education*, 31(2), pp.235-250.

Kennedy, A., 2014. Models of Continuing Professional Development: a framework for analysis. *Professional Development in Education*, 40(3), pp.336–351.

Kennedy, A., 2015. What do professional learning policies say about purposes of teacher education? *Asia-Pacific Journal of Teacher Education*, 43(3), pp.183-194.

Kennedy, A., 2017. *Teacher Perceptions of School-Based and District Professional Development. Doctor of Education in Teacher Leadership Dissertations*. Bagwell College of Education.

King, F., 2014. Evaluating the impact of teacher professional development: an evidence-based framework. *Professional Development in Education*, 40(1), pp.89-111.

King, F., 2016. Teacher Professional Development to Support Teacher Professional Learning: Systemic Factors from Irish Cases. *Teacher Development*, 20(4), pp. 574-594.

Kirkpatrick, D., 1994. Evaluating Training programs: The Four levels. San Franscisco: Berrett-Koehler.

Kirkpatrick, D., and Kirkpatrick, J., 2006. *Evaluating Training Programs, The Four Levels.* 3rd ed. San Francisco: Berrett-Koehler Publishers, Inc.

Knowles, M.,1973. *The Adult Learner: A Neglected Species.* Houston: Gulf Publishing Company.

Koelsch, L., 2013. Reconceptualizing the Member Check Interview, International Journal of Qualitative Methods, [online] Available at:<<https://journals-sagepub-com.sheffield.idm.oclc.org>> [Accessed 10th January 2019].

Kolb, A. and Kolb, D., 2018. Eight Important things to know about The Experiential Learning Cycle. *AEL*, (3), pp.8–14.

Kolb, D., 1984. Chapter 2 The Process of Experiential Learning. In: *Experiential Learning Experience as The Source of Learning and Development*. Englewood Cliffs: Prentice Hall, pp.20–38.

Kubalíková, A, and Kacian, A., 2016. Twenty-five years of Continuing Professional Development of Teachers in the Post-Communist Era in Slovakia: The Story of Paths Not Taken. *Professional Development in Education,* 42(5), pp. 836–853

Lauer, P., Christopher, D., Firpo-Triplett, R., and Buchting, F., 2014. The impact of short-term professional development on participant outcomes: a review of the literature. *Professional Development in Education*, 40 (2), pp. 207-227.

Laughlin, N., 2018. His world was what it was: the enigma of V.S. Naipaul, *Global Voices*,[online] Available at:< https://globalvoices.org/ 2018/08/12/his-world-was-what-it-was-the-enigma-of-v-s-naipaul>[Accessed 22nd June 2022].

Laws of Trinidad and Tobago: Education Act: 39:01 Clause 5, 1966. [online] Available at: <<http://moe.gov.tt/general_pdfs/education_act_laws_of_tt.pdf>> [Accessed 27 March 2011].

.

Lee, H., 1960. *To kill a mocking bird*. New York: Hachette Book Group.

Lee, J., 2016. Teacher development: teacher beliefs, diversified approaches, and processes, *Teachers and Teaching,* 22, (7), pp.761-764.

Levin, B. 2002. *Approaches to Equity for Lifelong Learning*. OECD, pp. 1-42.

Lewin, K., 1935. *A dynamic theory of personality*. Washington: McGraw-Hill.

Li, S., Yamaguchi, S and Takada, J., 2018, ‘Understanding factors affecting primary school teachers’ use of ICT for student-centered education in Mongolia’, *International Journal of Education and Development using Information and Communication Technology*, 14(1), pp. 103-117.

Lincoln, Y., and Guba., 1979 . *The Distinction between Merit and Worth in Evaluation*.

Cincinnati, OH: Evaluation Network.

Lindberg, J., Olofsson, A. and Fransson, G., 2016. Contrasting views: student and teacher perceptions on ICT in education. In: ICICTE (International Conference on Information Communication Technologies in Education) *The proceedings of the International Conference on Information Communication Technologies in Education 2016.* Rhodes, Greece 7-9 July 2016.

Little, J., 1993. Teachers' Professional Development in a Climate of Educational Reform. *Educational Evaluation and Policy Analysis*, 15(2), pp. 129-151.

Livingstone, S., 2012. Critical reflections on the benefits of ICT in education. *Oxford Review of Education,* 38(1), pp. 9-24.

Luhamya, A., Bakkabulindi, F., and Muyinda, P., 2017. Integration of ICT in Teaching and Learning: A Review of Theories. *Makerere Journal of Higher Education*, 9(1), pp. 21-26.

Luis, S., (2019). The Relationship Between Teachers Beliefs, Teachers Behaviors, and Teachers Professional Development: Group. A Literature Review. *International Journal of Education and Practice*, 7(1), pp.10–18.

Lustick, D., 2011. Experienced secondary science teachers' perceptions of effective professional development while pursuing National Board certification. *Teacher Development*, 15(2), pp. 219-239.

Lynch, M., 2018. Examining the Impact of Culture on Academic Performance. The Advocate, [online] Available at: < <https://www.theedadvocate.org/examining-the-impact>> [ Accessed 25February 2019].

Macmillan Dictionary Macmillan Education Limited 2009–2020 <https://www.macmillandictionary.com/us/dictionary/american/attitude>

Maharaj-Sharma, R., and Sharma, A., 2017. Using Ict in Secondary School Science Teaching–What Students and Teachers In Trinidad And Tobago Say? *European Journal of Education Studies,* 3(2), pp. 197-211.

Mama, M. and Hennessy, S., 2013. Developing a typology of teacher beliefs and practices concerning classroom use of ICT. *Computers and Education*, 68 (2013), pp.380-387.

Mark, P., 2013. *Standards of practice for the teaching profession in the Caribbean Community: Draft framework of generic teaching performance standards and academic standards*. Port of Spain, Trinidad and Tobago: The Caribbean Community Task Force on Teacher Education Technical Team.

Marzano, R. J., Marzano, J. S., and Pickering, D., 2003. *Classroom management that works: Research-based strategies for every teacher*. Alexandria, VA: Association for Supervision and Curriculum Development.

Mavis, F., Cayci, D., and Arslan, M.,2014. Evaluation of Turkey’s Teacher Training System from the Viewpoint of Experienced Teachers (past, present and future). *Journal of Teacher Education and Educators,* 3(1), pp.91-108.

Mendes-Franco, J., 2019. Is a ‘Concordat’ stymieing education progress in Trinidad & Tobago?[online] Available at < [https://globalvoices.org/2019/07/06/is-a-concordat-stymieing-education-progress-in-trinidad-tobago>[Accessed](https://globalvoices.org/2019/07/06/is-a-concordat-stymieing-education-progress-in-trinidad-tobago%3E%5BAccessed) 22nd July 2022].

Mero-Jaffe, I., 2011. ‘‘Is that what I Said?’ Interview Transcript Approval by Participants: An Aspect of Ethics in Qualitative Research’, International Journal of Qualitative Methods, [online] Available at<:<https://journals-sagepub-com.sheffield.idm.oclc.org>> [Accessed 12th January 2019].

Merriam, S., 2009. *Qualitative research: A guide to design and implementation*. San Francisco, CA: Jossey-Bass.

Miller, P., 2014. Education for All in the Caribbean: Promise, Paradox and Possibility. *Research in Comparative and International Education*, 9(1), pp.1–3.

Miller, P., Potter, I., Bennett, K., Carter, T., Hylton-Fraser, K., Williamson-Teape, K. ,and Nelson-Mayne, S., 2015. Crossing the border: Reconstructing and re-aligning teacher and principal identities through a Study Tour. *Journal of Adult and Continuing Education,* 21 (1), pp. 31-47.

Ministry of Public Administration and Information, 2003*. Fast Forward: Trinidad and Tobago. Accelerating into the Digital Future: Trinidad and Tobago’s National Information and Communication Technology Strategy. Port* of Spain*:* Ministry of Public Administration and Information. Available at:< [https://files.ttcs.tt/comments/fastforward/Executive\_Summary.pdf>[Accessed](https://files.ttcs.tt/comments/fastforward/Executive_Summary.pdf%3E%5BAccessed) 1st October 2020].

Ministry of Education, 1993. *Educational Policy Paper (1993-2003) National Task Force of Education (White Paper).* Port of Spain: Government Printery.

Ministry of Education, Trinidad and Tobago, 2006. *Local School Boards Manual: To Lead the Modernisation and Renewal of the System of Education*. Port of Spain: Government Printery.

Ministry of Education, Trinidad and Tobago, 2008. *Professional Development Workshops for Teachers July-August 2008 Proposal.* Ministry of Education, unpublished.

Ministry of Education, Trinidad and Tobago, 2009. *Annual Operations Plan: Support for a Seamless Education System Programme*. Port of Spain: Government Printery.

Ministry of Education, 2010. *eConnect and Learn Programme Policy.* Port of Spain: Available at<<http://www.moe.gov.tt/laptop_info/econnect_and_learn>> [ Accessed 08 September 2018].

Ministry of Education, 2012. *Education Sector Strategic Plan: 2011-2015*. [pdf] Port of Spain: Ministry of Education. Available at: [www.moe.gov.tt/spotlightPDFs?MOE\_Strategic\_Action\_Plan\_2011\_2015.pdf](http://www.moe.gov.tt/spotlightPDFs?MOE_Strategic_Action_Plan_2011_2015.pdf) [Accessed 24 March 2012].

Ministry of Education, 2017. Draft Education Policy Paper 2017-2022. Port of Spain: Available at :<<https://www.moe.gov.tt/education-policy-paper-2017-2022/>> [ Accessed 9th September, 2019].

Ministry of Education, 2021. *Circular Memorandum E:19/1/15, No.5 of 2021.*Available at:<< [https://mytrinichile.com/>>[Accessed](https://mytrinichile.com/%3E%3E%5BAccessed) 18 December 2022].

Ministry of Finance, 2008. *National Budget of Trinidad and Tobago Presentation.* Port of Spain: Available at: < <http://www.cs.tt/2007/08/>> [ Accessed 21 September 2018].

Mirzajani, H., Mahmud, R., Ayub, A., and Wong, S., 2016. Teachers’ acceptance of ICT and its integration in the classroom. *Quality Assurance in Education,* 24(1), pp. 26-40.

Mishra, P., Kereluik, K., Shin, T., and Graham, C., 2014. The Technological Pedagogical Content Knowledge Framework. In: J.M. Spector, et al. eds., *Handbook of Research on Educational Communications and Technology*. New York: Springer Science+ Business Media. Chapter

Mishra, P., and Koehler, M., 2006. Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teachers College Record*, 108(6), pp.1017–1054.

Mizell, H., 2010. *Why Professional Development Matters.* Oxford: Learning Forward.

Morrell, P., and Carroll, J., 2010. *Conducting Educational Research, A Primer for Teachers and Administrators*. Rotterdam: Sense Publishers.

Mukherjee, M., 2001. A house for Mr. Naipaul, *Frontline,*18 (22).

Murray, J., Harper, S., McClean-Trotman, L., and Stewart, H., 2019. Safeguarding the Protection Rights of Children in the Eastern Caribbean. In: J. Murray, B. Swadener, and Smith, eds.2019.*The Routledge International Handbook of Young Children's Rights.* Abingdon: Routledge. Ch. 17.

Muswede,T., and Lubinga, E., 2018. Global media hegemony and the transformation bliss in post-colonial Africa: real independence or change of masters? *African Journal of Public Affairs,* 10 (2), pp.82-96.

Muzaffar, M and Malik, S., 2012. Attitude of Teachers towards Professional Development Trainings. *Language in India,* 12(8), pp. 304.- 322.

Naipaul, V., 1967. *The Mimic Men.* New York: Macmillan Company.

Nespor, J., 1987. The role of beliefs in the practice of teaching. *Journal of Curriculum Studies*, 19 (4), pp. 317-328.

Neuendorf, K., (2019). Content Analysis and Thematic Analysis. In Advanced Research Methods for Applied Psychology Design , Analysis and Reporting ed. In Paula Brough Routledge , Oxon Chapter 18 << https://academic.csuohio.edu>> [Accessed February 2018].

Nicholas, S., 2018. Shamfa hails cricket as unifying force. Trinidad and Tobago Newsday, [online] Available at:< [https://newsday.co.tt/2018/09/19/shamfa-hails-cricket-as-unifying-force>[Accessed](https://newsday.co.tt/2018/09/19/shamfa-hails-cricket-as-unifying-force%3E%5BAccessed) May 2021].

Niess, M., van Zee, E., and Gillow-Wiles, H., 2010. Knowledge Growth in Teaching Mathematics/Science with Spreadsheets: Moving PCK to TPACK through Online Professional Development. *Journal of Digital Learning in Teacher Education*, 27(2), pp. 42-52.

Nusser, S., 2010. *e-Source Behavioral & Social Sciences Research*. [online] pp.1–35. Available at: http://www.esourceresearch.org/ [Accessed 8 Sep. 2019].

Pajares.M., 1992. Teachers’ Beliefs and Educational Research: cleaning Up a Messy Construct. *Review of Educational Research*, 62 (3), pp. 307-332.

Pamuk, S., Cakir, R., Ergun, M., Yilmaz and Ayas, C., 2013. The Use of Tablet PC and Interactive Board from the Perspectives of Teachers and Students: Evaluation of the FAITH Project. *Educational Sciences: Theory and Practice*, pp. 1815-1822.

Parsons, S., Hutchison, A., Hall, L., and Parsons, A., 2019. U.S. teachers’ perceptions of online professional development. *Teaching and Teacher Education*, 82 (2019), pp. 33-42.

Patrick, C., 2010. Single-Sex School Conversion Project: Report on male student performance. May 2010.

Patton, M., 2015. *Qualitative Research and Evaluation Methods* 4th ed. London: SAGE Publications Ltd.

Paul, A., 2021. *Gadsby-Dolly: Almost 2,000 school dropouts since pandemic began.* Trinidad Guardian, [online] 1 September. Available at:< https://www.cnc3.co.tt/Gadsby-Dolly: Almost 2,000 school dropouts since pandemic began> [Accessed 10th October 2022].

Pedder, D. and Opfer, V. (2010). Benefits, status and effectiveness of continuous professional development for teachers in England. *Curriculum Journal*, 21(4), pp.413-431

Pehkonen, E., and Pietilä, A., 2003. On the relation between beliefs and knowledge in

mathematics education. CERME3, Bellaria, Italy.

Pitsoe, V., and Maila, W., 2012. Towards Constructivist Teacher Professional Development. *Journal of Social Sciences,* 8(3), pp. 318-324.

Poell, R., Van Der Krogt, F., 2014. The Role of Human Resource Development in Organizational Change: Professional Development Strategies of Employees, Managers and HRD Practitioners. In: S. Billett, C. Harteis, H, Gruber. (eds.) *International Handbook of Research in Professional and Practice-based Learning.* Springer International Handbooks of Education. Springer: Dordrecht. Ch. 2

Priya, A., 2014. Revisiting Case Study Method of Social Research Examining Its Cardinal Attributes and Its Potential for Generating Authoritative Knowledge. *Journal Of Humanities And Social Science,* 19(11), pp.40-44.

Qasem, A, and Viswanathappa, G., 2016. Teacher perceptions towards ICT integration: Professional development through blended learning. *Journal of Information Technology Education*, vol.15, pp. 561-575.

Rabah, J., 2015. ‘Benefits and challenges of Information and Communication Technologies (ICT) Integration in Quebec English Schools’, *The Turkish Online Journal of Educational Technology*, 14(2), pp. 24-31.

Rabie, M., 2013. *Stages of Societal Development. In: Global Economic and Cultural Transformation .* New York: Palgrave Macmillan. Ch. 2.

Ramcharitar, R., 2020. Ethnic anxiety and competing citizenships in Trinidad and Tobago. *Journal of Ethnic and Migration Studies,* 47 (16), pp 1-19.

Rampersad, C., 2011. *Teachers’ Perceptions of the Contribution of Information and Communication Technology to the Teaching of Modern Studies, Using an Integrated System, in an Urban Secondary School.* Masters of Education. The University of the West Indies.

Ravhuhali, F., Mashau, T., Kutame, A. and Mutshaeni, H., 2017. Teachers’ Professional Development Model for Effective Teaching and Learning in Schools: What Works Best for Teachers? *International Journal of Educational Sciences*, 11(1), pp.57-68.

Reddock, R., 2019. Competing victimhoods: a framework for the analysis of post-colonial multi-ethnic societies. *Social Identities,* 25(6), pp. 809-827.

Rizvi, F., and Lingard, B., 2009. *Globalizing Education Policy*. London: Routledge.

Roblyer, M., and Doering, A., 2013*. Integrating Educational Technology into Teaching.* 6th ed. London:|Pearson.

Saidin, K., and Yaacob, A., 2016. Insider Researchers: Challenges and Opportunities. In: ICECRS, *International Seminar on Generating Knowledge Through Research*, 25-27 October 2016, University Utara Malaysia, Malaysia.

Schiefelbein, E., and McGinn, N., 2017. Strategies for the Improvement of Instruction and Education*.* In *Learning to Educate: Proposals for the Reconstruction of Education in Developing Countries.* Rotterdam: Sense Publishers.

Schwandt, T., Lincoln, Y., and Guba, E., 2007. Judging interpretations: But is it rigorous? Trustworthiness and authenticity in naturalistic evaluation. *New Directions for Evaluation*, 2007(114), pp. 11-25.

Seidman, I., 2006. *Interviewing as Qualitative Research*: *A Guide for Researchers in Education and the Social Sciences*. 3rd. ed. New York: Teachers College Press.

Sergiovanni,T., 2005. The Virtues of Leadership. *The Educational Forum* 69, pp.112-123.

Shah, R., 2021. Teachers’ Belief: An Overview. *International Journal of Creative Research Thoughts ,9(1),* pp. 3890-3909.

Shipman, M., 2014. *The Limitations of Social Research*. 4th ed. Oxon: Routledge.

Shiyue, W., 2017. Implementation and Incentive of Education Policies: Experience from the High School Admissions Quota allocation Policy. *Chinese Education and Society*, 50,pp. 203-216.

Shoaib, S., and Mujtaba, B., 2016. Use IT or Lose It: Prudently Using Case Study as a Research and Educational Strategy. *American Journal Of Education and Learning*,1(2), pp.83-93.

Shulman, L.,1986. Those who understand: Knowledge growth in teaching. *Educational Researcher*,15(2), pp. 4-14.

Sikes, P., 1998. Parent teachers: reconciling the roles. *Teacher Development*, 2(1), pp87-105.

Sikes, P., 2006a. Decolonizing research and methodologies: indigenous peoples and cross‐cultural contexts. *Pedagogy, Culture & Society*, 14(3), pp.349–358.

Sikes, P. 2006b. On dodgy ground? Problematics and ethics in educational research. *International Journal of Research & Method in Education*, 29(1), pp.105–117.

Hall. M., and Sikes, P., 2020. ‘It’s just limboland’: Parental dementia and young people’s life courses. The Sociological Review, 68 (1), pp. 242-259.

Sikes, P., and Everington, J., 2004. ‘RE teachers do get drunk you know’: becoming a religious education teacher in the twenty-first century. *Teachers and Teaching*, 10 (1), pp. 21-23.

Silverman, D., 2017. How was it for you? The Interview Society and the irresistible rise of the (poorly analysed) interview. *Qualitative Research*, 17(2), pp. 144-158

Sim, J., and Theng B., 2014. Teachers’ perceptions of the use of ICT as an instructional tool in Mathematics and Science. [online]Available at < http://citeseerx.ist.psu.edu /[Accessed 22 February 2018].

Slutsky, A., 2016. *Factors Influencing Teachers’ Technology Self-Efficacy.* Ph.D. Gardner-Webb University.

Smith, R., 1988. *Human Resource Development: An Overview.* Michigan: Office of Educational Research and Improvement (ED), Washington, DC. Available at:< https://eric.ed.gov/?id=ED291013> [Accessed 14 July 2020].

Somekh, B., and Lewin, C. eds., 2011. *Theory and Methods in Social Research*. 2nd ed. London: SAGE Publications Inc.

Spiteri, M., and Rundgren, S., 2017. Maltese primary teachers’ digital competence: implications for continuing professional development. *European Journal of Teacher Education*, 40(4), pp. 521-534.

Spradley, J.,1979. *The ethnographic interview*. Fort Worth: Harcourt Brace Jovanovich College Publishers.

Stake, R.,1995. *The Art of Case Study Research*. Thousand Oaks: Sage Publications Inc.

Stordy, P., (2012). *Chapter 7: Research design*. [online] Available at: <https://www.sheffield.ac.uk/polopoly\_fs/1.204486!/file/7ResearchDesign.pdf> [Accessed 18 Apr. 2019].

Strauss, A., and Corbin, J., 1998. *Basics of Qualitative Research: Techniques and Procedures for Developing Grounded Theory*. Thousand Oaks, CA: Sage Publications, Inc.

Stufflebeam, D. 2001. Evaluation Models, New Directions for Evaluation, [online] Available at :< http: //www.stu.westga.edu/~bthibau1/MEDT 8480-Baylen/Evaluation\_Models.pdf> [Accessed 22 February 2012].

Stufflebeam, D., and Corbyn, C., 2014. *Evaluation Theory, Models, & Applications.* San Francisco: Jossey-Bass A Wiley Brand.

Sugrue.C., and Mertkan, S., 2017. Professional responsibility, accountability and performativity among teachers: the leavening influence of CPD? *Teachers and Teaching*, pp. 171-190.

Sun, L., and Shi, K., 2008. The Human Resource Competency Studies and the IPMA-HR Competency Training and Certification Program in China. *Public Personnel Management*, 37 (3), pp. 353- 362.

Sun, B., and Su, C., 2015. Empirics with Inequity Distribution for Elementary School Resource, *International Journal of Innovative Management, Information and Production*, 6(1), pp. 65-74.

Széll, K., 2013. Factors Determining Student Achievement. *Hungarian Educational Research Journal*, *3*(3), pp.55-66.

Taj, S., Nader, M., Anum, W., Israr, S., and Rafique,J., 2020. A Case Study of Pre-Service Teachers’ Perceptions and Practices about Using Arts in Education in a Women University from Lahore. *Ilkogretim Online-Elementary Education Online,* 19 (3), pp.2040-2047.

Takacs, D., (2003). How Does Your Positionality Bias Your Epistemology. *Thought and Action*, 27, pp.27–38.

Tell, C., 1999. Renewing the Profession of Teaching: A Conversation with John Goodlad. *Supporting New Teachers,* 56(8), pp. 14-19.

Thomas, G., (2011). *How to do Your Research Project. A guide for students in education and applied social sciences*. London: SAGE Publications Ltd.

Thomas, G., and Myers, K., (2015). *The Anatomy of the Case Study.* London: SAGE Publications Ltd.

Thomson, S., and Ip, E., 2020. Covid-19 Emergency Measures and the Impending Authoritarian Pandemic, *Journal of Law and the Biosciences*, pp.1-33. Oxford: Oxford University Press.

Tondeur, J., Forkosh-Baruch, A., Prestridge, S., Albion, P., and Edirisinghe, S., 2016. Responding to Challenges in Teacher Professional Development for ICT Integration in Education. *Educational Technology & Society*, 19 (3) pp. 110–120.

Tondeur, J., 2019. Teachers’ pedagogical beliefs and technology use: A chicken and the egg dilemma, *Encyclopedia of Teacher Education,* [online] Available at:<<https://www.researchgate.net/publication/336460388>> [Accessed 18th November 2022].

Tonna, M., and Calleja, J., 2018. *Teachers’ Professional Lives and Careers*. Malta: Faculty of Education, University of Malta.

Trautmann, N., and MaKinster, J., 2010. Flexibly Adaptive Professional Development in Support of Teaching Science with Geospatial Technology. *Journal of Science and Technology*, 21(3), pp.351-370.

Trinidad and Tobago, Ministry of Education., 2005. *Draft Policy for Information and*

*Communication Technology in Education*. Port-of-Spain: Ministry of Education.

Trinidad and Tobago, Ministry of Education., 2010. *eConnect and Learn Programme Policy.* Port-of-Spain: Ministry of Education.

Trinidad and Tobago Unified Teachers’ Association, 1989. Code of Ethics, [online] Available at:< <https://www.ttuta.net/wp-content/themes/jarvis_wp/pdf/code_ethics.pdf>> [Accessed 27

Trochim, W., and Donnelly, P., 2007. *The Research Methods Knowledge Base*. 3rd ed. Mason: Atomic Dog.

Turgo, N., (2012). ‘I Know Him So Well’: Contracting/tual ‘Insiderness’, and Maintaining Access and Rapport in a Philippine Fishing Community. *Sociological Research Online*, 17(3), pp.1–13.

 Tuli, F., and File, G., 2010. Practicum Experience in Teacher Education, *Ethiopian Journal Education and Science,* 5 (1), pp. 107- 116.

Twining, P., and Henry, F., 2014. Enhancing ICT Teaching’ in English Schools: Vital Lessons. *World Journal of Education*, 4(2), pp. 12-36.

United Nations Commission on Science and Technology for Development, 2008. *Contribution to the CSTD ten-year review of the implementation of WSIS outcomes.*

United Nations, 1948. Universal Declaration of Human Rights. [online] Available at:< <https://www.un.org/en/about-us/universal-declaration-of-human-rights>> [Accessed 29 August 2019].

United Nations, 1948. Universal Declaration of Human Rights. General Assembly resolution 217A. Paris, France 10 December 1948. Paris: United Nations.

UNESCO (United Nations Educational, Scientific and Cultural Organization), 1990. *World Declaration on Education for All, Jomtien, Thailand (*1990). Paris: UNESCO.

UNESCO (United Nations Educational, Scientific and Cultural Organization) 2000. The Dakar Framework for Action: Education for All : Meeting our collective commitments.

UNESCO (United Nations Educational, Scientific and Cultural Organization), 2018. *ICT Competency Framework for Teachers.* Paris: UNESCO. Paris: UNESCO.

UNESCO (United Nations Educational, Scientific and Cultural Organization), International Institute for Educational Planning. 2018*. Brief 5: Information and communication technology (ICT) in education.* Paris: UNESCO.

University of the West Indies, St. Augustine, 2015. *Orients Ex Occidente Lux – A Light Rising From The West*. [online] Available at:< <https://sta.uwi.edu/history/>> [Accessed 26 October 2019].

University of the West of England., (2018). Thematic analysis- an introduction[online]. *YouTube* [Viewed 16th March 2018]. Available from: <<https://youtu.be/5zFcC10vOVY>>

Uptis, R., and Brook, J., 2015. How much professional development is enough? Meeting the needs of independent music teachers learning to use a digital tool. *International Journal of Music Education,* pp. 1-14.

van Benthum, N. Gulikers, J., de Jong, F., and Mulder, M., 2012. A theory of improvement for teacher professional development in assessment for learning. In: EAPRIL Conference, Nijmegen, the Netherlands, 24-25 November,2011. <https://edepot.wur.nl/265369>

vom Brocke, J., Simons, A., Riemer, K., Niehaves, B., Plattfaut, R. and Cleven, A., (2015). Standing on the Shoulders of Giants: Challenges and Recommendations of Literature Search in Information Systems Research. *Communications of the Association for Information Systems*, 37(9).

Walker, A., Lee, M., and Bryant, D., 2014. How much of a difference do principals make? An analysis of between-schools variation in academic achievement in Hong Kong public secondary schools. *School Effectiveness and School Improvement*, 25(4), pp. 602-628.

Weber, S., and Mitchell,C., 1995. *That’s Funny You Don’t Look like A Teacher! Interrogating Images, Identity, And Popular Culture*. London: Routledge

Wellington, J., 2000. *Educational Research: Contemporary Issues and Practical Approaches.* London: Continuum.

Williams, E., 1962. Message to the youth of the nation. Independence Youth Rally, Queen’s Park Oval, August 30, 1962. [online] Available at:< Message to the youth of the nation. Independence Youth Rally, Queen's Park Oval, August 30, 1962> [Accessed 31August.2022].

Williams, H., 2013. Postcolonial Structural Violence: A Study of School Violence in Trinidad and Tobago. *International Journal of Peace Studies,* 18 (2), pp.39- 64.

Yin, R., 1981. *The Case Study Crisis: Some Answers.* Administrative Science Quarterly, 26 (1), pp. 58-65.

Yin, R. 2003. *Case Study Research: Design and Methods* (Vol. 5). Thousand Oaks, California: Sage Inc.

Yin, R., 2009. *Case Study Research: Design and Methods*. 4th ed. Los Angeles: SAGE

Yin, R., 2012. *Applications of Case Study Research*. London: SAGE Publications, Ltd.

Yin, R., 2014. *Case Study Research: Design and Methods*. 5th ed. London: SAGE Publications Ltd.

Yuksel, I., 2010. How to conduct a Qualitative Program Evaluation in the light of Eisner’s Educational Connoisseurship and Criticism Model. *Turkish Online Journal of Qualitative Inquiry*, 1, pp. 78-83.

Zempi, I., (2016). Negotiating Constructions of Insider and Outsider Status in Research with Veiled Muslim Women Victims of Islamophobic Hate Crime. *Sociological Research Online*, 21(4), pp.1–12.

Zeng, Y., and Day, C., 2019. Collaborative teacher professional development in schools in England (UK) and Shanghai (China): cultures, contexts and tensions. *Teachers and Teaching,* 25 (3), pp. 379-397.

Zhang, J., 2004. *Public Policy Analysis: Concepts, Processes, Methods*. Beijing: People’s Publishing House.

APPENDICES

Appendix 1…………………………………………………………………………………195

 Professional Development Workshops for Teachers, July-August 2008: Proposal

Appendix II………………………………………………………………………………...196

Summary of Teachers Trained for the Period 2010-2014 by the Ministry of Education

Appendix III....................................................................................................................197-199

Criteria for Effective Continuous Teacher Professional Development

Appendix IV…………………………………………………………………………200-202

List of ICT in Education Workshops 2008-2018

Appendix V,………………………………………………………………………...203-204

Workshop Evaluation Form 2010

Appendix VI………………………………………………………………….………..205-207

Workshop Evaluation Form 2014

Appendix VII………………………………………………………………………...…208-210

Electronic Survey Document

Appendix VIII…………………………………………………………………….……211-213

Abbreviations for ICT in Education Workshops 2010-2018

Appendix IX…………………………………………………………………………… ..214

Number of ICT in Education Workshop Evaluation Forms Received

Appendix X…………………………………………………………………………..215-216

Matrix for Data Analysis of the Workshop Evaluation Forms

Appendix XI………………………………………………………………………........217-218

Professional Development Needs Identified

Appendix XII………………………………………………………………………………..........219-221

Information Sheet for Participants

Appendix XIII…………………………………………………………………….……………….222

Cover Letter :Electronic Survey Form

Appendix XIV…………………………………………………………………………223- 225

Pilot interview and Feedback

Appendix XV……………………………………………………………………….226-228

The Interview Schedule

**APPENDIX I**

**PROFESSIONAL DEVELOPMENT WORKSHOPS FOR TEACHERS**

 **JULY – AUGUST 2008**

**PROPOSAL**

In the Ministry of Education, several Divisions conduct professional development programmes during the July – August period. These programmes span the curricular spectrum and cater to varying interests and needs. This year, the Ministry has undertaken to present to the teaching fraternity the calendar of professional development programmes which have been made available to all. This is the first time that such an initiative has been embarked upon and it is in keeping with the Ministry’s aim to promote continuous learning and to stimulate the growth of a community of learners.

Teachers have become increasingly aware of the importance of continuous learning. As such, many seek every opportunity to further their professional development. The objectives of the professional development programmes which have been provided are to:

* stimulate sharing on issues of interest in the field
* increase teachers’ competence in classroom delivery

In addition, engagement in these programmes is intended to facilitate teachers who seek further upgrade of their teaching status. The expected overall impact is high quality teaching and improved student performance.

Each Division in the Ministry of Education that engages in training was contacted and asked to submit their training programmes to be included in the brochure along with a budget. In addition, a decision was taken to produce a poster, place an advertisement in the newspaper and post the information on the Ministry’s website. The Communications Unit was given the responsibility for the above.

Brochures and posters are to be disseminated to all schools, district education offices and Divisions in the Ministry. A total of three thousand brochures and three thousand posters are to be printed.

Attached, for your approval, is the budget for the entire project including the cost of printing and advertisement. Each Division has been advised that there is need to prepare the necessary documentation to attain approval for individual proposals and budgets.

**APPENDIX II**

 Summary of Teachers Trained for the Period 2010-2014 by the Ministry of Education



**APPENDIX III**

Criteria for Effective Continuous Teacher Professional Development

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Author | Satisfaction with the experience | Acquisition of knowledge and skills intended | Impact on the organization  | Practical application of new knowledge and skills | Impact on student learning outcomes  | Agency | Design | Beliefs |
| Guskey, 2000 | ✓ | ✓ | ✓ | ✓ | ✓ |  |  |  |
| Ertmer and Ottenbreit – Leftwich, 2010 | × | Content includes 1. Technological knowledge and skills2.Technology-supported pedagogical knowledge and skills 3.Technology-related classroom management and skillsThe focus of Initial professional development: use of technology that is aligned with their PCK knowledge | Support by school leadership for risk-taking and experimentationBased on the re-definition of quality teaching to include technology integration | × | Content-examples of successful teaching strategies as evidenced by successful student outcomes. | × | × | × |
| Bayar, 2014 | The instructors must be of high- quality  | TPD must cater to the current needs of teachers.TPD must cater to the existing needs of the school | × | × | × | Teachers must be involved in the design and planning of the TPD activity. | Must have opportunities for active participation.The duration ofthe activity must be long-term.Funding for TPD must be provided. | × |
| Author | Satisfaction with the experience | Acquisition of knowledge and skills intended | Impact on the organization  | Practical application of new knowledge and skills | Impact on student learning outcomes  | Agency | Design | Beliefs |
| Desimone and Garet, 2015 | × | Content focus and pedagogical strategiesCoherence with schools’ goals, teachers’ beliefs and knowledge, students’ needs and systemic reform initiatives  | × | × | × | × | Active learningSustained duration: ongoing and of 20 or more contact hours.Collective participation  | Coherence with teachers' beliefs |
| Jensen, Sonnemann and Roberts-Hull, 2016 | × | Must match schools’ objectivesMust match system-wide reform initiatives | Professional learning leadershipEvaluation and accountability practicesDedicated TPD time created | × | × | × | Resources providedUtilization of global evidence of best practices | × |
| Darling-Hammond, Hyler and Gardner, 2017 | × | Content-focused | × | × | × | × | Active teacher engagementCollaborativeUtilization of effective modelsSupport provided by coaches and expertsOpportunities for feedback and reflection | × |
| Author | Satisfaction with the experience | Acquisition of knowledge and skills intended | Impact on the organization  | Practical application of new knowledge and skills | Impact on student learning outcomes  | Agency | Design | Beliefs |
| Darling-Hammond, Hyler and Gardner, 2017(cont’d) |  |  |  |  |  |  | Adequate time for learning and reflection to take place  |  |
| Baird and Clark, 2018 | × | Based on curriculum implementation-Connected to instructional strategies  | Takes place during the school day Sustained for several years Leadership  |  | Evaluates TPD: teacher learning, implementation of strategies and student outcomes.  | Teachers ' involvement in planning and implementation.  | × | × |

**APPENDIX IV**

LIST OF ICT IN EDUCATION WORKSHOPS 2008-2018

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| YEAR OF WORKSHOP | NAME OF WORKSHOP | DURATION | NUMBER OF WORKSHOPS OFFERED | NUMBER OF PARTICIPANTS WHO RECEIVED CERTIFICATES OF PARTICIPATION  | SCHOOL LEVEL |
| 2008 | Introduction to Webpage Design | 1 day | Not available | 10 | Secondary (IT) |
| 2008 | Using Wikis in Education |

|  |
| --- |
| Not available |

 |

|  |
| --- |
| Not available |

 | 54 | Secondary |
| 2008 | Using Wikis in Education |

|  |
| --- |
| Not available |

 |

|  |
| --- |
| Not available |

 | 101 | Primary |
| 2008 | Pascall Programming |

|  |
| --- |
| Not available |

 |

|  |
| --- |
| Not available |

 | 31 | Secondary |
| 2008 | ODL Materials |

|  |
| --- |
| Not available |

 |

|  |
| --- |
| Not available |

 | 23 | Secondary |
| 2008 | E- Chemistry |

|  |
| --- |
| Not available |

 |

|  |
| --- |
| Not available |

 | 16 | Secondary |
| 2009 | Engaging Students with Classroom Software Management |

|  |
| --- |
| Not available |

 |

|  |
| --- |
| Not available |

 | 21 |  |
| 2010 | Creating the 21st Century Classroom | 2 days | Not available | 30 |  |
| 2010 | Digital Literacy  | 30 hrs. | Not available | 8671 | Employees of the MoE ( Non-Teaching and Teaching) |
| 2011 | Training for ,Administrators/Supervisors in ICT Infusion Training (October – December 2010) | 3days | 1 | 128 | Secondary |
| 2011 | Training in Infusion of Information, Communications and Technology by subject area  | 3 days | 1 | 486 | Secondary |
| 2011 | Training in Infusion of Information, Communications and Technology : Tobago | 9 days | Not available | 65 | Secondary |
| 2011 | Collaborative Courseware Development for e-Cal Teachers | 8days | Not available | 25 | Secondary(Forms 1-3) |
| 2011 | IDOL Workshop  | Not available | Not available | 18 | Secondary |
| 2011 | OER Course writers | Not available | Not available | Not available | Secondary& Curriculum Officers |
| 2011 | Pascal Programing for CSEC | 5 days | Not available | 30 | Secondary |
| 2012 | Training in the Use of iPads to facilitate teacher monitoring in the classroom.. | 1 | Not available | 56 | Principals and Vice Principals/Senior teachers |
| 2013 | Orientation to Commonwealth Certificate for Teacher ICT Integration: ICT in Schools | 1 day | 1 | 49 | Secondary |
| 2013 | ICT Infusion for Curriculum Implementation at Secondary School | 4 days | 2  | 30 | Secondary & Curriculum  |
| 2013 | IT online  | 2 days | 1 | 43 | Secondary |
| 2013  | Robotics in Education Workshop for Secondary School Teachers | 5 days |  | 50 | Secondary |
| 2014 | Digital Literacy: Basic and Standard (On-line Delivery) | 1 | 2 | 43 | ECCE, Primary & Secondary |
| 2014 | Using ICT to Improve Curriculum Implementation | 2 days | 2 | 53 | ECCE, Primary & Secondary |
| 2014 | Creating Self-Directed Digital Content Using Jing Applications | 2 days | 2 | 55 | Primary & Secondary |
| 2015 | APP Development Made Easy | 5 days |  | 60 | Not available |
| 2015 | Developing ICT Infused Lessons | 2 days |  | 75 | Not available |
| 2015 | pennacool.com | 1 day | 1 | 27 | Primary |
| 2015  | IT Online | 1 day  |  | 86 | Secondary |
| 2015 | e-learning Development Tools ( North / Central / South)  | 2 days | 3 | 41 | Not available |
| 2015 | Learning with Blogs and Wikis ( Including Podcasts) ( North / Central / South)  | 2 days | 3 | 50 | Not available |
| 2015 | Developing electronic Portfolios ( North / Central / South)  | 2 days | 3 | 46 | Not available |
| YEAR OF WORKSHOP | NAME OF WORKSHOP | DURATION | NUMBER OF WORKSHOPS OFFERED | NUMBER OF PARTICIPANTS | SCHOOL LEVEL |
| 2015 | Coaching in Changing Contexts | 5 days | 1 | 21 | Not available |
| 2016 | Pennacool.com | ½ day | 1 | 28 | Not available |
| 2016 | ICT Infusion in the Curriculum | 2 days | 3 | Not available | Not available |
| 2016 | Orientation to Microsoft Suite ( Microsoft IT Academy) | 1 | 4 |  | Not available |
| 2017 | APTUS | 2 days | 1 | 25 | Not available |
| 2017 | ICT Competencies for Teachers Level I  | 5 days | 2 | 41 | Not available |
| 2017 | ICT Competencies for Teachers Level II (2 Workshops) | 5 days | 2 | 30 | Not available |
| 2017 | ICT Teacher Professional Development Programme | 5 days | On-going | 439 ( First cohort) | Secondary |
| 2018 | Robotics | 3 days | 1 | 29 | Secondary  |
| 2018 | E Book Development | 3 days | 3 | 48 | Secondary |

**APPENDIX V**

Workshop Evaluation Form 2010





**APPENDIX VI**

Workshop Evaluation Form 2014



The Government of the Republic of Trinidad and Tobago

MINISTRY OF EDUCATION

Teaching and Teacher Development Division

7th ANNUAL PROFESSIONAL DEVELOPMENT WORKSHOP FOR TEACHERS

JULY – AUGUST 2014

WORKSHOP EVALUATION FORM

Workshop Title: ---------------------------------------------------------- Date: ---------

Name/s of facilitator/s: ------------------------------------------------------------------------------------

Please indicate the school level at which you teach/ administer: ECCE [ ]

 Primary [ ]

 Secondary [ ]

 School Supervision Division [ ]

 Curriculum Planning and Development Division [ ]

 Student Support Services Division [ ]

For each of the following areas, please indicate your reaction:

1. Content Excellent Good Satisfactory Weak

a) Covered Useful Topics [ ] [ ] [ ] [ ]

b) Practical to My Needs and Interests [ ] [ ] [ ] [ ]

c) Use of Strategies [ ] [ ] [ ] [ ]

d) Useful Visual Aids and Handouts [ ] [ ] [ ] [ ]

e) Well Organized [ ] [ ] [ ] [ ]

2. Presentation Excellent Good Satisfactory Weak

a) Facilitator’s Knowledge of Topic [ ] [ ] [ ] [ ]

b) Facilitator’s Presentation Style [ ] [ ] [ ] [ ]

c) Facilitator Covered Material Clear [ ] [ ] [ ] [ ]

d) Facilitator Entertained Questions [ ] [ ] [ ] [ ]

3. Overall, how would you evaluate this workshop training session?

 Excellent Good Satisfactory Weak

 a) Facilities [ ] [ ] [ ] [ ]

 b) Lunch [ ] [ ] [ ] [ ]

 c) Handouts [ ] [ ] [ ] [ ]

 d) Duration of program [ ] [ ] [ ] [ ]

 e) Daily Schedule [ ] [ ] [ ] [ ]

 f) Quality of trainers [ ] [ ] [ ] [ ]

 g) Administration of the program [ ] [ ] [ ] [ ]

4. Please indicate anything that should be improved to make the experience more rewarding.

--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

5. How will you implement what you have learned from this workshop?

------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

6. Kindly indicate professional development needs for future workshops:

……………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………………

**APPENDIX V1I**

Electronic Survey Document

ICT Professional Development

Written Interview Form

Examining Teachers’ Perceptions of the Annual ICT in Education Workshops (July-August 2010-2018) in Trinidad.

Section A: Demographic Data

Education Division: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Years of Teaching: \_\_\_\_\_\_\_\_\_\_\_\_\_ Gender: M [ ] F [ ]

School Level : ECCE [] Primary [] Secondary []

 Ministry of Education’s ICT Workshop (s) Attended: Year(s):

Other Workshop (s) Attended: Year(s)

Section B: Read all the questions carefully before typing/writing your answers below.

|  |  |
| --- | --- |
| Question 1  | Answer |
| What is your perception of the term ICT Professional Development? |  |
| Question 2 | Answer |
| Did you learn any new knowledge and skills about teaching and learning from attending the Ministry of Education ICT workshops? |  |
| Question 3 | Answer |
|  State the different ways in which you are able to use knowledge and skills of ICT in your classroom teaching.  |  |
| Question 4 | Answer |
| In what ways did the use of ICT knowledge and skills in teaching improve student learning? |  |

Additional Comments:

Thank You for Participating. Your views are appreciated.

Date: / / 2019

**APPENDIX V****I1I**

Abbreviations for ICT in Education Workshops

|  |  |  |  |
| --- | --- | --- | --- |
| NUMBER  | YEAR | WORKSHOP | ABBREVIATION |
|  | 2018 | E-Book Development | EBD1 |
|  | 2018 | E-Book Development (Group 2)  | EBD2 |
|  | 2018 | Robotics in Education  |  RO ED |
|  | 2017 | ICT Competencies in Education (L1 .G.2) | C1G2 |
|  | 2017 | ICT Competencies in Education L 1 (Gr 1) | C1G1 |
|  | 2017 | ICT Competencies in Education L2 (G1) | C2G1 |
|  | 2017 | ICT Competencies in Education L2 (Gr 2) | C2G2 |
|  | 2016 | Microsoft Suite – Microsoft IT Academy 1 24 August A.M. | MIC1 |
|  | 2016 | Microsoft Suite – Microsoft IT Academy 224 August P.M. | MIC2 |
|  | 2016 | Microsoft Suite – Microsoft IT Academy 325 August A.M. | MIC3 |
|  | 2016 | Microsoft Suite – Microsoft IT Academy 425 August P.M. | MIC4 |
|  | 2016 | Microsoft Suite – Microsoft IT Academy 5 25 August A.M. | MIC5 |
|  | 2016 | ICT Infusion In The Curriculum C15-16 Aug 2016 | INFC |
|  | 2016 | ICT Infusion In The Curriculum B19 Aug 2016 | INFB |
|  | 2016 | ICT Infusion In The Curriculum A2 11-12 Aug 2016 | INFA2 |
|  | 2016 | ICT Infusion In The Curriculum A 1 11-12 Aug 2016 | INFA1 |
|  | 2016 | ICT Infusion In The Curriculum Level 211-12 Aug 2016 | INFL2 |
|  | 2016 | Pennacool.com | PE.C15 |
|  | 2015 | Pennacool.com | PE.C16 |
|  | 2015 | Developing E-Portfolios C 4-5 AUGUST  | DEP C |
|  | 2015 | Developing E-Portfolios B 19-20 August  | DEP B |
|  | 2015 | Developing E-Portfolios A 3-4 August  | DEP C |
|  | 2015 | Developing ICT infused Lessons  | DIIFL |
|  | 2015 | App Development Made Easy  | APP |
|  | 2015 | E-Learning Development Tools A12-13 August  | ELDT A |
|  | 2015 | E-Learning Development Tools B29-30 July  | ELDT B  |
|  | 2015 | E-Learning Development Tools C27-28 July  | ELDT C |
|  | 2015 | Learning With Blogs & Wikis (Including Podcasts)  | LWBW |
|  | 2015 | IT Online  | ITONL |
|  | 2014 | Using ICT to improve Curriculum implementation  | IMPCUR |
|  | 2013 | ICT Infusion for Secondary Schools  | INFSEC |
|  | 2010 | Creating The 21st Century Classroom  | CCC21 |

Abbreviations for ICT in Education Workshops 2010- 2018

**APPENDIX IX**

Number of ICT in Education Workshop Evaluation Forms Received

|  |  |  |
| --- | --- | --- |
| YEAR | NUMBER OF WORKSHOPS | NUMBER OF WORKSHOP EVALUATION FORMS |
| 2010 | 1 | 50 |
| 2013 | 1 | 8 |
| 2014 | 1 | 51 |
| 2015 | 11 | 265 |
| 2016 | 11 | 203 |
| 2017 | 4 | 59 |
| 2018 | 3 | 53 |
|  |  | 689 |

**APPENDIX X**

Matrix for Data Analysis of the Workshop Evaluation Forms

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Workshop | M1 | M2 | M3 | M4  | M5 |  | G1 | G2 | G3 | Y1 | Y2 | Y3 | Y4  | Y5 | Y6 | B | P |
| EBD1 | 1 | 1 | 1 |   | 1 | 1 | 1 | 1 |   | 1 | 1 | 1 | 2 |   |   |   |   |
| EBD(2) | 1 |   |   |   |   |   | 1 | 1 |   | 1 |   |   |   |   |   |   |   |
| ICT, R | 1 |   |   | 7 |   |   | 1 | 1 |   |   |   |   |   |   |   |   |   |
| ICT,C, Gp1 | 1 |   |   |   | 1 |   | 1 | 2 | 3 |   |   | 3 |   |   |   |   |   |
| ICT,C1,Gp2 | 1 |   |   | 1 |   |   |   | 1 |   |   |   |   |   |   |   |   |   |
| ICT, C2,Gp1C |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   |   |   |
| ICT,C2, Gp 2D | 1 |   |   | 1 | 1 |   |   | 1 |   |   |   |   |   |   |   |   |   |
| MS,A1 | 2 |   |   |   |   |   |   | 2 |   |   |   |   |   |   |   | 2 |   |
| MS,A2 |   |   |   | 2 |   |   | 1 |   |   |   |   |   |   |   |   | 3 |   |
| MS,A3 | 1 |   |   | 3 | 1 |   |   | 3 |   |   |   |   |   |   |   | 3 |   |
| MS,A4 |   |   |   | 1 |   |   | 1 |   |   |   |   |   |   |   |   |   |   |
| MS,A5 |   |   |   | 1 | 1 |   |   |   | 1 |   |   |   |   |   |   | 1 |   |
| ICT, I,A2 |   |   |   | 8 |   |   |   | 3 |   |   |   |   |   |   |   |   | 1 |
| ICT,I,A1 | 1 |   |   |   | 1 |   |   |   | 1 |   |   | 1 |   |   |   |   |   |
| ICT,2 | 1 |   |   | 4 | 4 |   |   | 1 | 2 |   |   | 1 |   | 1 |   |   |   |
| ICT,B |   |   |   |   |   |   | 1 | 1 | 3 | 1 | 1 | 1 | 1 | 3 |   | 5 |   |
| ICT,C |   |   |   | 3 | 2 | 1 | 1 |   |   |   |   |   |   |   |   |   |   |
| ICT,C2 | 2 |   |   | 6 |   |   |   | 2 |   |   |   |   |   |   | 1 |   |   |
| PC,16 |   |   |   | 1 |   |   |   |   |   |   |   |   |   |   |   | 1 |   |
| PC,15 |   |   |   | 4 | 1 |   | 1 | 2 | 1 |   |   |   |   |   |   | 1 | 3 |
| DEP,A |   |   |   | 8 | 6 |   |   | 2 |   |   |   |   |   |   |   | 1 | 1 |
| DEP,C |   |   |   | 2 | 3 |   | 1 | 2 |   |   |   |   | 1 | 1 |   |   |   |
| DEP,B |   |   |   | 2 | 2 |   |   |   |   |   |   |   |   |   | 1 |   |   |
| DIL,15 | 1 |   |   |   |   | 2 |   | 1 |   |   |   |   |   |   |   |   |   |
| EDT,A | 1 |   |   |   |   | 2 |   | 1 |   |   |   |   |   |   |   |   |   |
| EDT,B | 1 |   |   |   | 1 |   | 1 |   | 1 |   | 2 |   |   |   |   |   |   |
| EDT,C | 2 |   |   | 11 | 4 |   | 1 | 2 |   |   |   |   |   | 1 |   | 1 |   |
| LBW,15 | 1 |   |   | 3 |   |   | 2 | 2 |   |   |   |   |   |   |   |   |   |
| ITO,15 | 1 |   |   | 2 |   |   | 2 | 1 |   |   |   | 1 |   |   |   |   |   |
| ICT,CI,14 | 1 |   |   | 1 |   |   | 1 |   | 1 |   |   |   |   |   |   |   |   |
| ICT,I,13 | 1 |   |   |   |   |   |   | 1 |   |   |   |   |   |   |   |   |   |

**APPENDIX XI**

Professional Development Needs Identified

MINISTRY OF EDUCATION

TEACHING AND TEACHER DEVELOPMENT DIVISION

Overview of Professional Development Needs

Identified from Evaluation Feedback Forms from Teachers 2015 – 2016

|  |  |  |  |
| --- | --- | --- | --- |
| NO. | NAME OF WORKSHOP | TOTAL NO. | REMARKS |
| 1 | Classroom Management | 42 |  |
| 3 | ICT infusion in the Curriculum | 39 |  |
| 8 | Strategies to deal with indiscipline | 38 |  |
| 33 | Microsoft Suite | 23 |  |
| 6 | Conflict Management | 20 |  |
| 12 | Financial Management/Regulations | 20 |  |
| 18 | Guidance and Counselling | 15 |  |
| 15 | Regulation 90 | 13 |  |
| 11 | The Rights of Dean/Teacher  | 11 |  |
| 14 | Project Management | 11 |  |
| 13 | Facility Management | 10 |  |
| 26 | Dealing with parent/teacher conferences | 10 |  |
| 28 | Life Skills | 10 |  |
| 16 | Pennacool.com | 9 |  |
| 23 | ADHD and Teaching | 9 |  |
| 10 | Intervention Strategies | 8 |  |
| 22 | Treating with Remedial students. | 8 |  |
| 32 | Curriculum Implementation | 8 |  |
| NO. | NAME OF WORKSHOPS | TOTAL NO. | REMARKS |
| 5 | Legal Aspect of Education | 7 |  |
| 25 | Differentiating Instruction | 7 |  |
| 2 | CVQ Training | 5 |  |
| 4 | SBA Assessment | 5 |  |
| 17 | Reading/Literacy Workshops  | 5 |  |
| 7 | Code of Conduct | 4 |  |
| 9 | Sexual Offences | 3 |  |
| 19 | Staff Appraisal Process | 3 |  |
| 20 | Leadership and Management | 3 |  |
| 29 | ICT in the Classroom to teach Spanish/French | 3 |  |
| 31 | ECCE | 3 |  |
| 24 | Implementing Sex Education | 2 |  |
| 27 | Time Management | 2 |  |
| 21 | Micromanagement  | 1 |  |
| 30 | Pediatric First-Aid | 1 |  |
| 34 | Role and Responsibilities of Deans  | 16 |  |
| 35 | Evaluation and Testing | 7 |  |
| 40 | Stress Management | 7 |  |
| 36 | Report Writing | 6 |  |
| 39 | Crisis Management  | 6 |  |
| 41 | Interpreting Education Act | 4  |  |
| 45 | Human Resource Management | 3 |  |
| 44 | The Rule of law regarding Children Authority | 2 |  |
| 46 | Preparing for Promotion | 2 |  |
| 37 | Sign Language | 1 |  |
| 38 | Training in the use ABAs | 1 |  |
| 42 | Emotional Intelligences | 1 |  |
| 43 | Counselling for Adolescents | 1 |  |
| 47 | Principals/Vice Principals | 1 |  |

**APPENDIX XII**

INFORMATION SHEET FOR PARTICIPANTS:

Research Project Title:

Examining Teachers’ Perceptions of the Ministry of Education’s Annual Professional Development Workshops for Teachers Programme (2010 -2015) in Trinidad.

An Invitation to You:

You are being invited to take part in this research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Ask us if there is anything that is not clear or if you would like more information. Take time to decide whether or not you wish to take part. Thank you for reading this.

Purpose of the Project:

You are specially invited to participate in this research project which aims at finding out your views of the Ministry of Education’s (MOE) Annual Professional Development Workshops for Teachers (2010 – 2015).  I have decided to undertake research in this area because I am, involved in the development of the training programme.  I believe that there is need for continuous training opportunities for teachers given the new demands that are placed on the education system in this constantly changing global environment.

Your selection:

You have been selected because you participated in one or more of the professional development workshops which was/were coordinated by the Teaching and Teacher Development Division (TTDD) during the period identified: 2010-2015.

Your choice to participate:

It is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep (and be asked to sign and return a consent form to me) and you can still withdraw at any time without it affecting any benefits that you are entitled to in any way.  You do not have to give a reason. At all times please remember that your participation is voluntary and if you do not wish to be accept this invitation you are absolutely free to do so.  Your decision to abstain from the research study will not place you at any disadvantage nor prevent you from future involvement in forthcoming professional development activities.

Your Participation:

I would like to arrange to have an audio-recorded interview with you so that you can share your views on various aspects of the Programme. The interview should last no longer than forty (40) minutes and will be conducted at your place of work unless you prefer a more convenient and accessible location.  You may ask for the question(s) to be repeated or clarified whenever needed and as often as you find necessary.

Benefits of your involvement:

Your experiences and recommendations may be considered in the design of future annual professional development programmes. The benefit you may derive is the satisfaction that your contribution will possibly serve to add value to the Programme and encourage more teachers to participate.  You may benefit through your future participation in improved professional development programmes.  Students may benefit from having teachers with better skills, increased knowledge and experiences.

Possible risks:

You will not be exposed to risks that are greater than or additional to those they encounter in their normal lifestyles.

I may encounter some risks when journeying to conduct interviews in remote locations.  In order to safeguard myself I think it may be sensible for me to notify a member of staff or a relative stating where I am  going, the anticipated length of time I will be there, and a time at which I will report back to the office or my home as the case may be.

Premature project ending:

You will be notified of the early closure of the research project with information on its impact on the timeline previously shared.

Possible challenges?

You can contact the following person should you wish to raise a complaint.

1st:  Ms. Saleema Hyatali (Investigator):edr09sh@sheffield.ac.uk. Contact number: 796-4383

2nd Dr. Themesa Neckles (Supervisor):themesa.neckles@sheffield.ac.uk

However, should you feel the complaint has not been handled to your satisfaction you can contact the

3rd) University’s Chair of the Ethics Review Panel edu-ethics@sheffield.ac.uk

**APPENDIX XIII**

Cover Letter Electronic Survey Form

Request for your kind assistance from Ms. Saleema Hyatali (retired Head Teaching and Teacher Development Division, Ministry of Education)

Good day

Trust all is well with you and yours. Hope that you had an enjoyable day at school on your return from the short vacation period.

 I would like to ask you to complete this Written Interview Form to follow-up on the impact of the ICT in Education workshop(s) which you attended during the period 2010-2018.   Your feedback is very important to my research study “Examining Teachers’ Perceptions of the Annual ICT in Education Workshops (July-August 2010-2018) in Trinidad.

 Rest assured that confidentiality and anonymity are guaranteed in the research study, that is to say, your views will be presented but your identity will be concealed. Pseudonyms will be used instead and if you wish to indicate one that will represent your views, you are most certainly welcome to do so.

 Should you have any questions you can contact me at 796-4383 or email me at saleema\_hyatali@yahoo.com

 Looking forward to your feedback! Thank you so very much in advance.

 Kind Regards,

Saleema Hyatali

P.S. If you know anyone who attended any of the ICT in Education workshops (July-August 2010-2018) and wish to send the form to him/her, you are free to do so

**Appendix XIV**

Pilot interview and Feedback

|  |  |  |
| --- | --- | --- |
| No. | Question  | Response |
|  | What do you understand by the term continuous professional development? | Always developing yourself as a teacher- never stop because new teaching methods emerge. Every year children are different. |
|  | When you hear the term CPD what comes to mind? | Educating myself not necessarily in content area but generally |
|  | What are you views of CPD?  | (Similar to what was asked before) |
|  | What do you think effective continuous professional development looks like | ( hesitated before answering). Re-phrased – What would make a CPD good in your eyes?A good presenterGetting resources via e-mail  or paper copy.Follow- up sessions when workshops are completed- Within 2 weeks. Face to face or e-mail. |
|  | Would you consider getting full involved in CPD.  Why? | Yes but the same people should have to be involved all the time. This is impacted by your vision of your role as teacher or dean or both |
|  | What do you see as some of the benefits and challenges of CPD? | Benefit: educating oneself, meeting other teachers from other schools, learning what is good and bad in other schools. Teachers are willing to share resources even after workshop in content areas e.g. Spanish |
|  | Did the workshop meet your need(s)? | Yes but needed more time to digest information. Couldn’t fully understand until after completion of workshop.  Consecutive days might not work in a positive way due too much material to be absorbed. |
|  | What was your experience of the workshop? | Informative- a lot of information. The presenter was knowledgeable. |
|  | In what ways did the workshop(s) benefit you?  | Similar to  Question 4 |
|  | Was the w/shop helpful to you in your teaching /in your classroom? | More along the line role of Deans. Better understanding of the students in the classroom and mindful of the experiences they bring with them. |
|  | Do you think you developed in any way ( i.e. did you gain anything that the other teachers who did not attend the workshop may not have) | Different approach – more student-centred |
|  | In your current role on what way do you think that you would be able to assist your colleagues to develop professionally? | Definitely- sharing materials. At Deans’ Meetings – update on w/shop content. |
|  | How has participating in CPD assisted in your classroom/teaching environment? | Other CPD attended hosted by TTUTA, SSIII (Nanan) LGIM – the integral role of the Deans. |
|  | What are your views of the MOE’s support in the implementation of the programme? | Interviewee asked questions: when did the programme begin? Interviewee began teaching in 2000 and does not remember CPD workshops being offered. The MOE has done a really good job: variety of w/shops catering for different groups.Should make the w/shops compulsory- at least once per year. |
|  | What were your expectations of the w/shop(s)? | Interest. Professional and Personal reasons. Make me effective in my role of Dean. Certification is not the most important but is necessary. |
|  | How would you describe your experience in the w/shop? |  |
|  | How do you see recertification impacting on CPD needs.( not only July-Aug. | Very important. Focus should be placed on recertification . Not just participation but    competence /-- merit. |
|  | Are you satisfied with the MOE’s support of the Programme? | Repeated question |
|  | What can you say about the Principals/school | New principal makes staff aware of training and encourages staff to attend. Post advertisement for staff to see, |

**APPENDIX X**

The Interview Schedule

|  |  |  |  |
| --- | --- | --- | --- |
| No. | Research Question | Question  | Response |
| 1 | Question 1 What is your understanding of continuous professional development? | What do you understand by the term continuous professional development? What are you views of CPD? |  |
|  |  | What do you think effective continuous professional development looks like? (the benefits?)What would make a CPD good in your eyes? |  |
|  |  | What do you see as some of the challenges of CPD in our system? |  |
|  | Question 2Did the professional development workshops your needs? | What were your expectations of the workshops you selected?  b )Did the workshops meet your need(s)? | a) |
|  |  | Was the w/shop helpful to you in your teaching /in your classroom? |  |
| No. | Research Question | Question  | Response |
| 6) | RQ. 2 | Do you think you developed in any way ( i.e. did you gain anything that the other teachers who did not attend the workshop may not have) |  |
| 7) | RQ. 2 | As a result of attending the  CPD w/shops were you able to assist your colleagues to develop professionally? |  |
| 8) | RQ. 3 What do you think of the support provided by the Ministry of Education for these workshops? | a)What are your views of the MOE’s support in the implementation of the programme?b)Are you satisfied with the MOE’s support of the Programme? |  |
| 9) |  | How do you see recertification impacting on CPD needs.( not only July-Aug. |  |
| 10) |  | What can you say about school leadership and the CPD programme- do they provide  support? |  |
| 11) | CLOSURE | Would you like to share your views on any aspect of  MOE’s CPD that I may have omitted ? |  |
| No. | Research Question | Question  | Response |
| Appreciation | Extreme appreciation for participation and all the inconveniences caused. |  | Appreciation |
|  | Any other comments? |  |  |