FACTORS THAT INFLUENCE AND IMPEDE IMPLEMENTATION OF INFORMATION COMMUNICATION TECHNOLOGY IN A SECONDARY SCHOOL'S ENGLISH LANGUAGE ARTS CLASSROOM: SELECTED TOBAGO TEACHERS' PERSPECTIVES

EDRS6900: Project Report

Submitted in Partial Fulfilment of the Requirements for the Degree of Master of Education

(Concentration in Curriculum)

of

The University of the West Indies

By

Shawn Mark Benjamin

2017

Supervisor: Mrs. Nalini Ramsawak-Jodha

School of Education

Faculty of Humanities and Education

St. Augustine, Trinidad, West Indies

Dedication

For my godchildren:

Boys	**Girls**
Yannick Brown	Candice Davis
Chequan Williams	Kristine Thomas
Tau Bridgeman	Fazela Dumas

"Education is the most powerful weapon you can use to change the world." (Mandela)

Table of Contents

Title page

Table of Contents

List of Figures and Tables

Abstract……. 7

Acknowledgements…….. 9

Chapter 1…….. 10

Background…….. 10

The Benefits of the use of ICT …… 11

Information Communication Technology (ICT) in Education Policies…….. 12

Influencing & Impeding Factors…….. 18

Teachers' Perspectives…….. 22

ICT in the English Language Arts (ELA) National Curriculum (NCU)…….. 24

The School Context…… 26

Personal Experience…….. 28

The Problem Statement…… 29

Purpose Statement…….. 29

Research Questions…….. 29

Limitations and Risks…….. 30

Delimitations…… 30

Expected Outcomes…….. 30

Operational Definitions……. 31

Organisation of the Paper…….. 32

Chapter 2……. 33

Literature Review…… 33

Educational Change and Implementation…… 33

Integrating ICT in the ELA classroom…… 34

The Technology Integration Model (TIP)…….. 36

Theoretical Framework: Fullan's Model…… 38

Facilitators and Barriers to implementing ICT…… 41

Chapter 3……. 53

Methodology……. 53

Research Design……. 53

Rationale for Qualitative Approach……. 54

Participants and Sampling Procedures……. 55

Data Collection Methods……. 56

Data Analysis Method……. 57

Trustworthiness…….. 58

Ethical Considerations……. 59

Reflection on Conduct of Study…… 60

Chapter 4……. 61

Analysis of Findings…… 61

Research Question One……. 64

Research Question Two……. 70

Chapter 5…… 76

Discussion and Recommendations…… 76

Future Research…… 83

Conclusion…… 83

References…… 85

Appendices…… 96

Appendix A – Guiding Interview Questions…… 96

Appendix B – Transcription of Interviews…… 97

Appendix C – Permission Letter…… 118

Appendix D – Letter of Consent…… 119

List of Figures and Tables

Figure 2:1…… 36

Roblyer's TIP Model…… 36

Figure 2:2…… 38

Fullan's Model…… 38

Figure 4:1…… 62

Themes from data…… 62

Table 4:1…… 63

Relationship between Code, Categories and Themes…… 63

Factors that Influence and Impede Implementation of Information and Communication Technology in a Secondary School's English Language Arts Classroom: Selected Tobago Teachers' Perspectives

Abstract

There has been a plethora of research on teachers' perspectives on the implementation of ICT in schools but teachers' perspectives on the implementation of ICT in schools in the Tobago context and in particular the English Language Arts (ELA) classroom has been under-researched. This study is important to the researcher as it was observed at Gifted Secondary School in Tobago that little use of ICT is utilised in the ELA classroom. As such, the researcher wanted to discover the factors that propelled or impeded implementation of ICT in the ELA classroom.

This qualitative single instrumental case study was conducted to investigate teachers' perspectives of the factors that influence and impede implementation of Information Communication Technology (ICT) in a secondary school's English Language Arts (ELA) classroom in Tobago. Data was gleaned from the three participants from the selected school using semi-structured interviews and analysed using thematic analysis.

Results demonstrated that teachers generally saw the need and relative advantage for ICT in the classroom which is to enhance teaching and learning. Even though teachers understood such characteristics of the innovation only one of them really demonstrated an effort to implement ICT in the ELA classroom. Of the other two teachers, one teacher indicated that she did not use ICT in the classroom while the other indicated there was minimal use.

Facilitators to use of ICT in the ELA classroom were the following: teachers understanding the need and relative advantage of the innovation; teacher effort; team teaching; teacher's prior experience; assistance from ICT experts; teacher training; availability of ICT tools at school and support from Administration.

Barriers to use of ICT in the ELA classroom were the following: teacher competence; lack infrastructure; lack of tools; no internet connectivity in classroom; lack of training and lack of time

Keywords: Information Communication Technology, Teachers' Perspectives, English Language Arts, Implementation and Innovation.

Acknowledgements

I owe praises to the Most High, the God head three in one, Father, Son and Holy Spirit for giving me the gift of perseverance so that I may complete this research project.

A special thank you to my Supervisor, Mrs. Nalini Ramsawak-Jodha for her guidance and expertise in helping me complete this study.

Thank you for your words of encouragement and support family and friends. I am also grateful for my study group. We were the only group in the Curriculum programme to have been coming from far distances: South Trinidad, Tobago and St. Lucia. I guess this similarity was what brought us together and boy did I need those ladies to comfort me when I thought I was all alone in this programme.

I also would like to thank the Division of Education Innovation and Energy for giving me consent to conduct my study in the secondary school in Tobago.

Finally, a special thank you to those three teachers who shared their perspectives on what they thought to be facilitators and barriers to implementing Information Communication Technology in the English Language Arts classroom.

Chapter One

Introduction

Background to the Study

According to Trinidad and Tobago Secondary School Curriculum, English Language Arts (2015), Information Communication Technology (ICT) "covers all the technologies used for the handling and communication of information. These technologies include: computers/ laptops, storage devices e.g. flash drives and CD's, mobile phones, satellite communication, audio and audio visual equipment, email messaging and Web 2.0 tools" (p.19). ICT is reported to have improved and made multidimensional changes in the daily operations and functioning of most aspects of life such as healthcare, businesses, economics, churches, government offices, communication and travel (Ogbomo & Ogbomo, 2008). Among these, education has not been an exception. ICT has its beginnings in the classroom since the 1900s with the introduction of the radio, tape recorders, record players, projectors, film, television and computer(Cuban, 1986; Dirr & Pedone, 1978; Dirr & Pedone, 1979; Look Loy, 2015).Today, ICTs come in the form of tablets, laptops, ipads, various apps and the internet to name a few (Hennessy, Ruthven and Brindley, 2005).

The unprecedented growth of ICT together with the advent of globalisation has made it mandatory that those who have the administration over schools infuse ICT in the schools' curriculum "to improve the effectiveness of teaching and improve pupils' learning" (Higgins, 2003, p.4). UNESCO (2006) adds that ICT is viewed as a worldwide necessity for enhancing the education of pupils. This infusion is also necessary so as to prepare students to live and function

in the information age and "to prepare 21st century learners to become global citizens" (Secondary Schools' ELA curriculum, 2015, p.19). Also, the honing of transferable skills in students such as problem solving and communication; creative and critical thinking and collaboration (Clarke, 2007; Gundy & Berger, 2010; Leask and Meadows, 2000; Maloy, Verock-O'Loughlin, Edwards &Woolf, 2011; Roblyer & Doering, 2013) are obtained through the use of ICT. As a result, Ministers of Education, policy makers and administrators are forced to reconfigure schools to facilitate successful implementation of ICT (Al-Harbi, 2014; Venezky, 2002). Venezky (2002) explains that in order for schools to implement ICT successfully there needs to be the necessary infrastructure, internet connections, technical support, and professional development for ICT use. However, not all schools around the globe have been able to fulfil these requirements for successful use of ICT in the English Language Arts (ELA) classroom.

Implementation of ICT in the classroom is not a new focus for educational researchers. This area of research has been in existence ever since its inception and there are some interesting findings regarding the issue. However, with respect to implementation of ICT in the English Language Arts classroom, the literature seems to be limited and more so for the Caribbean region and Trinidad and Tobago. What is available can really inform educators about the issue.

The Benefits of the Use of ICT in the Classroom

Several studies have indicated why teachers utilise ICT in the classroom. These indicate that the use of ICT in the classroom can be very advantageous. Most teachers use ICT in the classroom because it is very useful and it makes teaching and learning easier (Tella, Tella, Toyobo, Adika & Adeyinka, 2007). The use of ICT propels students' interest in learning of any subject area. Hennessy, Harrison and Wamakote (2010) assert that teachers understand the benefits of the use of ICT and they are the following:

> promoting positive attitude towards information technology as an essential part of a lifelong learning. Teachers also perceive the use of ICT as enhancing recall of previous learning, providing new stimuli, activating the learner's response and providing systematic and steady feedback. (p.41)

This study would seek to find out if understanding such benefits of ICT in the ELA classroom would be a facilitator to implementation or if lack of such understanding be an inhibitor to implementation of ICT in the ELA classroom.

ICT in Education Policies

In alignment with the goals of Education for All (EFA), the Dakar Framework for Action (April 2000) identified that one of the main strategies in attaining EFA is the use of ICTs by all nations in achieving its goals. For this reason nations all over the globe have attempted to enact ICT in schools and classrooms. This attempt can be seen through the crafting of ICT in Education policies and school reforms to foster implementation of ICT. In New Zealand there is the "ICT Strategic Framework for Education" (2006); In India there is "A National policy on ICT" (2012); and a "National Education Technology Plan" (2016) in the United States.

In the international context, countries that are perceived to be successful with implementing ICT have spent billions to do so. According to Coughlan (2015), global spending on ICT "has been valued at £ 17.5bn; In the United Kingdom (UK), the spending on technology in schools is £900m." In the United States of America (USA), spending on ICT in schools has been an estimated "$600.6 million" in the fiscal year 2016 (ITDASHBOARD.gov, 2016). Coughlan (2015) who cites the Organisation for Economic Cooperation and Development (OECD) asserts that countries which have invested heavily in ICT and spend more time in use of ICT has shown success in infusing ICT in the classroom but no academic improvement in the

Programme for International Student Assessment (PISA) e.g. Australia, New Zealand, Sweden, Spain, Norway and Denmark. Countries that demonstrate high performance in international test utilise less ICT e.g. South Korea, Shanghai, Hong Kong and Japan. However, in Coughlan's report it is advised that such findings should not be used to eliminate the use technology in the classroom but that a new approach should be developed. Leading country in education, Singapore, has spent "in the last decade two billion dollars on masterplans for ICT implementation" (Chen, 2013, p.301). In Singapore, "all teachers have access to notebook computers and all classrooms are equipped with broadband access to internet" (Chen, 2013, p. 301). However, Singapore has demonstrated moderate use of ICT in the classroom and is top for digital skills (Coughlan, 2015).

Despite Government spending on ICT, international studies have proven that successful enactment of ICT in the classroom can only be achieved if Government spending includes a holistic plan for schools where schools are provided with basic infrastructure tools, internet connectivity, ICT's and teacher training (Albugami & Ahmed, 2015; Sanchez & Salinas, 2008; Tondeur, van Keer, van Braak & Valcke, 2008; Vanderlinde, Aesaert & van Braak, 2014). When looking at the context of Trinidad and Tobago and more specifically Tobago, one has to ask the question: "Are Tobago schools truly equipped to implement ICT given what is needed for successful implementation?"

The Caribbean region has not been left behind in the development of ICT. For the English speaking Caribbean Clarke (2007) expressed that ICT has been infused into schools because of the various benefits it offers stakeholders. At present, governments, Ministers of Education and other policy makers have crafted ICT in education policies to be implemented in schools of the Caribbean region so as to improve the standard of education though some of these

policies are still awaiting cabinet approval for example: St. Kitts and Nevis, Grenada and Guyana (Gaible, 2009). However, the National ICT Strategic Plan in those countries that are awaiting approval of ICT in education policy has an education section that gives instructions for infusing ICT in schools (Gaible, 2009).

UNESCO Institute for Statistics Survey (UIS) on ICT integration (UNESCO, 2012) has indicated that the following Caribbean countries have integrated ICT in schools because of educational policy and other factors: Jamaica, Guyana, St. Lucia, Montserrat, St. Vincent and the Grenadines, Grenada, Trinidad and Tobago, Dominica, Anguilla, Barbados, and St. Kitts and Nevis.

Gaible (2009) gives a report of the progress of four Caribbean countries in ICT:

> Anguilla now ensures that all primary students have ICT skills; Barbados and Trinidad and Tobago have conceived ambitious and comprehensive technology projects for their secondary schools (see "Profile: EduTech 2000" and the relevant country profiles in Volume 2); Dominica has provided Internet-enabled computer labs in over 50 percent of both primary and secondary schools; the Jamaican Human Employment and Resource Training Trust/National Training Agency (HEART Trust/NTA) has established ICT support, including e-learning, for its 80,000 TVET students. (see "Profile: HEART Trust/NTA") (p.2)

One Caribbean island, Barbados, has demonstrated the integration of technology in both primary and secondary schools through its EduTech program. The idea of the EduTech program is to provide ICT's, internet and multimedia centers in class for teachers and students (Corbin, 2002). Simultaneously the NET Schools pilot project was introduced with EduTech to facilitate the integration of ICT by teachers. The NET Schools pilot project provides notebook computers

for students with the aim of ensuring "students from lower socio-economic statuses have access to technology" (Corbin, 2002).

St. Lucia, a small Caribbean island has made concerted efforts to propel ICT implementation in its schools though these efforts cannot be compared to that of Trinidad and Tobago and Barbados, the more affluent islands of the Caribbean. For St. Lucia, there is an ICT policy for schools and all secondary schools are equipped with computer labs and internet connection. At the secondary level, the focus is on building ICT skills (Gaible, 2009).

For Jamaica, there has been recognition of the importance of ICT in education through the practices of the Government of Jamaica such as: of one laptop per child (OLPC); placing computers in schools through programs like Jamaican 2000 Project, Ed Tech Project 2020 and Ed Net Project (Gaible, 2009).

Because of what is taking place globally, Trinidad and Tobago, another Caribbean island, is compelled to ensure that ICT is being implemented in schools. As such, the government of the republic of Trinidad and Tobago (GORTT) has crafted ICT policies and supplied ICT equipment to schools so as to integrate ICT in the schools' curriculum. ICTs have always been used in schools in the local context: the radio, the typewriter, the facsimile, television, video home system (VHS) and the video cassette recorder (VCR) to name a few (Gaible, 2009) However, with the advent of globalization and the need to produce a technologically skilled workforce that is competent in ICT, computers were introduced in schools in Trinidad and Tobago. One scholar gives a brief history of this phenomenon:

> At a conference in Cyprus in 1984, Ministers of Education mandated the Commonwealth Secretariat to provide unbiased advice to assist member countries with the implementation of computers and IT in their education systems. Subsequent to this, the

> Secretariat, together with the Government of Alberta, Canada, convened a Pan-Commonwealth meeting of specialists, which was held in Edmonton in May 1986. Members from Britain, Canada, Cyprus, India, Kenya, Singapore, Barbados, and Trinidad and Tobago contributed towards a policy document that served as a template for the implementation of computers into the education system of Commonwealth schools. (Phillip, 2007, p.141)

In 1984 "the National Institute of Higher Education placed 4 Macintosh computers in 35 secondary schools in Trinidad"(Gaible, 2009, p. 66). Since then the GORTT has supplied secondary schools with "computers for labs and wireless connection for use in classrooms" (Gaible, 2009, p.67). The GORTT has also supplied other ICTs to schools while some schools have raised funds to obtain more ICTs. For "Gifted Secondary School" (The pseudonym for the school under study), ICTs that were given to the school under the administration of the Division of Education Youth Affairs and Sports (DEYAS) now called the Division of Education Innovation and Energy (DEIE) were the following: projectors, audio equipment (speakers), kindles, two laptops and wireless connectivity. However, as it concerns implementation of ICT by teachers, teachers can use their initiative and bring to the classroom their personal ICTs such as laptops, ipad, tablets, cell phones, radio etc.

The GORTT drafted a policy for ICT in Education (MOE, 2005). The philosophy of the policy is that: "the use of ICT in education would enhance human capacity, dynamize the teaching/learning environment, provide equity and access and develop a responsible individual capable of functioning in a technology driven knowledge-based society" (p.10). This ICT policy meant that it affected the curricula of schools in the twin island republic and the English Language Arts curriculum was not an exception.

Another policy which caters for the implementation of ICT in schools is the e-connect and learn policy (e-CAL) crafted in 2010 by the then People's Partnership (PP) government. The policy is simply defined as the one-one computer system. This one-one computing system was a major focus in the manifesto (2010), "Every child going on to secondary school from the Secondary Entrance Assessment (SEA) will be provided with a laptop to begin their secondary school education" (p.11). The goals of the e-CAL policy are to:

- enhance the learning environment for students in an ever-changing information age;
- improve the quality of instruction and support the infusion of ICT in teaching and learning and the development of 21st century skills in students;
- reduce the inequity in access to computers and information between the students from wealthy and poor families;
- raise student achievement through specific interventions such as improving students' understanding through the use of education software; facilitate the development of collaborative teaching and learning between peers within the school, among schools and between teacher and student. (The e-CAL policy, 2010, pp.3-4)

This laptop initiative has been halted with the introduction of the new regime. What can be inferred here is that if there was any use of laptops in the English Language classroom due to the e-CAL policy this practice is affected as the e-CAL policy would have afforded both teacher and students access to ICT. However, for the English teacher who teaches form 1-3, the laptops can still be used in the classroom especially in form three as form three students possess the

laptops. Today, the current ICT in education policy used for schools is the ICT in Education (MOE, 2005).

Factors Influencing or Impeding Use of ICT in Schools

The practice by schools internationally have revealed in studies that factors such as age; teacher attitude; teaching experience; computer experience by the teacher; governmental policy; availability of external support for schools; ICT knowledge and skills of teacher; commitment of school towards ICT implementation and the availability of ICT support and tools and internet connectivity can be either inhibitors or supporters to ICT implementation (Afshari, Bakar, Luan, Samah, & Fooi, 2009; Buabeng-Andoh 2012; Drent, Meelissen, 2008; Haydn & Barton, 2008; Somekh, 2008; Tondeur, van Keer, van Braak & Valcke, 2008). These studies have shown teacher and school level factors to be of major influence.

The British Educational Communications Technology Agency (BECTA) (2004) conducted "a review of the literature associated with teachers' use of ICT and also a small survey with practitioners" (p. 3). The barriers to use of ICT in the classroom can be categorised into the following two broad categories: "the individual (teacher level barriers) or the institution (school level barriers). As such, school level barriers were the following: lack of time; lack of access to resources (lack of hardware, in appropriate organisation, poor quality software); lack of effective training and technical problems. Teacher level barriers were the following: lack of time; lack of confidence; resistance to change and negative attitudes; no perception of benefits and lack of access to resources (personal/home access).

Though, there may be a high rate of ICT implementation in schools of the Caribbean, this practice may not be impacting on teaching and learning as there are still barriers to effective implementation (Clarke, 2007). This affects the teaching and learning process and there is still a

need for researching this situation (UNESCO, 2012). One study in a Caribbean context by Clarke (2007) has revealed that there were factors that impeded pre service teachers ICT integration in the classroom, they are the following: "the lack of resources, principal, other faculty and technical support, and environments that are conducive for teaching and learning during teacher preparation are seen to be prohibitive to the appropriate integration of Computer Technology" (p.26). This finding is important to this study because alludes to the fact that if teachers are not taught during teacher training how to integrate ICT in the classroom and do not learn in ICT environments, they will not comprehend the impact ICT could have on learning. Mason (2007) highlighted that there is a "dearth of research regarding the use of technology by Caribbean teachers" (p.5). Mason's study sought to

> identify school- and teacher-related factors that influence technology use and its integration by secondary school teachers in two Eastern Caribbean countries. It was found that the factors of technology professional development, attitude toward technology, and computer experience were significantly related to the secondary school teacher's ability to use technology, but that only computer experience and computer technology availability were significantly related to frequency of technology use in class. (p.5)

For Trinidad and Tobago, despite all the efforts made by governments to infuse ICT in the schools' curriculum there are still issues with barriers impeding enactment. Though there has been a dearth of studies regarding implementation of ICT in the English Language Arts classroom for Trinidad and Tobago as well as the wider Caribbean, there are some studies regarding ICT implementation that can shed light on the issue. Studies on ICT implementation conducted in Trinidad and Tobago reveal some interesting findings. One study by Phillip (2007)

highlights that there is a need for training of teachers to implement ICT in their instructional delivery. Phillip argues that "computers, multimedia projectors, laptops and other devices are not used or underutilised" (p.145). Philip discovered that in the local context there were factors that affected the implementation of technology in school. Such issues were the following: security of software systems; lack of literacy training by MOE and age.

Harry and Mitchell (2013) in the study on the e-CAL policy discovered that barriers to implementation at certain schools in Trinidad were related to local and external factors. Teachers' perspectives of the barriers to implementation of ICT were the following: "lack of information; personal cost to teacher; teacher inadequacy; time demands; work load; lack of resources and collaboration with other teachers" (p.27). Whereas, a similar study conducted in (2015) by the same scholars on the facilitators to implementation revealed that teacher, innovation and contextual factors influenced employment of such ICT. Teachers' experiences of the facilitators to implementation of ICT were the following: "teacher beliefs, teacher collaboration and support; need and relative advantage; availability and accessibility of technical resources and technical support, principal leadership; teacher training and professional development" (p.1058).

Onuoha, Onuoha, & Ferdinand (2016), in their study, "Caribbean Teachers' Perspectives on One-to-One ICT Programme for Enhancing Teaching and Learning: a Case Study of a Boys' High School," discovered some challenges to the e-CAL programme. Some of the challenges were the following: "need for professional development and continuous training; lack of infrastructure and internet connectivity" (p.39). Another study by Kamalodeen & Chaitoo (2015) revealed that both students and teachers indicated that there were barriers to use of laptops in the classroom. Students suggested the following reasons for not using laptops in class:

1- teachers do not use them in class
2- teachers ask them to leave them at home
3- poorly working or not working
4- too heavy for backpacks especially for those who walk to school or use public transport
5- no Internet access at school (p.13)

Teachers related the same issue adding to the list "lack of administrative support, lack of software and did not have laptops to use themselves" (p. 14).

Though the findings from these studies may be applicable to the Tobago context, they cannot fully account for the true reality of how teachers of Tobago schools are experiencing integrating ICT in the ELA curriculum. One Master of Education (M.Ed.) research project by Debbie Guy- Phillips "sought to investigate the reasons why teachers within the Educational District of Tobago were not integrating technology into the use of curriculum" (p.1). What was discovered from the study were the following: "1) lack of professional development from the Division of Education 2) teachers' attitudes towards integration of technology 3) lack of resources to integrate technology 4) teachers' workload and 5) the layout of the physical structure of the school" impeded implementation of technology (p.1). This study may paint a picture of the situation for Tobago but standing on its own does not make it trustworthy. There is a need for other studies in the Tobago context that corroborates or refutes Guy-Phillips study and studies conducted in Trinidad. Because Tobago is governed by the same policies and laws with Trinidad, the only difference being that the Tobago House of Assembly (THA) has the responsibility for the administration of Tobago affairs, one would think that teachers ought to experience the same situations when coming to integration of ICT, but this may not be the case.

Teachers' Perspectives of the Facilitators and Barriers to Implementation of ICT in the ELA Classroom

A perspective is one's particular view/ outlook or disposition towards something. Fullan (2007) asserts that the teacher is a critical factor in the implementation process since it is the teacher who actually has to implement the innovation when schools decide to implement it. Thus, researching teachers' perspectives on the factors influencing or impeding implementation of ICT in the ELA classroom is critical as one gleans the view of important implementers in the process; as they are the ones who actually have to use the innovation in the classroom (Hjalmarsson, 2015; Riasati, Allahyar & Tan, 2012; Rogers, 1983; Yunus, 2007).

The literature found, is not labelled "ELA classroom" but English as a Foreign Language (EFL) and English as a second language (ESL) classroom. Literature from both EFL and ESL were used because the study is focused on facilitators and barriers to implementation of ICT in the ELA classroom from teachers' perspectives. Celce-Murcia & McIntosh (1991) opined that teaching ESL or EFL focuses on teaching language skills: literary appreciation, reading, listening and speaking, writing, related grammar and media literacy to non- native speakers of the English Language and those whose second language is English. This is certainly related to the context of Trinidad and Tobago as students' native language is not English.

All the literature found is grounded in the international context as there is no literature relating to teachers' perspectives of the facilitators and barriers to implementing ICT in the ELA classroom in the Caribbean region and Trinidad and Tobago context.

Facilitators. Riasati, Allahyar, and Tan (2012) discovered in their study, "Technology in Language Education: Benefits and Barriers" that ICT was being integrated because of the

changes it brings to the ESL classroom. Such changes were the following: "paradigm shift, assessment shift and a more collaborative learning environment" (p.27). The scholars utilised a review of the Literature approach in their study to deduce teachers' perspectives of implementing the innovation. Thus, teachers implemented the innovation because of its relative advantage in the classroom.

Shah and Empungan (2015), who looked at "ESL Teachers' Attitudes towards Using ICT in Literature Lessons" carried out research through a survey method. They gathered that teachers had a positive attitude toward integrating ICT in the ESL classroom and revealed teachers' views of the innovation are seeing the positive effect it has on teaching and learning as it "helps teachers to teach more effectively, saves time in creation of lessons and helps students understand concepts" (p. 209).

Hjalmarsson (2015) researched "The effects of ICT on affective factors and teaching practices in the EFL and ESL classroom. Hjalmarsson engaged in a review of the literature and unravelled that ICT was being used in ESL and EFL classrooms because of its relative advantage in teaching and learning in terms of increasing students' motivation and attitude to learn. Influencing factors to use of ICT in the ESL and EFL classroom according to teachers were proper infrastructure such as: internet connectivity; the physical layout of the classroom where ICT tools and computers are set up and teacher training and availability of ICT tools.

Bozdogan & Rasit (2014) examined "Use of ICT Technologies and Factors Affecting Pre-Service ELT Teachers' Perceived ICT Self-Efficacy" using a survey method and obtained Pre-Service ELT teachers' views of the influencing factors to use of ICT. Pre- Service teachers thought that ICT had practical uses in the ESL classroom, therefore, having a relative advantage. One major factor that influenced the use of ICT is the perceived ease of use, where teachers had

the capacity to use ICT without difficulty. Added to this was teachers' previous experience with ICT and teacher training technology components.

Yunus (2007), investigated "Malaysian ESL teachers' use of ICT in their classrooms: expectations and realities," and utilised both quantitative and qualitative methods to investigate the use of ICT among ESL teachers. Yunus discovered that teachers used ICT in the classroom for various purposes from creating test items to developing language skills. Teachers indicated that their perspective was that ICT was integrated in the classroom because of the perceived ease of usefulness as it helps students understand English better.

Barriers. Shah & Empungan (2015) also gathered that there were inhibitors to integrating ICT in the ESL classroom. Teachers indicated that such barriers were: inaccessible or unavailable internet; inadequate ICT tools; outdated computers; lack of time; lack of training and large class sizes. Similar findings were discovered by (Al-Awidi & Ismail, 2014; Alresheed, 2017; Salehi & Salehi, 2012 ; Yunus, 2007).

Bozdogan & Rasit (2014) identified that Pre-Service teachers indicated that factors that deter use of ICT in ESL classrooms were: lack of knowledge and skills; technical problems related to software and hardware not being addressed by the institution and teachers' lack of confidence in using the innovation. The barriers identified in this section are similar to the barriers identified in the BECT Report (2004).

ICT in the English Language Arts (ELA) National Curriculum (NCU)

ICT implementation and integration in the ELA NCU (2015) is one type of innovation occurring in secondary schools in the twin island republic. This innovation is an internal change specifically to curriculum (Lunenburg; 2010). A curriculum acts as a guideline for providing learning experiences, knowledge and content; and developing values and behaviours in youth

and children (Ornstein and Hunkins, 2013; Schubert,1986). It is the lower school English practitioner (English teacher of form 1-3) who is charged with the task of implementing such an innovation effectively. However, there are many factors according to the literature that influence teachers' implementation of ICT in the classroom: teacher level, school level and external level factors (Gaible, 2009; Gerald, 2007; Harry & Mitchell, 2012; Harry & Mitchell, 2015; Pelgrum, 2001). One perspective in which researchers can comprehend the factors that influence and impede teachers' implementation of ICT in the ELA classroom is from the perspectives of lower school English teachers.

ICT was first introduced in the Secondary Education Modernization Programme (SEMP) English Language Arts curriculum (ELA CU) in 2007. The SEMP ELA CU had many innovative features among them was the implementation and integration of ICT in the English classroom. Of course, this innovation was heavily influenced by the need to change traditional teaching strategies and the need to produce a technologically competent society that has knowledge and could use ICTs (SEMP ELA CU, 2008). Stakeholders further saw the need to teach using ICT so as to prepare citizens for the world of work. In this world of work, new technologies are continuously developing and virtual collaboration is being used across the globe (Long & Meglich, 2013). Not only is ICT implementation viewed as replacing traditional teaching methods but it is viewed as an ideal tool to foster critical thinking, problem solving, social competencies, cooperation, communication and lifelong learning (Plomp et al., 1996; Voogt, 2003).

With the introduction of the new ELA NCU (2015) the very same goals concerning ICT in the SEMP ELA CU were reinforced. As mentioned before, it is the ICT policy (2005) that promotes that ICT be infused in the curriculum. The ICT policy was crafted in alignment with

the philosophy of governments the world over to integrate ICT so as to develop societies socially and economically. On a national level, the policy was crafted in conjunction with vision 2020 where one of the goals of the vision is to ensure that the society is able to participate in global information (ICT Policy, 2005). English teachers must use ICT in the classroom so as to deviate from a traditional mode of teaching, prepare students for the global world and to be technologically competent.

The ICT policy and its influence in the ELA NCU operate in both fidelity and mutual adaptation curriculum implementation. ICT in the ELA NCU as highlighted before stems from the MOE ICT policy. Though the policy document is not a curriculum document, the goals of the policy were established to create uniformity and conformity in schools in the country thus, promoting fidelity of use among educators (Marsh, 2009). Practices by the People's Partnership (PP) government such as the e-Cal policy (2010) sought to push this fidelity of use in the secondary school system as teachers are expected to implement the policy in alignment with its goals. Thus, the e-Cal policy and the ICT policy interrelate and have major influence on the ELA NCU. Lower Secondary School English teachers in their implementation of ICT in the ELA NCU draw from the policy documents to ensure implementation but they can implement ICT in a variety of ways. This is where the mutual adaptation of curriculum implementation is promoted. Schools have different resources, types of students and teacher capability and the mutual adaptation of this curriculum implementation caters for the differences among schools (Marsh, 2009).

The School Context

The study is located in one of the eight (8) educational districts in the twin island republic of Trinidad and Tobago. Within this district there are nine (9) secondary schools, all of which

are co-educational institutions. Six (6) of the nine (9) schools are government schools while three (3) are government assisted. According to the laws of the country, the Ministry of Education (MOE) is generally responsible for education in the twin island but the Division of Education Youth Affairs and Sports (DEYAS) now called Division of Education Innovation and Energy (DEIE) under the THA act of 1996 is charged with the responsibility for education in Tobago.

The school in this study, "Gifted Secondary School" a coeducational Government Secondary School located in the urban area of Tobago. The school has a student population of one thousand students (1000) and seventy (70) teachers. The number of teachers belonging to the Language Department are thirteen (13) teachers, nine (9) of which are English teachers. In leadership (administration), are the Principal and Vice Principal. The middle managers of the institution are the Heads of Departments (HOD's) and Deans. For the purpose of this study only the English teachers would be interviewed.

The principal together with the VP and HODs has ensured that each department is supplied with at least two multimedia projectors, speakers and extension cords which were all purchased with school funds from a fundraiser. The school has two DELL laptops for teachers to borrow from the SEMP programme. The desktops in the library and the main staff room together with wireless connection in the library and Information Technology (IT) were supplied by the SEMP programme. However, wireless connectivity in the main staff room, Technical Vocation (TECH VOC) staff room, and (EDPM) room was supplied by DEYAS now called DEIE. Desktops in the EDPM room and IT room were supplied by DEYAS. No wireless connectivity is available in the regular classrooms. The school has one audio-visual room that is utilised under a booking system except for major events. Only students of form three have laptops under the e-

CAL policy as no laptops were issued to students last academic year 2015/2016 and in the current academic year 2016/2017.

Personal Experience

Being a lower secondary school English teacher of the ELA NCU (2015) at Gifted Secondary School, Tobago, implementing ICT in the classroom can be a tedious task given the traditional classroom layout (chalk and blackboard with desk attached to chair for students to sit) and given that teachers have to carry the tools to the classroom where form two and form one are located on the 1st and 2nd floors. There is also an electrical problem in some of the classes so it is difficult to use certain ICTs. Also, there is no internet connectivity in the classroom where both teachers and students can access internet. However, when ICT is used in the classroom it can be rewarding as students are more engaged with lessons when they interact with technology. I have observed that another colleague and I, we use ICT in the classroom from time to time as there is available in our department two projectors, a speaker box, kindles and an extension cord. However, we use our personal laptops and internet when implementing ICT and using Web 2.0 tools. Very rare I ask students to bring their laptops to school under the e-CAL policy. From observations of other colleagues, I observed that they too may implement ICT from time to time in their delivery of the curriculum but less use of ICT seems to be the overall practice by most teachers including me. Furthermore, the traditional way of teaching English through rote learning and memorization of content has been the generational legacy in Trinidad and Tobago and it is one practiced at my school. So although English teachers at Gifted Secondary School have gained certification in teacher training, under the Post Graduate Diploma in Education programme, where, the use of ICT was taught to be used in the classroom, the traditional method is the strategy that permeates the English classroom because

the English curriculum is a product (examination oriented) instead of a process. An investigation on teachers' perspectives on implementing ICT in the ELA classroom is fitting to study so as to get better insight as to what influences or impedes teachers' implementation of ICT.

The Problem Statement

There has been a plethora of research on teachers' perspectives on the implementation of ICT in schools but teachers' perspectives on the implementation of ICT in schools in the Tobago context and in particular the ELA classroom has been under-researched. Though findings from studies conducted in Trinidad's context regarding implementation of ICT in the classroom may be applicable to Tobago's context, there is a need for studies that corroborate or disagree with ICT implementation in schools of the sister isle. As it concerns implementation of ICT in the ELA classroom at Gifted Secondary School, less implementation of ICT seems to be the practice from the researcher's observations. An investigation on English teachers' perspectives on the factors that influence and impede teachers' implementation of ICT in the ELA classroom is fitting to study so as to get better insight as to what facilitate or hinders teachers' use of ICT.

Purpose of the Study

The purpose of this qualitative case study is to investigate teachers' perspectives of the factors that influence and impede teachers' implementation of ICT in the ELA classroom at Gifted Secondary School.

Research Questions

The overarching research question which guides the study is:

What are teachers' perspectives of the factors that influence and impede implementation of ICT in the ELA classroom at Gifted Secondary School?

Arising from it are the following sub-questions:

1. What are teachers' perspectives of the facilitators to implementation of ICT in the ELA classroom at Gifted Secondary School?
2. What are teachers' perspectives of the barriers to implementation of ICT in the ELA classroom at Gifted Secondary School?

Limitations and risks

The limited time available may prove to be a challenge to conducting an in-depth study and analysis of the data. Also, maintaining a completely bias-free study may be difficult because the researcher himself is an English teacher at Gifted Secondary School and experiences the ICT in Education policy. This study is also limited by the type of qualitative research used which is a Single Instrumental Case Study. This type of case study is bounded to one case and system. As such using one school to conduct this study in Tobago's context will not really paint a true picture of what teachers experience from different schools in Tobago.

Delimitations

The study is restricted to the Language Department of a single government secondary school in one educational district, Tobago. It examines a single case bounded by time and context and the findings from this study cannot be transferred to other schools in Tobago. It may not represent how other schools experience the phenomenon.

Expected Outcomes

It is hoped that this study would add to the already existing literature on ICT implementation in the classroom and schools internationally, regionally and locally. This particular study can shed light on the issue to the administration of Gifted Secondary School so that they can improve implementation of the curriculum change initiative. Also, policy makers, curriculum facilitators and officials of education can benefit from this study so that they can

comprehend the influencing and impeding factors of ICT implementation in the ELA classroom from teachers' perspectives at one school and improve on practices of ensuring successful implementation.

Operational Definitions

ICT: For the purpose of this study ICT "covers all the technologies used for the handling and communication of information. These technologies include: computers/ laptops, storage devices e.g. flash drives and CD's, mobile phones, satellite communication, audio and audio visual equipment, email messaging and Web 2.0 tools" (Trinidad and Tobago Secondary English Language Arts Curriculum, 2015, p.19).

Implementation: The process of putting into action/practice an innovation, idea, reform or proposed curriculum. This process involves factors that facilitate or impede implementation (Fullan, 2007; Snyder, Bolin & Zumwalt, 2002).

English Language Arts: English Language Arts include those skills that are integrated when learning the English Language: listening and speaking; reading; literary appreciation; writing; media literacy and related grammar (Trinidad and Tobago Secondary English Language Arts Curriculum, 2015).

Perspective: A particular perspective is a particular way of thinking about something, especially one that is influenced by your beliefs or experiences (Collins Dictionary). Synonyms for "perspective" are: outlook, view, position, attitude, and angle. This definition would be used in this study because the researcher would like to obtain information regarding what participants view as the factors that influence or impede implementation of ICT based on their experiences with the innovation.

Organisation of the Paper

The rest of this paper is divided into various chapters. A brief synopsis of the current research findings on the factors (barriers and facilitators) influencing ICT implementation is presented in Chapter Two. Chapter Three gives a comprehensive outline of the methods that were used to collect and analyse the data. Chapter Four presents the analysis of data and discussion of findings and the final summary and conclusion are presented in Chapter Five.

Chapter Two

Literature Review

This chapter dealt with results from studies on ICT implementation in the ESL and EFL classroom with specific focus on areas of teachers' perspectives of the facilitators and barriers to using ICT in these classrooms. The theoretical framework was also discussed later in the chapter. Also in the chapter the researcher explored the concept of educational change and innovations as well as ways in which ICT can be integrated into the classroom including the ELA classroom. The inquirer used these data bases to search for related studies on the research issue. They were the following: UWI online public access catalogue, web online data base, UWI library catalog and UWILinC. These descriptors were used to include "Implementing ICT in the ESL and EFL classroom," "Teachers' Perspectives on implementing ICT" and "Facilitators and Barriers to use of ICT in the ESL and EFL classroom." Most information on literature was gotten from articles in journals, published thesis and dissertations.

Educational Change and Implementation

According to Rogers (1983) "an innovation is an idea, practice or object that is perceived as new by an individual or other unit of adoption" (p.11). In light of this definition one can conclude that there are many curriculum innovations that are being implemented in schools in Trinidad and Tobago and there are those that are about to be implemented. There are innovations that have been implemented a long time ago and are still being implemented. However, when someone is now learning about an innovation even though it was implemented a long time ago it is perceived to be new by the individual. Some of the curriculum innovations that are currently being implemented in schools across the nation are: Caribbean Vocational Qualification (CVQ) (2008); School Based Assessment (SBA) and Information Communication Technology (ICT) in

the new ELA CU; CSEC; CAPE; the new English Language Arts curriculum (new ELA CU) and its Portfolio Assessment (2015) and the CSEC English SBA. Innovations that have been halted are the Continuous Assessment Component (CAC) (2013) and e-Connect and Learn (e-Cal) (2010). The Secondary Education Modernization Programme Curriculum (SEMP CU) (2008) has been replaced with the new National Curriculum.

As mentioned before, implementation is the process of putting into action/practice an innovation, idea, reform or proposed curriculum. This process involves factors that facilitate or impede implementation (Fullan, 2007; Snyder, Bolin & Zumwalt, 2002). ICT in the ELA classroom can be considered an innovation because it counteracts traditional strategies. Furthermore, it is an innovation because it involves changes in "the role of the teacher, materials in class, instructional strategies and goals" (Snyder et.al, p.402). All of these changes can be found in any innovation. Fullan (2007) adds that there are three components at stake in implementing an innovation: changes in teaching materials, teacher beliefs and teaching approaches" (p.30). ICT as an innovation offers these kind of changes in order to facilitate implementation. In implementing ICT the teacher becomes the facilitator; new tools such as laptops and internet etc. are utilised as opposed to teacher talk and the belief that the teacher is the one who holds all the knowledge is discredited when using ICT in the English classroom.

Integrating ICT in English Language Arts Classroom

There are numerous ways and benefits of using ICT in the English classroom. Barker, Franklin and Meadows (2000) propose that writing templates can be issued on computers especially in teaching reading and writing. They further add that writing activities can be related to the books being read in class. Students can also use the computer to edit their work as the theorists assert that, "the emphasis would be drawing on how the computer is a valuable tool to

assist us in the editing process" (p.22). When reading factual information, students can use spreadsheets to record their findings gleaned from different sources (Barker et. al). For struggling readers using a multimedia spelling package exposes the child to audio as well as words, "this reinforces phonemic awareness" (Barker et.al). Students can also use the thesaurus application and spell checker on the computer to assist students with their spelling. The internet and computer can be used for research when writing papers and reviewing novels and YouTube videos played with speaker boxes can assist with introduction to lessons or enhancing content (Firek, 2004; Roblyer, 2003). PowerPoints, however, can be used by both teacher and students to assist with presentations (Ellis, 2001; Roblyer, 2006). "Helping learners develop listening skills can be achieved through a variety of multimedia instruments such as digital stories, Mp3 recordings or podcasts" (Drigas & Charami, 2014, p.3). These are just some basic ways and benefits of the use of ICT in the English classroom.

Roblyer (2006) give reference to some effective technology strategies that can be used in the ELA classroom. Roblyer states that in order to encourage writing, electronic publishing projects, electronic pen pals and blogs should be used as these are authentic and students are motivated when they see their work displayed on a website. Concept mapping software can be used to help students plan their work. Roblyer also highlights that "internet sites offer examples, background and analysis to enrich students' study of literary works" (p.296). Electronic books and talking books help students with their reading as these "scaffold students' initial reading skills and draw them into reading activities" (p.296).

These strategies are student centred and counteract the traditional way of teaching (Ellis, 2001) that seems to pervade the education system especially in Trinidad and Tobago (Bell-Hutchinson, 2007; Harry & Smith, 2013). The traditional mode of teaching is 'monologic' in

nature as the teacher basically pours out knowledge into the students while the students receive; there isn't a collaboration or conversation between teacher and student in the learning process. Marxist describes this process as the "jug mug" metaphor in education. ICT implementation according to the curriculum document can occur in mutual adaptation. As, such teachers can use a variety of ways identified above according to what tools are available. With the e-CAL policy, the dominant tools available are the laptops, especially for forms 3-5.Why do English teachers revert to a traditional way of teaching when there is ICT? This is the question that needs to be answered. This question can be answered by finding out from teachers the factors that influence implementing ICT in the English classroom.

Roblyer's Technology Integration Planning (TIP) model explains how technology should be integrated in the classroom.

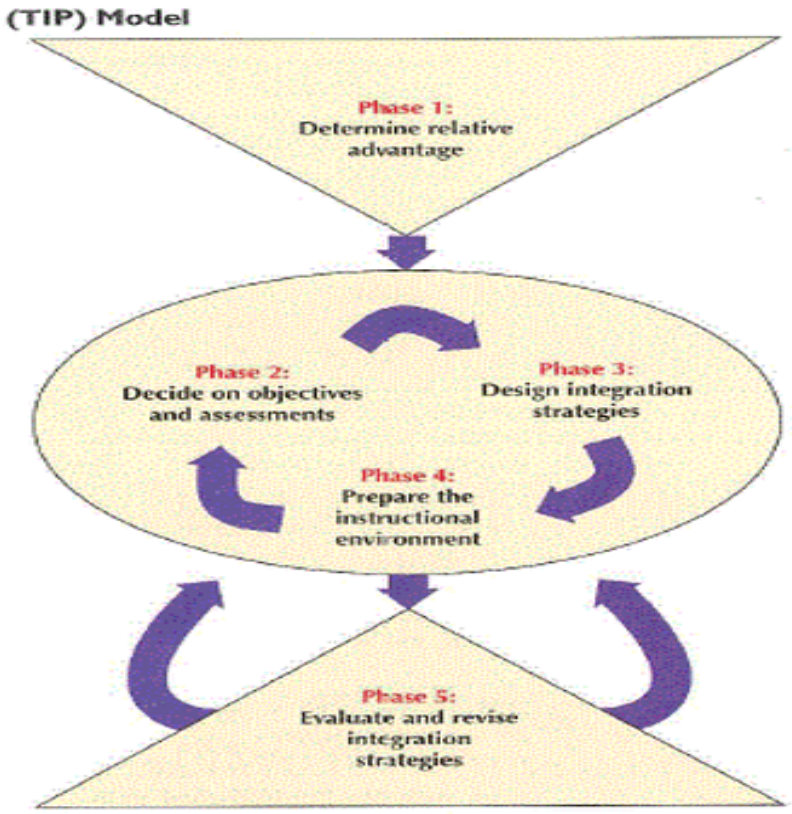


Figure 2:1. The Five Phases of The Technology Integration Planning (TIP). Adapted from "Integrating educational technology into teaching" by Roblyer, 2006, Allyn & Bacon.

According to Roblyer, TIP "five part technology model assumes teachers have considerable knowledge about current technology applications in their content area" (Roblyer, 2003, p.37). "Armed with such knowledge and skills, teachers can use this model to analyse instructional situations to make sure technology is used appropriately and effectively" (p.37). The first phase, determining the relative advantage, teachers must be able to see the advantages of integrating technology and define those advantages clearly. Also, there must be a teaching and learning problem that technology could address. The second phase, decide on objectives and assessments require that teachers decide objectives and assessments best to suit their technology integration. "Objectives should be observable. For example: demonstrating, writing, completing" (p.56). Objectives help to define specifically what the technology method is hoped to accomplish. After deciding on objectives best assessment strategies are utilised to assess whether outcomes have been achieved or not via existing tests and rubrics to name a few. Phase three, Designing Integration Strategies require that teachers decipher teaching strategies to use e.g. group work or interdisciplinary or single- subject approaches. Teachers should also consider the characteristics of the topic, the needs of students and the constraints of the classroom environment. In phase four of the model teachers must prepare a healthy teaching environment that fosters technology integration catering for students with disabilities, internet access and availability of technology. This phase indicates that technology can only be used in the classroom if there is an availability of tools provided by the school and district. The final stage

indicates that teachers should do an analysis of integration of ICT which includes barriers, facilitators and consider improvements to integration.

This model is useful if integration of ICT is taking place but at Gifted Secondary School there seems to be a lack of understanding of the benefits of use of ICT in the ELA classroom and how it should be incorporated. Hence, there is a need for the use of this model at the school.

Theoretical Framework

Fullan's (2007) "key factors in the implementation process" is the theory of implementation that undergirds this research. According to Fullan there are nine critical factors organised into three main categories of the factors influencing the implementation process. The following diagram illustrates this point clearly:

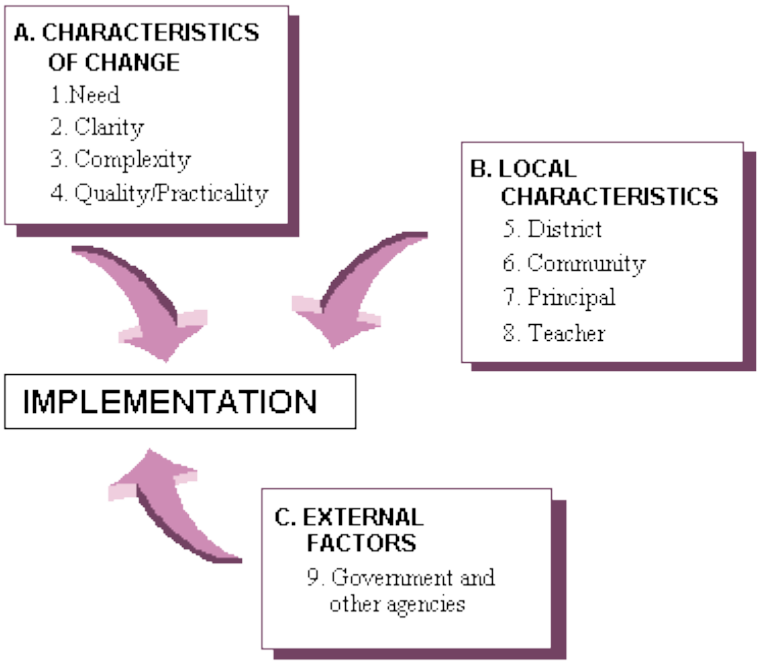


Figure 2:2. Fullan (2007) key factors in the implementation process can be facilitators or barriers to implementation. Adapted from M. Fullan, 2007, The new meaning of educational change, p.87. Routledge.

Under the category, "Characteristics of change," the following factors can be explained:

1. Need: can be defined as the importance of the innovation to the adoption unit. Adoption units only implement innovations when the adopters see the relevance of the innovation to the institution and this is when the need for the innovation becomes a facilitator to implementation. However, when adopters do not see the need for the change initiative, this lack of seeing the need for the innovation becomes a barrier to implementation (Fullan, 2007).
2. Clarity: can be defined as grasping an understanding of the outcomes and what the innovation entails. When there is clarity of the goals of the innovation, this promotes implementation. However, when there is a lack of clarity, implementation is impeded. "False clarity occurs when change is interpreted in an over simplified way; that is, the proposed change has more to it than people perceive or realise" (Fullan, 2007, p. 77).
3. "Complexity refers to the difficulty and extent of change required of the individuals responsible for implementation" (Fullan, 2007, p.78). Complexity can promote implementation as long as adopters are willing to go through the necessary changes for implementation but if adopters perceive the change initiative to be too complex this can affect implementation.
4. Quality and Practicality has to do with whether the innovation is deemed as being practical in the adoption unit and having the quality that is needed to make a change. If adopters view the innovation as having a good quality to the adoption unit it is implemented with ease (Fullan, 2007).

Under the category, "Local Characteristics," the following factors can be explained:

5. The School District is the body charged with managing change. Fullan (2007) adds that "district administrators affect the quality of implementation to the extent that they understand and help to manage the set of factors and processes" (p.82). Central administrators and superintendents provide support to schools to assist with implementation of new policies and innovations. If this is not done implementation would be negatively affected.
6. Board and Community is the body of management responsible for a particular school and can affect implementation. "School boards can affect implementation by hiring and firing reform oriented superintendents" (Fullan, 2007, p.95).
7. The Principal "is the main change agent or blocker of change" (Fullan, 2007, p.83). The principal is charged with the responsibility of management over a particular school. Principals assist implementation to the extent that they provide necessary resources and support to teachers expected to use an innovation. Lack of this, can result in teachers not using the innovation.
8. The teacher- "both individual teacher characteristics and collective or collegial factors play roles in determining implementation" (Fullan, 2007, p. 84). Teachers who are mature in their experience, confident and self- efficacious engage in implementation despite challenges (Fullan. 2007). This is strengthened when they collaborate with other teachers about change initiatives and innovations. When there is a lack of self- efficacy especially with an innovation and solitary behaviour this hinders the implementation process.

The third category, "External Factors," are "those groups and political forces that set priorities for education. These are none other than interests groups, government bureaucracies

and elected representatives" (Fullan, 2007, p.86). Government bodies are expected to support schools with implementation by providing infrastructure, resources, trained teachers and ongoing training. When governments and other government bodies show no interest in innovations being implemented this hinders the use of innovations in schools. This theory would be utilised in this study to conduct analysis of data.

Facilitators and Barriers to Implementing ICT: Teachers' Perspectives

A multiplicity of studies has been conducted concerning ICT implementation and the factors that influence such implementation in classrooms. However few studies can be sourced on the factors that influence and impede ICT implementation in the English Language Arts classroom. Those that were sourced would be discussed in this section of the Literature Review. Literature sought was based on implementing ICT in the English as a Second Language (ESL) classroom. ESL is a term for which

> non-native speakers study to speak English in an English speaking environment. That environment is where English is the formal language used in education, business, media and by the government. So being an internationally accepted language it is used as the main language or one of the main languages in countries like America, Australia, India, Malaysia, Nigeria, Pakistan, Philippines, Singapore, South Africa, Zambia and Zimbabwe. (Baker and Westrup, 2000, p.14)

This was done because the context of Trinidad and Tobago as it relates to language learning is that English is a second language to native speakers. However, literature concerning implementation of ICT in the English as a foreign language (EFL) classroom was also utilised since findings from this body of literature can be applicable since the study is focused on barriers and facilitators to use of ICT in the English Language Arts classroom. The literature related to

the factors influencing and impeding ICT implementation can be categorised into three broad categories according to Fullan's (2007) model of implementation of innovations: Characteristics of Change, Local Characteristics and External Factors.

Characteristics of Change

Facilitators. Ruthven, Hennessy and Brindley (2004) investigated teachers' perspectives on the use of technology in the classroom. The study focused on the teachers' evidence of the success factors of technological tools in the core subjects of English, Mathematics and Science at secondary- school level. The researchers utilised group interviews with the subject departments in six secondary schools in England. From the study what was gleaned is that teachers saw the need for technology in the classroom as it "strengthened pupils' motivation towards school work by enhancing scholastic processes and outcomes; and in promoting pupil independence and collaborative working" (p.22). The study demonstrated how technology enhances teaching and learning:

> broadening the resources and opportunities available for schoolwork, so enhancing the quality of pupil experience; as expediting and effecting working processes, so increasing the pace of lessons and improving the quantity and quality of pupils' work produced; as assisting pupils to check and correct work, to try out ideas, and to refine work in progress, so improving products and promoting learning; and as providing vivid representations and facilitating the generation and organisation of material, so helping pupils to appreciate overarching issues and key relationships. (p.22)

Abdullah, Abidin, Luan, Majid, & Atan (2006), in their study, "The Attitude and Motivation of English Language Teachers towards the Use of Computers" conducted a mixed method approach involving sixty two (62) English teachers from twelve (12) schools in a

selected district in Malaysia. It was discovered that teachers generally did saw the effectiveness of the use of computers in improving their lives and that of their students. Teachers comment was that it is very helpful in enhancing classroom learning. Yunus, Nordin, Salehi, Embi, and Salehi, (2014) in their study, "Future of ICT as a Pedagogical Tool in ESL Teaching and Learning" utilising semi- structured interviews in a Multi-Case study approach, unveiled that ESL teachers view ICT as having a great impact on teaching by "enhancing language learning by increasing students' motivation in producing texts" (p.768).

Under the broad category of Fullan's (2007) model, The Characteristics of Change, the literature demonstrates that one facilitator to implementation of ICT was the need for it to be integrated into teaching and learning. One factor under the Characteristics of Change, Need, was a factor that came out in the Literature. Fullan asserts that as long as individuals see the need for an innovation to be implemented it would be implemented. From the literature, it was indicated that the innovation was being implemented because it improves teaching and learning. ICT also serves as motivation to students. This is the same situation in Trinidad and Tobago as it pertains to ICT in the ELA classroom. It is only when teachers see it as important and having an effect on learning especially learning ELA then will there be greater implementation. From the studies it can be said that teachers also implement ICT in the classroom because they are clear of the goals of the innovation. This can be categorised under the clarity category of the Characteristics of Change. Though Harry and Mitchell (2015) did not focus on implementation of the e-CAL policy in the ELA classroom the findings of the studies mentioned above corroborates with what Harry and Mitchell discovered in the local context regarding implementing the e-CAL change initiative. In their study at one secondary school the teachers really saw the need for the change initiative and the importance it played in students' learning. Thus, one can conclude that as long

as teachers see the importance of implementing an innovation -and since ICT is an innovation it is examined as such- it will be implemented because of its need in the classroom.

Local Characteristics

Facilitators. Hashemi (2013) conducted an investigation, "The investigation of the factors affecting the adoption of ICTs among English Language teachers in an ESL context." A quantitative paradigm was utilised in this investigation with specific use of questionnaire data collection method. Data was analysed using the SPSS software. What was discovered from Hashemi's research was that the factors that affected ESL teachers' use of ICT in the classroom were factors relating to the personal level and school level. At the personal level, it was discovered that teachers' attitude toward the innovation "influence their acceptance and integration of technology" (p.68); their beliefs of the innovation to improve teaching practices really affected whether or not technology would be integrated into the classroom. At the institutional level "factors such as support, funding, training and facilities influence teachers' adoption and integration" (p.68). Thus, when teachers are offered assistance and training to use ICT by the administration of the school and external bodies such as the school board or government department in education, competencies are developed and attitude towards integration can be changed positively.

Kandasamy & Shah (2013), also unravelled in their survey on the "Knowledge, attitude and use of ICT among ESL teachers" that a positive attitude towards enacting ICT and being knowledgeable about the use of applications is what facilitated use in the classroom. Abdullah, Abidin, Luan, Majid, and Atan (2006), in their study revealed that the majority of teachers used technology in the English classroom and demonstrated a positive attitude towards using computers in the classroom. "The findings also revealed that intrinsic rewards, such as

responsibilities, a sense of self-worth and accomplishments, played an important role in enhancing the positive attitude and motivation" (Abdullah et al. p.57). Other studies that demonstrated similar findings in the ESL classroom as it concerns teachers having a positive attitude and being self-efficaious towards implementing ICT were (Bozdogan & Rasit, 2014; Hjalmarsson, 2015;Shah & Empungan, 2015;Yunus 2007).

Zainal (2012), conducted a study on "ESL teachers' use of ICT in teaching English Literature: An analysis of teachers' TPCK- technological pedagogical content knowledge" using a Multi-case study approach. From the investigation Zainal found that ICT was integrated into the classroom based on teachers' knowledge and how to use the technology. Teachers' belief about the benefits of making good use of technology to propel learning was a major influencing factor. Samuel & Bakar (2007) who used a survey approach in their examination also unravelled that teachers used ICT in their classroom because they were knowledgeable about it.

Arnesen (2010) in his study "The role of ICT in the teaching of English as a Foreign Language in Norwegian lower secondary schools – a study of ICT use and patterns of associated factors" utilised a survey design to garner information concerning the use of ICT and its associated factors from one hundred and twenty four EFL teachers in sixty six secondary schools. Qualitative data analysis was used to analyse the data gathered for this study. For Arnesen, one factor that really propelled the use of ICT in the EFL classroom was the teachers' competence. Teachers also believed that ICT would have a positive effect on students and were thus persuaded to use it in the classroom.

Mozafari and Wray (2013) in the study "Iranian EFL Teachers' Perspectives on their Use of ICT in their Teaching Practices: A Multiple Case Study" utilised a multiple case qualitative study of five English teachers in five Iranian High Schools. This study has shown that it was

indeed the teachers' attitudes towards ICT and regarding it as important to the learning process that really influenced integration into the EFL classroom. Also, Joseph (2013) who conducted a study through surveys and follow up interviews with teachers discovered that in English language classrooms in United Arab Emirates (UAE) revealed that both Institutes, Applied Technology (IAT) and Sharjah Institute of Technology (SIT) teachers had optimistic attitudes towards the use of ICTs in their English Language classrooms as these teachers were the ones to motivate students to learn. From their study it was the IAT teachers who received training in ICT while the SIT teachers did not receive such training. SIT teachers provided their own ICT training. Therefore, one can view from this study that teachers can be optimistic about implementing ICT even without receiving training, as long as they see the need for the innovation in the classroom. Nim Park and Son, (2009), who studied twelve Korean EFL in-service teachers at secondary schools in Korea utilised data collection methods of questionnaire and in-depth follow up interviews. They too discovered that teachers had positive and favourable attitudes towards implementation of ICT in the classroom as they saw the benefits it can offer students such as offering real life and authentic contexts.

Sağlam and Sert (2012) discuss that a main enabler for incorporating ICT in instruction in a school in Turkey was teachers' enthusiasm and determination to integrate ICT in teaching English despite hindering factors. They assert that this enthusiasm provided a different strategy to be used for students in delivery of content. Their determination to use ICT in teaching really created a motivating environment for students.

Barriers. "Investigating Teachers' use of Computers in Teaching English: A Case Study," conducted by Darus and Luin (2008) unveiled that computers were less likely used by teachers because of their lack of knowledge and the negative attitude they had towards the use of

computers. One study in the ESL setting that corroborate with this finding is (Alresheed, 2017). School level factors that affected implementation of ICT were no technological support for teachers.

Similarly, Hu and McGrath (2012) in their study, "Integrating ICT into College English: An implementation study of a national reform" maintained a qualitative case study at a College English Department (CED) of the Foreign Language School of one of the universities affiliated with the Ministry of Education in south China. They discovered that a hindrance to ICT integration in EFL classrooms was teachers' ICT knowledge and skills as some teachers did not know how to use certain ICT tools independently. Added to this major hindrance was the pedagogical expertise of the teachers.

Kandasamy and Shah (2013) found that inhibiting factors to implementation of ICT in the ESL classroom were: lack of training; lack of knowledge and skills by teacher and lack of infrastructure. This finding corroborates with what (Bozdogan & Rasit, 2014; Hjalmarsson, 2015; Shah & Empungan, 2015;Yunus 2007) discovered.

Zainal (2012), unravelled from teachers' perspectives that an inhibiting factor to implementation of ICT in the ESL classroom was lack of assistance from administration. This finding was revealed by Nim Park and Son, (2009), who asserts that an inhibitor to teachers' successful implementation was that of the lack of administrative support. However, teachers themselves were their own inhibitors as they had limited knowledge and skill about and the use of computers.

Mozafari and Wray (2013) opined that one barrier to use of ICT was a teacher related barrier. ICT was not utilised in the EFL classroom because of "insufficient ICT knowledge, time constraints, technology anxiety and lack of confidence" (p.60). Riasati, Allahyar, and Tan

(2012), add that the teacher was also an inhibiting factor to technology integration as in their review of the literature teachers often thought ICT could be disruptive and feared authority loss. Teachers also contribute to inhibiting the use of ICT in the classroom by their lack of training and knowledge of the use of ICT.

Under the broad category, Local Characteristics of Fullan's (2007) model, one can comprehend that it is the teacher who really impedes or influence ICT implementation in the ELA classroom according to the above literature. The teacher factor is crucial to the implementation of curriculum changes or innovations (Snyder, Bolin & Zumwalt, 2002) because at the end of the day it is the teacher who is responsible for implementing innovations when they are communicated and initiated in schools. Fullan (2007) connotes that a teacher's psychological state of mind, efficacy towards implementing an innovation and collaboration with other teachers can really cause curriculum changes to be applied. In most of the studies identified this was emulated in teachers' attitude, knowledge, seeking of training, self- confidence and competence of the change product. School culture in one of the studies impeded on the application of the innovation as there was lack of administrative support.

Also assistance to the teacher is important in terms of providing the necessary training and support and provision of ICT tools in order to successfully use it. It is the principal who plays an important role in ensuring this. Fullan indicates that the Principal is the driver or demotivating factor in implementation. However, it is the school board or department of education in the government office that is responsible for providing the necessary support and assistance.

One can deduce that these findings can be applied to the Trinidad and Tobago's context as there are teachers who may be concerned about their skills and training when looking at

implementing ICT in the ELA classroom as in most cases there was only a one day pseudo training by the Curriculum Unit in the Ministry of Education or no training at all by the administrators of the schools. This finding was revealed in a local study conducted on teacher's concerns on implementing the e-CAL innovation by Harry and Mitchell (2012). Whereas, there are some schools where teachers are really efficacious and teachers seek training and collaborate concerning using ICT in the classroom. At some schools it is the administrator who is really on board with the innovation and offers training to teachers so as to encourage them to use the innovation in their classrooms. While at the same tone, teachers' self-efficacy and attitude as well as understanding the importance of the innovation in propelling students' learning really allowed ICT to be applied in the classroom. This finding was also discovered by Harry and Mitchell (2015) when examining the influencing factors of implementing the e-CAL policy at a particular secondary school.

It is certain that from the literature review thus far a case study method to data collection would be used to garner information regarding teachers' perspectives on implementing ICT in the ELA classroom at Gifted Secondary School, Tobago. The case study method would be applied because the nature of the study solicits that that kind of qualitative paradigm be utilised to get that deep, rich, thick description that is needed to describe the phenomenon.

External Factors

Facilitators. Gallardo del Puerto and Gamboa (2009), administered web-based questionnaire to one hundred and sixty six second language teachers in order to obtain information relating to their use of ICTs in the language classroom. Gallardo del Puerto and Gamboa found that implementation of ICT in the classroom was closely related to teacher's training in ICT by the education government department. The issue of teacher training suggests

that increased CALL training could propel the use of ICTs in the language classroom. Instructors believe that interaction is important to language acquisition but they do not seem to use computers to hone these skills. These teachers stated explicitly that they would incorporate ICTs into their lessons provided that they received the necessary training that would allow them to acquire the administrative skills which will encourage them to implement new technologies into their classrooms successfully. The study surmises that technological developments and teacher training in CALL work simultaneously to produce desired results.

Barriers. Pramela and Noraza (2007) in the ESL context investigated the challenges that teachers face with ICT integration through the use of case study approach and interview data collection. Teachers voiced that the administration and government can do more to assist with the necessary infrastructure, specialist support, tools and internet connectivity. Similar findings were discovered in the ESL classroom setting by (Al-Awidi & Ismail, 2014; Alresheed, 2017; Salehi & Salehi, 2012;Shah & Empungan, 2015) where external factors such as the MOE affected implementation and the administration of the school.

Hu and McGrath (2012) identified a major hindrance to ICT implementation in their study and that was inadequate access to internet at work. Teachers indicated that they needed internet to really integrate ICT tools. Whereas, Sağlam and Sert (2012) discuss in another school in Turkey, nine English Language Teaching (ELT) experienced teachers with MA TEFL titles were expected to manage the demand for incorporation of ICTs into their instruction. One factor that impeded this incorporation of ICT in instruction was teacher training. For Nim Park and Son (2009) external factors that impeded successful implementation of ICT were "lack of time, insufficient computer facilities, rigid school curricula and textbooks" (p.1).

Abdullah et al. (2006) identified some barriers to teachers' use of computers in the English classroom: teachers' lack of computer skills and training as teachers indicated that they are willing to use the computers but they need training; also, time factor, as computers take a lot of time to prepare and lack of access to computers for both teachers and students.

Under the broad category External Factors such as the Government and the Department of Education really influence the implementation of an innovation. It is the Government and the Department of Education who are responsible for providing schools with the infrastructure and ICT tools in order for English Language teachers to use the innovation in the classroom. It is also the Education Department and School Boards that provide their teachers with the essentials skills to use ICT through training. When there is a lack of these influential factors they will end up being barriers to Implementation of ICT. As it relates to Trinidad and Tobago and more specifically Tobago there is always need for training regarding ICT implementation as some teachers are not quite comfortable with technology and they need the "know how" to do it effectively. When we look at schools in Tobago, the classroom is structured to that of the 70's where teacher talk is encouraged and there is a tight space and classrooms are overcrowded. The very classroom is not structured to facilitate implementing ICT and when teachers do implement it the set-up takes up half of the teaching time. Also, there is the issue of lack of resources and internet in the classroom to really implement ICT. External factors such as the MOE and the DEIE should be held accountable for teachers' minimal use of ICT in the classroom because nothing is being done to upgrade the classroom to 21st century level and little or no training is provided to assist teachers' confidence. It is the role of Governments and Education Departments to provide schools with training and the necessary ICT tools.

In summary ICT is an innovation that has been initiated to improve teaching and learning and schools the world over are interested in implementing it in classrooms and the ELA classroom is not an exception. ICT can be utilised in the ELA classroom in numerous ways of which can benefit the students in every area of Language Arts. As highlighted above there are facilitators and barriers to implementing ICT and these factors can be grouped into innovation related, teacher level, school level and external level factors.

Chapter Three

Methodology

The study seeks to unravel teachers' perspectives of the influencing and impeding factors on implementing ICT in the ELA classroom. The study is steeped in the qualitative research paradigm in the form of a case study and its focus would be in the Language Department of an urban coeducational secondary school located in Tobago, using the pseudonym, Gifted Secondary School. Purposive sampling and data collection using semi-structured interviews was applied in order to obtain necessary information.

Research Design

The research design employed for this study is qualitative data collection using the case study qualitative tradition to investigate teachers' perspectives on the factors influencing and impeding implementation of ICT in the ELA classroom. Qualitative research seeks to discover individuals' experiences of a phenomenon (Merriam, 2009; Patton, 2005; Smith, 2007; Strauss & Corbin, 1990). This study focuses on the perspectives of ELA teachers implementing ICT in the ELA classroom. It is a case study because it "involves the study of an issue explored through one case within a bounded system" (Creswell, 2007, p. 73). In relation to this study, the case is the factors that influence and impede English teachers implementation of ICT in the ELA classroom and the bounded system is Gifted Secondary School. Case studies are employed to understand "a contemporary phenomenon in depth and within a real-life context" (Yin, 2009, p.18). The type of case study employed is the single instrumental case study where "the researcher focuses on an issue or concern, and then selects one bounded case to illustrate this issue" (Creswell, 2007,

p.74). Case study was best suited for this research because according to Merriam (2009) it can offer insights, deepen and illuminate meaning that expands the readers' experiences. Merriam also asserts that case studies are appropriate to investigate educational programs and innovations and inform educational policy. Certainly, this study is suitable for a case study because its focus is on an educational policy or innovation, the ICT in Education Policy (2005).

Rationale for Qualitative Approach

This study aims to garner in-depth understanding of teachers' perspectives of the factors that contribute to and affect implementing ICT in the ELA classroom. As such, it adopts a qualitative research paradigm to assist in gathering rich deep meaning from its participants from the natural setting of the school context in which they experience and understand a phenomenon (Creswell, 2007).

According to Denzin and Lincoln (2000), this research paradigm embraces the ontological assumptions that reality is socially constructed and people make sense or meanings of their world through lived experiences. Thus, this study focuses on the reality of this issue from trained teachers (English teachers who are certified under the Post Graduate Diploma in Education) at the lower secondary school level who are teaching ELA.

Epistemologically, knowledge is actively constructed by the participants and the researcher. Thus, the participants who are most knowledgeable and able to provide meaningful information are selected since the aim is to get rich, deep understanding of the phenomenon (Merriam, 2009). Hence, the participants are three trained lower secondary school English teachers as they have experienced the innovation and could relate their experience implementing it. Additionally, the researcher is the main data collection instrument as opposed to the use of a survey or questionnaire because a questionnaire would not garner that thick rich data regarding

the issue the researcher is investigating. In this study, the researcher interprets teachers' views and experiences of implementing ICT in the ELA classroom via semi-structured interviews.

In the axiological realm of this study, the researcher brings to the study his own biases; the researcher is very much aware of the problem as he is a lower secondary school English teacher and experience the phenomenon of implementing ICT in the ELA classroom. The researcher's task is to ensure that the research is value laden and that only the views of the three participants are to be brought to the fore.

This study is fitting for the qualitative research paradigm because it is the researcher's sole purpose to garner responses from participants that reflect their experiences with the task of implementing ICT in the ELA classroom at Gifted Secondary School. The researcher wants to hear what teachers have to say about the innovation and the factors they view as influencing and impeding implementation of ICT. Quantitative research limits the researcher's opportunity to gain such insights from his participants because it is more rigid in its structure; its data collection procedures and analysis does not allow for obtaining rich, thick description as would the qualitative paradigm.

Participants and Sampling Procedures

Three (3) participants out of nine (9) English teachers were selected using purposive sampling to participate in this study as they were deemed important in giving the researcher that deep, rich data that will be needed to engage with the issue. There are four (4) lower secondary school teachers (Teacher of English to form one to three) which includes the researcher. When the researcher is subtracted as the main source of data collection only three (3) target teachers would be left to be interviewed. Therefore, the three participants were selected because they are lower secondary school English teachers who are implementing the ELA NCU (A curriculum for

lower secondary school students) and from observation may implement ICT in the ELA classroom occasionally. All three participants are recipients of a certificate in Post Graduate Diploma in Education. All three participants were females. One of the participants' age is fifty one (51) while the other two respondents are in their thirties. Their names in this study are Ms. June, Ms. May and Ms. April. Ms. June has four (4) years teaching experience; Ms. May has seven (7) years teaching experience and Ms. April has ten (10) years teaching experience. The interview was conducted at the participants' school.

Purposive sampling focuses on characteristics of the population that are of interest; which will best help the researcher to answer the research questions (Merriam 2009). As such, the researcher wanted to get the views of lower secondary school English teachers about the factors that facilitate or inhibit implementation of ICT. This was the target group because these teachers were also enacting the ELA NCU which gave instructions to implement ICT in the classroom. This was the main criteria for selecting the sample. Fortunately, all teachers are trained. Because there are only three form 1-3 English teachers excluding the researcher, the researcher was left with no choice but to interview all three teachers whether they use ICT in the ELA classroom or not. Pseudonyms will be used in place of the names of the participants. Therefore, throughout the study, the researcher will refer to these participants as: April, May and June.

Data Collection Methods

Data was collected using semi- structured face to face, one on one, interviews with the participants **(See Appendix A)**. In this regard, the researcher was the main data collection instrument as the researcher was the one who conducted the interviews. The questions for the interview were written in advance and reviewed in order to understand the case at hand. The researcher ensured that consent both from the principal of the school and the participants as well

as the DEIE was given to conduct the interviews and the interviews were digitally recorded for transcription.

The semi-structured interview allowed for teachers to give their views of the factors they think in their experience that facilitate and hinder implementation of ICT in the ELA classroom. As such, it allowed the teachers' voices to be heard regarding the phenomenon. This method was utilised by (Darus, & Luin, 2008; Hu & McGrath, 2012; Mozafari & Wray, 2013; Yunus, Nordin, Salehi,, Embi, & Salehi, 2014; Zainal, 2012). Questions for the interview maintained a flow from general to specific questioning and ended with a closing question. Only the interview data collection method was used because the researcher wanted to discover teachers' perspectives and the only way to do this is through the use of interviews as one cannot unravel teachers' perspectives through observations or artifacts. (Darus, & Luin, 2008; Hu & McGrath, 2012; Mozafari & Wray, 2013;Yunus, Nordin, Salehi,, Embi, & Salehi, 2014; Zainal, 2012) was able to glean teachers' perspectives of implementing ICT in the ESL and EFL classroom from only interview data. However, in order to ensure the validity of the findings, trustworthiness was maintained. **See appendix A** for guiding interview questions.

Data Analysis

The purpose of this qualitative case study was to investigate teachers' perspectives of the factors that influence and hinder implementation of ICT in the ELA classroom. It sought to answer research questions:

1. What are teachers' perspectives of the facilitators to implementation of ICT in the ELA classroom at Gifted Secondary School?
2. What are teachers' perspectives of the barriers to implementation of ICT in the ELA classroom at Gifted Secondary School?

Interviews were analysed using thematic analysis. According to Merriam (2009), Thematic analysis is a strategy that helps the researcher to categorise data into codes that serve as labels for qualitative data. In order to glean codes from the data, the data was read and codes were labelled in pencil. These codes help the researcher to develop themes from the data. For this study, codes and themes were developed from the interview data that was transcribed in verbatim and placed in the appendices as "transcription" **(See Appendix B)**

Trustworthiness

The term "trustworthiness" originated with Guba (1981). Shenton (2004) informs that "naturalistic investigators have preferred to use this terminology in order to distance themselves from the positivist paradigm" (p.63). Guba asserts that there are four criteria for ensuring trustworthiness of research projects: credibility, transferability, dependability and confirmability. In this study in order to ensure that the study measures what it is intended to measure (credibility), the researcher engaged with strategies such as: tactics to ensure honesty, iterative questioning and member checks. As such, the researcher encouraged the participants to be honest and frank in their responses by maintaining a relationship with the participants and having a rapport; asked similar questions of each participant in order to maintain consistency and after transcribing asked the informants to read the transcript to ensure that their words are accurate and that what was said was intended.

External validity (transferability) was maintained by fully maintaining a rich, thick description of the phenomenon by presenting a thorough analysis of the data and detailed write up so that researchers from similar settings can apply the study to their situation and environment. In addressing the issue of reliability (dependability), "the process within the study is reported in detail, thereby enabling a future researcher to repeat the work. Confirmability is the

criterion that focuses on reducing bias by the researcher in the study. Strategies that were employed to ensure the study was bias free were having an expert such as the researcher's supervisor review interpretation of data and checking with participants about ideas and interpretation of data.

Ethical Considerations

The researcher considered the following ethical issues:

Firstly, permission was sort from the DEIE to conduct the study at the school since it is the DEIE under the THA that is responsible for educational affairs on the island. Thereafter a letter of consent was given from the School Supervisor III with a letter being sent to the Principal of the school testifying to the consent. Consent was also sought from the participants of the study. The three participants were assured that information they related would be confidential and that pseudonyms would be used to protect their identity and the identity of the school.

Limitations and risks

The limited time available may prove to be a challenge to conducting an in-depth study and analysis of the data. Also, maintaining a completely bias-free study may be difficult because the researcher himself is an English teacher at Gifted Secondary School and experiences the ICT in Education policy. Added to this is the researcher's lack of experience in conducting interviews can affect this study

Delimitations

The study is restricted to the Language Department of a single government secondary school in one educational district, Tobago. It examines a single case bounded by time and context and the findings from this study cannot be transferred to other schools in Tobago. It may not represent how other schools experience the phenomenon.

Reflection on the conduct of the study

Conducting this study was not an easy task. I was assigned a supervisor in August of 2016 of which I met with the supervisor and had to change my initial topic. Chapter one to three had to be written immediately as I was carded to present January 2017. Revising Chapter one to three was a never ending process and continued up to the time when I was almost ready to submit. Thanks to my supervisor I was given clear guidance on how the chapters were to be structured. My research topic had to be restructured about three (3) times. This shows the emergent nature of qualitative research. My research proposal was then presented January 31st, 2017. I was overwhelmed, as evidenced to my chest pains and pains in my neck as I was preparing for the proposal while reading for two heavy courses in the first semester. I could not have done it without prayer and praise.

After the presentation, suggestions and corrections were offered. These suggestions and corrections were made before collecting data. Data was collected in March, 2017 and I experienced ease with collecting data as there had to be no rescheduling of interviews. Interviews with the participants took three days. The interviews were transcribed immediately after the interview. The data open coding process was manageable as codes began to show themselves immediately upon first reading, after which categories and themes were formed. I also sought my peers to assist me with this process. The months March, April and May, 2017 were dedicated to data analysis and writing chapter four and five. At the end of May I had to ask for an extension in order to edit my work.

Chapter Four

Analysis and Findings

This study was carried out to investigate teachers' perspectives of the factors that influence and impede implementation of ICT in the ELA classroom at one secondary school in Tobago. Data were collected for a period of three (3) days at the selected school. Three (3) female English teachers who taught forms 1-3 were interviewed to elicit their perspectives of the research issue.

This section is presented in two parts, the first part is the analysis of the first research question and the second part is the analysis of the second research question. The analysis is based on the themes derived from the categories formed after openly coding the interview transcripts. The data led to categorisation into two broad themes, figure three (3) and table two (2) display this:

Figure 4:1. Themes from the data

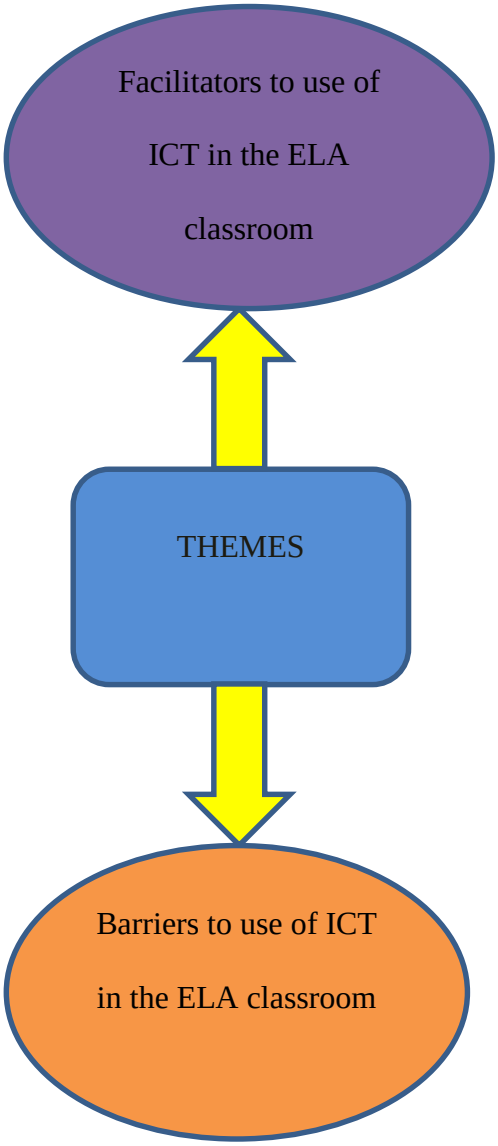


Table 4:1. Relationship between Codes, Categories and Themes

Open Codes	Categories	Themes
• Relative Advantage • Need	*Innovation related factors*	**Facilitators to implementation of ICT in the ELA classroom**
• Teacher effort • Teacher's prior experience • Team teaching • Assistance from ICT teachers	*Teacher level factors*	
• Accommodating Administration • Use of Audio Visual (A.V.) room • Availability of ICT tools • Using classrooms with electricity	*School level factors*	
• One day Teacher training	*External level factors*	
• Teacher competence	*Teacher level factors*	**Barriers to implementation of ICT in the ELA classroom**
• Lack of infrastructure • Lack of tools • No internet connectivity in classroom • Lack of training • Lack of time	*School level factors* *External level factors*	

Research Question 1: What are teachers' perspectives of the facilitators to implementation of ICT in the ELA classroom at Gifted Secondary School?

Only two of the participants, Ms. June and Ms. May were able to present some facilitators to implementing ICT in the ELA classroom. Based on their experience, **facilitators to their implementation of ICT in the ELA classroom** were based on four broad categories: Innovation related factors, teacher level factors, school level factors and external level factors.

Innovation Related Factors

Careful analysis of the data revealed that innovation related factors such as teachers seeing the relative advantage that ICT offers and it having a need in this current era in teaching and learning are what really influenced the two participants to use ICT in the classroom even though it was rarely used by Ms. May in her classroom. These two factors align with the broad category of Fullan's (2007) model, Characteristics of Change. This segment of the facilitators to implementing ICT in the ELA classroom in essence displays that the innovation itself must present to teachers certain characteristics that would be viewed by adopters as being beneficial for the classroom in terms of improving teaching and learning.

Need."I use ICT because it really does assist the students with their learning. I see the need for it as I am teaching the twenty first century child and he or she learns better with ICT" (Ms. June, Interview 2017). Ms. May adds that, "ICT is known to be the tool that really grabs the interest of today's learners. It is the tool that deviates from chalk and talk and I try to use it in order to give the students another learning strategy" (Interview, 2017). Both teachers corroborated in their perspective to ICT having an important role in teaching and learning especially in this 21st century.

An important finding was gleaned from the interview with Ms. April. Even though Ms. April did not use ICT in the classroom she too however, did see the relevance of using ICT in the classroom. This is just to show that if teachers do not utilise ICT in the classroom it does not mean that they do not comprehend its relevance. Ms. April relates, "Yes I do see the need as ICT is what the students know and what better way to teach them than to utilise ICT. Students are always on social media and always on their phones so I think use of ICT would actually capture the students' interest…" (Interview, 2017).

Relative Advantage. Ms. June indicates that there is indeed a relative advantage to using ICT in the ELA classroom, "When I use ICT in my classroom the class becomes so involved. I am not sure if learning takes place but there is students' participation when I use ICT" (Interview, 2017). Similarly, Ms. May adds, "It can really assist teachers with teaching and students with learning…" (Interview, 2107). Both participants saw the benefits of ICT being used in the classroom even though one teacher uses it more than the other. As with any innovation, adopters must be able to see the relative advantage of the curriculum change before implementing it (Rogers, 1983).

Techer Level Factors

The teacher level factors pertain to those factors that direct the researcher to the prior experience of the teacher, teacher effort, and teacher collaboration. This segment of the facilitators to implementing ICT in the ELA classroom in essence displays what the teacher has been doing in order to facilitate use of ICT in the classroom. Since this group of people are the main adopters of a curriculum change/ innovation (Fullan, 2007) it is beneficial comprehend teachers' contribution in implementing ICT in the ELA classroom.

Teacher Effort. This factor refers to teacher's initiative such as the willingness to bring personal laptops to the classroom and internet; using students' ICTs; and using certain Web 2.0 tools. Miss June seem to be more self- motivated than Ms. May and Ms. April even though she is older than the two teachers and has less teaching experience in the secondary school system. Ms. June indicated that she used to bring her own laptop when she first started teaching, "I had use of a laptop it wasn't mine, but umm.. I had use of one of my son's laptops …" (Interview, 2017). Similarly, Ms. May expressed that, "So on top of that you have to bring your own laptop to school if you want to use power point, or audio in the English class" (Interview, 2017). In this case teacher effort is displayed when the teacher brings to school their own ICT to use in the classroom.

Both Ms. May and Ms. June demonstrated that they were able to let both themselves and their students use social media in instruction. Their use of the social media aided with dissemination of information and whole group discussions.

Ms. May: "using whatsapp and facebook to discuss assignments…" (Interview, 2017).

Ms. June: " I have used whatsapp as a means to disseminate information…" (Interview, 2017).

Ms. June also indicated that she used YouTube in one of her lessons, "I was teaching plot, the plot of a story and we found videos online, using YouTube, several cartoon type videos online…" (Interview, 2017). Both teachers therefore, used their initiative to try to implement social media for instruction and developing social competencies. So it was important for both students and teachers to have access to social media in implementing ICT.

Only Ms. June utilised the use of students' cell phones in her implementation of ICT. The cell phones were used to conduct research and use thesaurus, "Some of these students can access dictionaries online so they can use their thesaurus on their phones to research words they do not

know the meaning. And this is exactly what I use the cell phone to do in the class" (Interview, 2017). For Ms. June, she took advantage of the cell phone use and made a positive use with it.

Only Ms. June indicated that she used her personal internet in implementing ICT in the classroom, "I believe I try to use my broadband in order to show videos at one point in time" (Interview, 2017). This factor shows that it is what the teacher does in order to implement ICT in the classroom that really facilitates implementation. It can be seen from this study that teachers utilised social media and one teacher was willing to bring to school her own laptop and internet and use students' cell phones in the class.

Prior Experience with ICT. *Ms. June:* "My background in EFL was a technology rich environment…"(Interview, 2017). Because Ms. June had prior experience with ICT she was motivated to use it in her instruction at secondary school.

Team Teaching. It was Ms. June who indicated that she actually did team teaching with a teacher from another department in one topic she taught and it worked really well for her in terms of classroom management, "I was assisted by Ms. December, the teacher in the Modern Studies department… we found videos online, using YouTube, several cartoon type videos online which we showed to form two" (Interview, 2017). Team teaching here helps with classroom management and supervision and for Ms. June is a very good facilitator.

Assistance from ICT Teachers. The ICT teachers of the school assisted with implementation in terms of making themselves available and willing to help the English teachers with whatever problems they may face while implementing ICT. Ms. May expressed that, "Our ICT teachers have also made themselves quite available to assist us with whatever questions we may have or challenges in using a particular tool or program. It really comes from cooperation"

(Interview, 2017). Here is another example of teacher collaboration and the effect it has on implementation of ICT.

Thus far, the teacher level factors discovered under the facilitators to implementation of ICT in the ELA classroom at Gifted Secondary School are the following: teacher effort, teachers' prior experience with ICT, team teaching, and assistance from ICT teachers.

School Level Factors

The school level factors pertain to those factors that direct the researcher to the Administration of the school such as the Principal and what has been done to assist teachers with implementing ICT. This segment of the facilitators to implementing ICT in the ELA classroom in essence displays that what the principal does can really influence implementation of an innovation. Fullan (2007) asserts that the Administration of the school is one of the main adopter of an innovation.

Accommodating Administration. Both participants indicated that the administration has provided the departments with ICT tools and have laptops available even though they may be antediluvian. Despite the many hiccups, administration has been trying their best to facilitate teachers' implementation of ICT. Ms. May adds that, "Always, at the success of anything must begin from the head. We do have an accommodating Administration and an accommodating HOD in that if you speak to them about the issues they really do try to shift things around for you" (Interview, 2017). The administration would allot timetables for use of the Audio Visual (A.V.) room whenever teachers wanted to use it and this really helped Ms. May in her implementation whenever she chose to use ICT in the classroom.

Use of the A.V. Room. Ms. May indicated that the A.V. Room was well equipped with the facilities to implement ICT but this one room causes competition among teachers. Ms. May

expresses, "Teachers tend to implement ICT using the AV room because of the whiteboard and the electricity and outlets available. The AV. Room even has an overhead projector so you can just ask the IT technician to assist you and it is a sound proof room where you can play audios and not disturb other classes" (Interview, 2017). However, Ms. May does make bookings to use the room from time to time especially whenever she decides to implement ICT.

Availability of ICT tools at school. Both teachers indicated that the school had made available some ICT tools to assist them with their implementation of ICT in the classroom. This indicates that administration does understand that ICT implementation in the classroom is of major importance to education.

Ms. May: " The department has two projectors and one speaker box…" (Interview, 2017).

Ms. June: " I was able to borrow the school's projector… and use the department's speakers" (Interview, 2017). Important to teachers, is this availability of ICT tools to actually implement it.

Using classrooms with electricity. Both participants indicated that about two years ago not all classrooms had electricity and it was a frustrating task to implement ICT. Ms. May indicates that, "some classrooms did not even have electricity to use the equipment…" (Interview, 2017). However, it was Ms. June who used only the classrooms that had electricity to implement ICT, "I opted to use my machine only in classrooms where there was actual electricity" (Interview, 2017). Ms. June especially tried to implement ICT even though some classes did not have electricity.

The school level factors discovered as facilitators to implementation of ICT in the ELA classroom at Gifted Secondary school were the following: An accommodating administration, use of the A.V. Room, availability of ICT tools by the school and use of classrooms with consistent electricity.

External Level Factors

The external level factors pertain to those factors that direct the researcher to what the MOE and the DEIE are doing in order to propel use of ICT in the ELA classroom. Since this group of people are persons in the Education Department and initiates and communicates innovations to schools (Fullan, 2007).There was one external level factor that influenced teachers' implementation of ICT in the ELA classroom and it is the influence of the MOE and DEIE on communicating the innovation to the school and training teachers to use the innovation. However, one of the participants indicated that it was only once training was offered.

Teacher training. *Ms. May:* "In the beginning of my teaching career there were some training programs that we tried to implement and an entire two days of training. The staff and I myself attended a work shop where they tried to give us ideas in terms of methods that we could use in the classroom" (Interview, 2017). Ms. May indicated that training was a facilitator to her implementation but she only used ICT at the basic levels, "When I do use ICT I just use the ones that we are accustomed to like the power point presentation. I just use it at the basic level" (Interview. 2017).

The findings for research question one are such that factors that influenced implementation of ICT in the ELA classroom at Gifted Secondary were innovation related, teacher related, school related and external factors.

Research Question 2: What are teachers' perspectives of the barriers to implementation of ICT in the ELA classroom at Gifted Secondary School?

All of the participants were able to present some barriers to implementing ICT in the ELA classroom. Based on their experience, **barriers to their implementation of ICT in the ELA classroom** were based on three broad categories: Teacher level factors, school level factors

and external level factors. Both the school level and external level factors can be presented simultaneously as the external level factors influence what goes on in the school.

Teacher Level Factors

Under this category there is basically one factor from the data that points to the teacher as a barrier to implementation of ICT in the ELA classroom. The teacher herself becomes a barrier to implementation of the innovation when she does not have the skills or competence to implement ICT successfully. In Fullan's (2007) model the teacher indeed can be a barrier to successful implementation.

Lack of ICT skills. Two of the participants indicated that they did lack the skills to use certain ICT tools and applications and to even incorporate ICT in instruction so that students use more ICT in their learning. Ms. May admitted that "there are certain tools I do not know how to use…" (Interview, 2017). Ms. June experiences similar difficulty, "there are things that I do not know how to do on my phone…" (Interview, 2017). Thus, if teachers are not comfortable with certain tools they will ignore those tools and implement ICT at the basic level or not implement ICT at all.

School Level and External Level Factors

Both the school level factors and external level factors can be presented simultaneously as it is the external bodies such as the MOE and DEIE that influence the barriers that occur in the school when it comes to implementing ICT. This is so because though the Principal is responsible for management of the school and ensuring that the curriculum is being enacted and policies are being followed. However, it is the MOE and DEIE in the Trinidad and Tobago context that supplies the school with the necessary tools and infrastructure that ensure implementation of an innovation such as ICT. Factors that pertain to the school level and

external level are: lack of infrastructure**,** lack of tools, no internet connectivity in classroom, lack of training and lack of time.

Lack of Infrastructure. Lack of infrastructure is a barrier that teachers faced when implementing ICT or wanting to do so. Each teacher highlighted a different aspect of infrastructure that really impedes implementation of ICT. Infrastructure issues were no electricity in some classrooms; not enough space in the classroom; no outlets to charge equipment or whiteboards; no air conditioned rooms and classrooms could not be manipulated to encourage 21st century skills while using ICT in the classroom. Ms. June expressed that, "in the first year that I was here we didn't had basic things like electricity in some of the classrooms" (Interview, 2017). However, she did her best to use ICT in those classrooms where electricity was available, "So I selected or opted to use my machine only in those classrooms where there was actual electricity" (Interview, 2017).

It was Ms. May who indicated that, "The classrooms in which we teach do not have the space and the facilities such as outlets to charge equipment and the whiteboards to project a power point, or sound proof to not disturb other classes, or the comfort of AC" (Interview, 2017). Ms. April voiced similar concerns about the barrier of infrastructure, "I do not use ICT in the classroom because the classroom is just not outfitted to implement ICT. There aren't enough outlets for students to charge their laptops for those who need to charge their laptops during a lesson" (Interview, 2017). She further indicated that, "the structure of the classroom is so rigid that desks cannot be manipulated to really use ICT to promote 21st century skills…" (Interview, 2017)

None of the teachers implemented the e-CAL policy because of the infrastructure issues that hinders implementation of this ICT tool. Ms June says blatantly, "There is no internet and

space and facilities to charge equipment so what is the point" (Interview, 2017). The practices of the education system and what is professed in the philosophy are disconnected when we see schools still structured in traditional setting i.e. 1970s structure.

Lack of ICT tools. It can be gathered from the data that the school has limited laptops for use by teachers. The number of laptops available is only two for teachers to use. Ms. June highlights this point when she says "The school only has two laptops available…" (Interview, 2017). Similarly Ms. April highlights the same barrier to implementation of ICT, "there aren't even enough laptops for teachers to use as there are only two laptops available at the school and I am not going to carry my expensive Mac laptop to the classroom with my playful students" (Interview, 2017). The lack of laptops for teachers is indeed one of the greatest inhibitors to teachers' implementation of ICT. This can be a frustrating situation.

Because the school has limited laptops, teachers are compelled to bring their own devices to school whenever they desire to implement ICT. Ms. June was the teacher who indicated that she "…didn't have a laptop" because the one she used to use was damage and she was unable to replace it. Ms. June further lamented the fact that the laptops that were available at the school were dated, "the laptop was not able to pick up the signal" (Interview, 2017). Teachers like Ms. May and Ms. April do not bother to use ICT in their lessons because of this issue highlighted by Ms. June.

No Internet Connectivity in the Classroom. No internet connectivity in the classroom is detrimental for the possibility of using ICT in the ELA classroom as voiced by the participants. Participants were outraged that they were expected to implement ICT in the classroom with no connectivity although Ms. June was the one to have her own internet when implementing ICT. One factor that impedes implementation of ICT in the ELA classroom

according to Ms. April and Ms. May was no internet connectivity. Ms. April shares that, "There isn't any internet connectivity in the classroom for both teacher and student to access during a lesson" (Interview, 2017). Ms. May has a similar perspective of this factor, "The classrooms in which we teach do not have wireless connection" (Interview, 2017).

Lack of Training. Though the Division of Education and the Principal provided teachers with ICT training, teachers often forget what they have learnt because of a disconnect between the reality of the school infrastructure and ICT implementation. Ms. May admits that "by the time you get the ICT equipment you forgot all that you have learnt…" (Interview, 2017). ICT tools are being upgraded continuously and these tools can be used in a variety of ways to teach. Training to use ICT should not be a two day event with the expectation that teachers would remember what they have learnt. If something is not put into practice it would be forgotten.

Lack of Time. The issue of time as a barrier came to the fore through one of the participants, Ms. April. Ms. April related that the time constraints to teach for examinations and get portfolios done really put her in a position not to implement ICT in the ELA classroom. Ms. April shares that, "So I really do not get the time to fit ICT into my lessons because I am too busy trying to keep up with teaching for the examination. At times I am so consumed in correcting papers and with this new portfolio thing I am so busy with paper work, I really do not get the time to implement ICT in my classroom" (Interview, 2017).

The findings for research question number two demonstrated that barriers to implementation of ICT in the ELA classroom at Gifted Secondary School were teacher related, school related and external factors. Both school level factors and external level factors were combined as what the Department of Education does influence what take place in the school. Thus, the administration of the school which is the link between the Department of Education

and teachers would not able to support implementation if support is not given by the Ministry of Education. Factors affecting use of ICT in the classroom were lack of training, no internet in the classroom, lack of time due to a rigid curriculum, lack of ICT tools and infrastructure. Also teachers having little or no ICT skills acted as a barrier. The next section provides a conclusion and recommendations based on the data gleaned.

Chapter Five

Discussion and Recommendations

This single instrumental qualitative case study investigated teachers' perspectives of the facilitators and barriers to implementing ICT in the ELA classroom at Gifted Secondary School, Tobago. The investigator interviewed three English teachers at the school to explore their perspectives on the research problem. The findings gleaned, demonstrated that the facilitators to implementation of ICT in the ELA classroom at the school were innovation related, teacher level, school level and external factors. Barriers to implementation of ICT in the ELA classroom at the school were teacher level, school level and external factors. Some of these finding concurred with that of previous research studies and certainly aligned with Fullan's (2007) model on The Factors Affecting the Implementation Process. The findings were fleshed out into the three categories of the model, Characteristics of Change, Local Characteristics and External Factors. These findings would be discussed in this section of the research report.

Research Question one:

Innovation related factors. The theme innovation related factors were discovered in the study when asked: what were the facilitators to implementation of ICT in the ELA classroom? All of the participants generally saw the need for using ICT in the class even though it was one teacher who really tried to use the innovation. Participants understood the benefits of using ICT in the classroom and what could possibly be the effects or the relative advantage of such use such as promoting learning and improving teaching. This result is similar to what Roblyer (2006) pronounced at the first stage of the TIP model framework.When teachers see the benefits of any

innovation and its relative advantage, only then can they integrate technology successfully in the classroom. Fullan (2007) also highlights that the characteristics of an innovation such as need and relative advantage can propel implementation as long as the adopters understand the characteristics of the innovation. This result is similar to findings by (Abdullah, Abidin, Luan, Majid & Atan, 2006; Riasati, Allahyar & Tan, 2012; Ruthven, Hennessy and Brindley, 2014; Yunus, Nordin, Salehi, Embi & Salehi, 2014) in which scholars saw the need and the relative advantage of the innovation in terms of motivating students to learn and improving teaching and because of the changes it brings to the classroom.

Teacher level factors. As a facilitator to use of ICT in the ELA classroom, teacher level factors identified in this study demonstrate that the prior experience of the teacher, teacher effort, and teacher collaboration were facilitators to implementation of ICT in the ELA classroom. When teachers have experience in using ICT and when there is collaboration among different subject teachers assisting one another with the skills needed, this really influences implementation of ICT. One study that supports teacher's knowledge about the innovation influence use in the ESL classroom was conducted by Samuel and Bakar (2007). Arnesen (2010) findings on teacher competence facilitating implementation of ICT come to the fore in this study through teacher collaboration where expertise and skills are shared to assist with ICT use. The literature mainly demonstrated that teachers' positive attitude was what propelled the use of ICT in the ESL or EFL classroom. In this study, teachers had a positive attitude towards the innovation but only one teacher, Ms. June, did whatever it took to try to implement ICT in the ELA classroom. Sağlam and Sert (2012) discovered that this enthusiasm and determination was indeed a facilitator.

This study seemed to be unique in one of its findings as teacher effort seemed to be the facilitator to implementation of ICT. What the teachers do for example bringing to school personal laptop and internet, utilising students' ICTs, using social media and Web 2.0 tools really assisted with the use of ICT in the ELA classroom. Findings under this theme validate what Fullan (2007) indicated about the teacher and his or her role in implementation. Fullan asserts that, "relationships with other teachers are a critical variable and this relationship is strongly related to implementation" (p.97). He adds that when teachers "have a previous experience with an innovation and are self – actualised, this leads them to take action and persist in the effort required to bring about successful implementation" (p.97).

School level factors. Results from this study directed the researcher to what the Principal does in relation to an innovation like ICT can support or hinder implementation. In this study, Administration really tried to assist teachers with their use of ICT in the classroom by providing some ICTs to each department and having available at least two laptops accessible to teachers even though these laptops may be old. Administration was able to have these laptops available because it was given to the school under the SEMP programme. However, the tools provided in each department such as the projector and audio equipment were bought with funds raised by the school. Administration also assisted by having time tables for the use of the A.V. Room which is conducive for implementing ICT in the ELA classroom. The importance of the availability of ICT tools at the school in order to use ICT in the ELA classroom corroborates with Roblyer (2006) phase 4 analysis of the TIP model. Roblyer indicates that technology can only be used in the classroom if there is an availability of ICT tools in the school. The importance of the Principal in implementation as discovered in this study was highlighted by Fullan (2007) that

"the principal strongly influences the likelihood of change by providing the necessary resources" (p. 95).

External level factors. Fullan (2007) emphasises that Governments have an important role to play in transformation at schools to the extent that they provide the necessary resources and professional development of teachers. In this school it was the government who provided some ICTs for example the e-CAL programme, two laptops from the SEMP programme, and computers in the library and staff room under the SEMP programme. One teacher indicated that there were training sessions and an entire two days of training when e-CAL was coming into the schools just as she started her career in the academic year 2009/2010 and this assisted her with her use of ICT. Studies that corroborate with this finding in which teacher training influencing teachers' use of ICT were (Gallardo del Puerto & Gamboa, 2009; Hashemi, 2013; Joseph, 2013).

The findings concerning the facilitators to implementation of ICT in the ELA classroom at Gifted Secondary school certainly corroborated with the literature. As highlighted above, facilitators to use of ICT in the ELA classroom were the following: teachers understanding the relative advantage and need for the innovation in the classroom; teacher collaboration; teachers' prior experience with the innovation; the Principal and teacher training. The only finding that proved to be unique in this study and was not discovered in the literature was that of teacher effort.

Research Question Two:

Teacher level factors. Barriers to implementation of ICT in the ELA classroom as gleaned from the data demonstrated that one teacher level factor acted as a barrier. This barrier was teacher incompetence in ICT which in other words can be viewed as teacher's lack of knowledge or teacher's lack of ICT skills. If teachers do not have the "know how" when it comes

to certain applications, Web 2.0 tools and ICTs they will be unable to use it in the ELA classroom. Lack of teacher knowledge or lack of ICT skills by the teacher was indeed a barrier that appeared in a review of the literature. Thus, findings by (Darus & Luin, 2008; Hu & McGrath, 2012; Nim Park & Son, 2009; Riasati, Allahyar, & Tan, 2012) are similar to the finding in this study where teachers' knowledge of the use of ICT impeded implementation in the ELA classroom.

School level and External level factors. Both school level and external level factors can be discussed here because in this case it is what the school district such as the DEIE and the MOE do, that influence the barriers to implementation of ICT in the ELA classroom. From the data it was discovered that lack of infrastructure was indeed a barrier to use of ICT in the ELA classroom. Teachers lamented the fact that the classrooms were just not outfitted to support the innovation because classrooms were still in a 1970s structure. There were no white boards; classrooms were not air conditioned; there was a fixed traditional seating; and not all classrooms had proper outlets and electricity. This description surely does not meet the requirements for a 21st century classroom and surely is not a classroom where ICT can be used easily. Venezky (2002) explains that in order for schools to implement ICT successfully there needs to be the necessary infrastructure. This lack of infrastructure as an inhibitor to implementation of ICT in the English classroom was discovered by (Abidin, Luan, Majid & Atan, 2006; Pramela & Noraza, 2007).

Teachers voiced that there was not enough ICT tools at the schools, no internet connectivity in the classroom and lack of training. These factors work together as part of a holistic plan for successful implementation in schools as highlighted by scholars (Albugami & Ahmed, 2015; Sanchez & Salinas, 2008; Tondeur et.al., 2008; Vanderlinde, Aesaert & van

Braak, 2014). Thus, lack of the necessary training, ICT tools and internet connectivity in the classroom is destined for no use of ICT in the ELA class. Lack of ICT tools, internet connectivity and training were discovered by (Al-Awidi & Ismail, 2014; Alresheed, 2017; Pramela & Noraza, 2007; Salehi & Salehi, 2012 ;Shah & Empungan, 2015) where external factors such as the MOE affected implementation and the administration of the school. Fullan (2007) opined that the District Administrator should "monitor the improvement in the process of implementation; manage principals to lead change; and invest in teacher development" (p.228). These are just some of the roles of the District Administrator in ensuring implementation of innovations. When the District Administrator does not function efficiently, this affects the success of innovations such as ICT. Governments affect implementation when they do not provide the necessary infrastructure, training and monitoring (Vanderlinde, Aesaert & van Braak, 2014).

Lack of time was an issue that affected implementation of ICT in the ELA classroom. Ms. April raised this concern and asserted that the heavy curriculum with new portfolio component lends little time to include ICT in teaching. This lack of time with respect to being bombarded by a rigid curriculum and external examinations was a finding that was revealed by Mozafari and Wray (2013) and Nim Park and Son (2009).

The findings concerning the barriers to implementation of ICT in the ELA classroom at Gifted Secondary school certainly corroborated with the literature. As highlighted above, barriers to use of ICT in the ELA classroom were the following: lack of teacher competence; lack of infrastructure, internet connectivity and ICT tools and lack of time due to a rigid curriculum.

Recommendations

Continuous ICT Training: From this study it was discovered that there was little training in ICT as one of the teachers indicated that this training was available at a time when e-CAL was coming into schools. Therefore, the researcher recommends that all secondary school teachers should be properly trained on how to integrate ICT in the classroom and use various Web 2.0 tools and applications. Continuous training is needed because ICTs are ever changing and being updated. So too must teachers' skills be updated. Scholars, (Albugami & Ahmed, 2015; Sanchez & Salinas, 2008; Tondeur et.al., 2008; Vanderlinde, Aesaert & van Braak, 2014) contend, that a holistic plan for successful implementation of ICT includes training of teachers.

Provision of the necessary infrastructure: The researcher recommends that the necessary infrastructure be supplied to schools as a first stage in the implementation process. That is, providing schools with updated ICT tools and internet classrooms with white boards where projectors can be used. Classrooms need to be remodelled in terms of ensuring there is the space required for comfortable use of ICT. Classrooms should have sufficient outlets to charge equipment; have proper lighting to assist with visual; and be at a cool temperature via the provision of air condition. This recommendation is made because from the study teachers lamented that there wasn't the proper infrastructure to implement ICT in the ELA classroom. Scholars, (Albugami & Ahmed, 2015; Sanchez & Salinas, 2008; Tondeur et.al., 2008; Vanderlinde, Aesaert & van Braak, 2014) contend, that a holistic plan for successful implementation of ICT includes the provision of the necessary infrastructure.

Supervision: There is a need for monitoring of the innovation in schools. The MOE and DEIE need to devise measures to supervise the innovation especially to see if it is being used in classrooms and what are the barriers to such use. This is necessary so that they can help improve

or promote implementation as it was observed from this study that only one teacher really tried to use ICT in the classroom while another made little use of it and another never used it. The many barriers identified in the study also indicate that there is a need for supervision. When supervision is done it gives administrators an idea of how to improve implementation. Thus, no supervision is detrimental for implementation of ICT. Scholars, (Albugami & Ahmed, 2015; Sanchez & Salinas, 2008; Tondeur et.al., 2008; Vanderlinde, Aesaert & van Braak, 2014) contend, that a holistic plan for successful implementation of ICT includes monitoring.

Future Research

1. This study was a single instrumental case study at one secondary school; it will be good to conduct a multisite case study with other secondary schools in Tobago. Findings from these new studies may help to compare and contrast the findings from this study, showing similarities or differences. Thus, gaining a better understanding of the Facilitators and Barriers to implementation of ICT in secondary schools in Tobago.
2. The investigator also suggests that a study on the effects of the use of ICT in the ELA classroom be conducted so that teachers grasp fully how ICT can promote learning certain concepts in the ELA classroom. This may be done in the form of Action Research.

Conclusion

This qualitative single instrumental case study investigated teachers' perspectives of the factors that influence and hinder teachers' implementation of ICT in the ELA classroom at Gifted Secondary School, Tobago. Data were collected through semi-structured face-to-face interviews with three participants who were purposefully selected. Data were open coded, then categorized into benchmark themes, facilitators and barriers to implementation. Findings of this

study revealed that only two of the teachers tried to implement the innovation as evidenced by what they have been doing in their practice. It was just that one teacher was more persistent than the other. While on the other hand, one teacher did not utilise the innovation in the classroom. There is little use of ICT in the ELA classroom because of the many barriers that impede implementation. Despite the barriers to teachers' implementation of the innovation it is teachers understanding the need and relative advantage of the innovation; teacher effort; team teaching; teacher's prior experience; assistance from ICT experts; teacher training; availability of ICT tools at school and support from Administration that facilitates its use.

References

Abdullah, N. A., Abidin, M. J. Z., Luan, W. S., Majid, O., & Atan, H. (2006). The attitude and motivation of English language teachers towards the use of computers. *Malaysian Online Journal of Instructional Technology, 3*(1), 57-67.

Afshari, M., Bakar, K. A., Luan, W. S., Samah, B. A., & Fooi, F. S. (2009). Factors Affecting Teachers' Use of Information and Communication Technology. *International Journal of Instruction, 2*(1), 77-104.

Albugami, S., & Ahmed, V. (2015). Success factors for ICT implementation in Saudi secondary schools: From the perspective of ICT directors, head teachers, teachers and students. *International Journal of Education and Development using Information and Communication Technology, 11* (1), 36-54.

Al-Harbi, H. (2014). Towards successful implementation of ICT in education. *International Academic Conference Proceedings* (pp. 33-46).

Al-Awidi, H. M., & Ismail, S. A. (2014). Teachers' perceptions of the use of computer assisted language learning to develop children's reading skills in English as a second language in the United Arab Emirates. *Early Childhood Education Journal*, *42*(1), 29-37.

Alresheed, S. (2017). Integrating computer-assisted language learning in Saudi schools: A change model. *The Turkish Online Journal of Educational Technology, 14*(4), 69-77.

Arnesen, T. (2010). *The role of ICT in the teaching of English as a Foreign Language in Norwegian lower secondary schools: a study of ICT use and patterns of associated factors* (Unpublished master's thesis).

Baker, J., & Westrup, H. (2000). *English Language Teacher's Handbook: How to Teach Large Classes with Few Resources*. Bloomsbury Publishing.

Barker, R., Franklin, G., & Meadows, J. (2000). *Reading and writing with ICT. Teaching and learning with ICT in the primary school*. London: Routledge.

Bell-Hutchinson, C. (2008). Constructivism and the enabling of mathematical thinking.. In L. Quamina-Aiyejina (Ed.), *Reconceptualising the agenda for education in the Caribbean: Proceedings of the 2007 Biennial Cross-Campus Conference in Education, April 23–26, 2007, School of Education, UWI, St. Augustine, Trinidad and Tobago* (pp. 477–488). St. Augustine, Trinidad: School of Education, UWI.

Bozdogan, D., & Rasit, Ö. Z. E. N. (2014). Use of ICT Technologies and Factors Affecting Pre-Service ELT Teachers' Perceived ICT Self-Efficacy. *The Turkish Online Journal of Educational Technology*, *13*(2), 186-196.

Buabeng-Andoh, C. (2012). Factors influencing teachers' adoption and integration of information and communication technology into teaching: A review of the literature. *International Journal of Education and Development using Information and Communication Technology*, *8*(1), 136-155.

Celce-Murcia, M., & McIntosh, L. (1991). Teaching English as a second or foreign language.

Corbin, J. (2002). "The digital Classroom in the Caribbean." Volume 12, No. 3. http://www.iimahd.ernet.in/egov/ifip/dec2002/article4.htm

Coughlan, S. (2015). Computers 'do not improve'pupil results, says OECD. *BBC News, viewed*, *10*. http://www.bbc.com/news/business-34174796

Chen, W. (2013). School leadership in ICT implementation: Perspectives from Singapore. *The Asia-Pacific Education Researcher*, *22*(3), 301-311.

Clarke, P. J. (2007). Exploring the use of computer technology in a Caribbean context: Views of preservice teachers. *International Journal of Education and Development using ICT*, *3*(1), 23-28.

Creswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Sage Publications.

Cuban, L. (1986). *Teachers and machines*. New York: Teachers College Press.

Darus, S., & Luin, H. W. (2008). Investigating Teachers'Use of Computers in Teaching English: A Case Study. *Teaching English with Technology*, *8*(1), 1-18.

Denzin, N. K., & Lincoln, Y. S. (2000). *Handbook of qualitative research*. Thousand Oaks, CA: Sage Publications.

Dirr, P. J., & Pedone, R. J. (1978). A National Report on the Use of Instructional Television. *Audiovisual Instruction*, 23(1), 11-33.

Dirr, P. J., & Pedone, R. J. (1979). Uses of Television for Instruction 1976-77: Final Report of the School TV Utilization Study.

Trinidad and Tobago. Ministry of Education. (2005). *Draft Policy for Information and Communications Technology in Education.* Port of Spain, Trinidad: Author.

Drent, M., & Meelissen, M. (2008). Which factors obstruct or stimulate teacher educators to use ICT innovatively?. *Computers & Education*, *51*(1), 187-199.

Drigas, A., & Charami, F. (2014). ICTs in English Learning and Teaching. learning, 4, 5.

Ellis, V. (2001). Analogue clock/digital display: continuity and change in debates about literacy, technology and English. In A. Loveless & V. Ellis (Ed.), *ICT Pedagogy and the Curriculum:Subject to Change* (pp.131- 151). London and New York: Routledge.

Firek, H. (2004). 10 Easy Ways to Use Technology in the English Classroom. Education Review//Reseñas Educativas.

Fullan, M. (2007). The new meaning of educational change. New York: Routledge.

Gaible, E. (2009). Survey of ICT and Education in the Caribbean Volume II: Country Reports. *Washington: The International Bank for Reconstruction and Development, The World Bank*.

Gallardo del Puerto, F., & Gamboa, E. (2009). The evaluation of computer-mediated technology by second language teachers: collaboration and interaction in CALL. *Educational Media International*, *46*(2), 137-152.

Guba, E. G. (1981). Criteria for assessing the trustworthiness of naturalistic inquiries. *Educational Technology research and development*, *29*(2), 75-91.

Gundy, M.S. & Berger, M.J.(2010). Integration of Laptop Computers in High School Biology: Teachers' Perception. *Journal of Information Technology & Application in Education*, *2*(1) 34-46.

Hashemi, B. (2013). The investigation of factors affecting the adoption of ICTs among English language Teachers in ESL context. *The International Journal of Language Learning and Applied Linguistics World*, *4*(1), 58-72.

Harry, S. & Mitchell, B. (2013). The eConnect and Learn curriculum change in Trinidad and Tobago: The voice of the teacher [PowerPoint presentation].

Harry, S. N. & Mitchell, B. (2015). An Investigation of the Factors that Facilitate the Implementation of the e-CAL Curriculum Change Initiative in Trinidad and Tobago. *International Journal of Digital Society*, *6*(3), 1058-1065.

Harry, S. N., & Smith, T. L. (2013). What de teacher say? Talk as a mode of inquiry in curriculum enactment in a technical-vocational classroom. http://education.stateuniversity.com/pages/1916/Discourse.html

Haydn, T., & Barton, R. (2008). 'First do no harm': Factors influencing teachers' ability and willingness to use ICT in their subject teaching. *Computers & Education*, *51*(1), 439-447.

Hennessy, S., Harrison, D., & Wamakote, L. (2010). Teacher factors influencing classroom use of ICT in Sub-Saharan Africa. *Itupale online journal of African studies*, *2*(1), 39-54.

Hennessy, S., Ruthven, K. and Brindley, S. (2005) Teacher perspectives on integrating ICT into subject teaching: commitment, constraints, caution and change. *Journal of Curriculum Studies*, *37*(2), 155-192.

Higgins, S. (2003). *Does ICT improve teaching and learning in schools?* British Educational Research Association.

Hjalmarsson, H. (2015). The effects of ICT on affective factors and teaching practices in the EFL and ESL classroom.

Hu, Z., & McGrath, I. (2012). Integrating ICT into College English: An implementation study of a national reform. *Education and Information Technologies*, *17*(2), 147-165. review.

Information Technology Agency Summary, (2016). Department of Education, USA. https://www.itdashboard.gov/drupal/summary/018

Jones, A. (2004). A review of the research literature on barriers to the uptake of ICT by teachers: British Educational Communications and Technology Agency (Becta).

Joseph, R. (2013). *Teachers' views of ICT in EL classrooms in UAE Institutes of Technology* (Doctoral dissertation, American University of Sharjah).

Kamalodeen, V. J., & Chaitoo, M. (2015). One-to-One Laptop Use Among Students and Teachers in a Selected Secondary School In Trinidad and Tobago. *Canadian International Journal of Social Science and Education*, 5.

Kandasamy, M., & Shah, P. B. M. (2013). Knowledge, attitude and use of ICT among ESL teachers. *Proceedings of the Global Summit on Education,*185-199.

Leask, M., & Meadows, J. (2000). *Teaching and Learning with ICT in the Primary School*. London and New York: Routledge.

Long, L. K., & Meglich, P. A. (2013). Preparing students to collaborate in the virtual work world. *Higher Education, Skills and Work-Based Learning*, *3*(1), 6-16.

Look Loy, V. (2015). The Development of Educational Technology: Its Impact on Education in Trinidad and Tobago. *Caribbean Curriculum*, *1*(1), 19-28.

Lunenburg, C. (2010). *Forces for and resistance to Organizational change*. National forum of Educational Administration and Supervision Journal, 27, 1-10.

Maloy, B.W, Verock-O'Loughlin, Edwards, S.A. & Woolf, B.P. (2011). *Transforming Learning with new technologies: Technology in Classroom.Boston*. Pearson

Marsh, C. (2009). *Key concepts for understanding curriculum*. London and New York: Routledge.

Mason, K.A.(2007). Embracing Technology in the secondary school curriculum: The status In Two Eastern Caribbean countries. *The journal of Negro Education*, *76*(1), 5-14.

Merriam, S. B. (2009). *Qualitative research: A guide to design and implementation*. San Francisco: Jossey-Bass.

Mozafari, P., & Wray, D. (2013). Iranian EFL Teachers' Perspectives on their Use of ICT in their Teaching Practices: A Multiple Case Study. In EC-TEL Doctoral Consortium (pp. 57-64).

National Education Technology Plan. (2016). U.S. Department of Education.

National Policy on Information and Communication Technology in School Education. (2012). Department of School Education and Literacy, Ministry of Human Resource Development, Government of India.

Nim Park, C., & Son, J. B. (2009). Implementing computer-assisted language learning in the EFL classroom: Teachers' perceptions and perspectives. *International Journal of Pedagogies and Learning*, *5*(2), 80-101.

Ogbomo, M. O., & Ogbomo, E. F. (2008). Importance of information and communication technologies (ICTs) in making a heathy information society: a case study of ethiope east local government area of Delta State, Nigeria.

Onuoha, C. A., Onuoha, P. C., & Ferdinand, D. (2016). Caribbean Teachers' Perspectives on One-to-One ICT Programme for Enhancing Teaching and Learning: a Case Study of a Boys' High School. *Journal of Educational Policy and Entrepreneurial Research*, *3*(7), 28-42.

Ornstein, A., & Hunkins, F. (2013). *Curriculum*. United States of America: Pearson.

Patton, M. Q. (2005). *Qualitative research*. John Wiley & Sons, Ltd.

Pelgrum, W. (2001). Obstacles to the integration of ICT in education: Results from a worldwide educational assessment. *Computers & Education*, *37*(2), 163-178.

Phillip, G. (2008). Information and Communications Technology Initiatives in Secondary Schools in Trinidad and Tobago.. In L. Quamina-Aiyejina (Ed.), *Reconceptualising the agenda for education in the Caribbean: Proceedings of the 2007 Biennial Cross-Campus Conference in Education, April 23–26, 2007, School of Education, UWI, St. Augustine, Trinidad and Tobago* (pp. 139–148). St. Augustine, Trinidad: School of Education, UWI.

Plomp, Tj., ten Brummelhis, A.C.A., & Rapmund, R. (1996). Teaching and Learning for the Future. Report of the Committee on MultiMedia in TeacherTraining (COMMITT). Den Haag: SDU.

Pramela, K., & Noraza, A. Z. (2007). Teachers and the new ict challenges. *Jurnal e-Bangi*, *2*(2), 1-13.

Prosperity for all Manifesto of the People's Partnership. (2010). Trinidad and Tobago.

Riasati, M. J., Allahyar, N., & Tan, K. E. (2012). Technology in language education: Benefits and barriers. *Journal of Education and Practice*, *3*(5), 25-30.

Roblyer, M. (2003). *Integrating educational technology into teaching*. 3rd ed. Allyn & Bacon.

Roblyer, M. D. (2006). *Integrating educational technology into teaching* (Vol. 2). Upper Saddle River, NJ: Pearson/Merrill Prentice Hall.

Rogers, E. M. (1983). *Diffusion of innovations*. New York: Free Press.

Sage.Survey of ICT and Education in the Caribbean Volume II: Country Reports. Retrieved on October 17, 2016 from https://www.infodev.org/infodevfiles/resource/InfodevDocuments_604.pdf

Sağlam, A., & Sert, S. (2012). Perceptions of in-service teachers regarding technology integrated English language teaching. *Turkish Online Journal of Qualitative Inquiry*, *3*(3), 1-14

Salehi, H., & Salehi, Z. (2012). Challenges for Using ICT in Education: Teachers' Insights. *International Journal of e-Education, e-Business, e-Management and e-Learning*, *2*(1), 40.

Samuel, R. J., & Bakar, Z. A. (2007). Do teachers have adequate ICT resources and the right ICT skills in integrating ICT tools in the teaching and learning of English Language in malaysian schools?. *The Electronic Journal of Information Systems in Developing Countries*, *29*.

Sánchez, J., & Salinas, A. (2008). ICT & learning in Chilean schools: Lessons learned. *Computers & Education*, *51*(4), 1621-1633.

Schubert, W. (1986). *Curriculum*. New York: Macmillan Pub. Co.

Trinidad and Tobago. Ministry of Education. (2008). *Secondary Education Modernization Programme*. Port of Spain, Trinidad: Author.

Trinidad and Tobago. Ministry of Education. (2015). *Secondary School Curriculum English Language Arts*. Port of Spain, Trinidad: Author.

Shah, P. M., & Empungan, J. L. (2015). ESL Teachers' Attitudes towards Using ICT in Literature Lessons. *International Journal of English Language Education*, *3*(1), 201-218.

Smith, J. A. (Ed.). (2007). *Qualitative psychology: A practical guide to research methods*. Sage.

Snyder, J., Bolin, F., & Zumwalt, K. (1992). Curriculum implementation. *Handbook of research on curriculum*, *40*(4), 402-435.

Somekh, B. (2008). Factors affecting teachers' pedagogical adoption of ICT. In International handbook of information technology in primary and secondary education (pp. 449-460). Springer US.

Strauss, A., & Corbin, J. (1990). *Basics of qualitative research* (Vol. 15). Newbury Park, CA:

Tella, A., Tella, A., Toyobo, O. M., Adika, L. O., & Adewuyi, A. A. (2007). An assessment of secondary school teachers uses of ICT's: Implications for further development of ICT's use in Nigerian secondary schools. *TOJET: The Turkish Online Journal of Educational Technology*, *6*(3).

The Ministry of Education in New Zealand. (2006). "ICT Strategic Framework for Education Design". The Ministry of Education, on behalf of the education sector agencies and the National Library of New Zealand.

Tondeur, J., van Keer, H., van Braak, J., & Valcke, M. (2008). ICT integration in the classroom: Challenging the potential of a school policy. *Computers & Education*, *51*(1), 212-223.

Trinidad and Tobago. Ministry of Education. (2015). *The eConnect and Learn Programme Policy*. Port of Spain, Trinidad: Author.

UNESCO (2012). Snapshot: ICT integration in education and e-readiness in education. Retrieved on 10th October, 2016 from www.ICT-pulse.com.

Vanderlinde, R., Aesaert, K., & van Braak, J. (2014). Institutionalised ICT use in primary education: A multilevel analysis. *Computers & Education*, *72*(1), 1-10.

Voogt, J. (2003). Consequences of ICT for Aims, Contents, Processes and Environments of Learning. In J. van den Akker, W. Kuiper, & U. Hameyer (Eds.), Curriculum landscapes and trends (blz. 217–236). Dordrecht: Kluwer

Venezky, R., & Mulkeen, A. (2002). ICT in Innovative Schools: Case Studies of Change and Impacts. *Paris: Organisation for Economic Cooperation and Development(OECD), Department for Education, Schooling for Tomorrow.*

Yin, R. (2009). *Case study research: Design and methods (4th ed.).* London, UK: Sage

Yunus, M. M. (2007). Malaysian ESL teachers' use of ICT in their classrooms: expectations and realities. *ReCALL*, *19*(1), 79-95.

Yunus, M. M., Nordin, N., Salehi, H., Embi, M. A., & Salehi, Z. (2014). Future of ICT as a Pedagogical Tool in ESL Teaching and Learning. *Research Journal of Applied Sciences, Engineering and Technology*, *7*(4), 764-770.

Zainal, A. (2012). ESL teachers' use of ICT in teaching English literature: An analysis of teachers' TPCK. *Procedia-Social and Behavioral Sciences, 34* (1), 234-237.

Appendices

Appendix A

Interview Questions

Warm up questions

1. How are you?
2. How long have you been teaching at this school?

Specific questions

3. Do you use ICT in your classroom?
4. If yes, Why? If no, why not?
5. In your perspective, what facilitates the use of ICT in the English Language Arts classroom?
6. In your perspective, what are the factors that impede your use of ICT in the English Language Arts classroom?

Appendix B

Transcription of Interview (2017)

Interview with Ms. June

Researcher: Good, recording. Ok, so umm … good day Ms. June. How are you?

Ms. June: Hello and I am fine thank you

Researcher: Ms. June I just want to thank you so much for agreeing to participate in this interview. Like I told you before it is about the factors that facilitate and impede your implementation of ICT in the English Language classroom. ICT covers all the technologies used for the handling and communication of information. These technologies include: computers/ laptops, storage devices e.g. flash drives and CD's, mobile phones, Tablets, iPad, satellite communication, audio and audio visual equipment, email messaging and Web 2.0 tools. Alright, am… You told me that you would like to give me a little background information. You may proceed with this information.

Ms. June: Umm.. I am, going to be fifty one (51) this year. So you are talking to somebody from the cassette and tape generation.

Researcher and Ms. June: laughs

Ms. June: Umm, I am not technology intuitive. So, my approach to, ***(clears her throat),*** to Technology in my English classroom is a person who is willing, I am a person who is willing to employ use of technology in teaching English as far as possible. Umm… but

I need a lot of support and I need a lot of help when I do, when I do so. So, umm… So my background in EFL ***(Teaching English to Foreign Learners)*** was a technology rich environment where we had the use of the digital, the digital camera, that digital camera that you, I do not know if it is digital or analogue but it is a camera that you can use to umm… it is an overhead camera where you put your document under it and it would project unto the board or screen.

Researcher: Is it the ELMO?

Ms. June: The ELMO, right. So I have come from classrooms that were theatre style with machines that can switch from the computer to the camera.

Researcher: Alright. How long have you been teaching at Gifted Secondary School?

Ms. June: Ok, I have been teaching at Gifted Secondary School for four years.

Researcher: Do you use ICT in the classroom in the teaching of English Language Arts?

Ms. June: Yes I do from time to time but not frequently.

Researcher: Can you tell me why do you use ICT in the classroom?

Ms. June: I use ICT because it really does assist the students with their learning. I see the need

for it as I am teaching the twenty first century child and he or she learns better with ICT. At this stage in our lives we see that students are addicted to their cell phones and facebook and whats app so I say we use what interests them to teach them. When I use ICT in my classroom the class becomes so involved. I am not sure if learning take place but there is much students participation when I use ICT.

Researcher: Tell me, in your perspective, what facilitates the use of ICT in the English Language Arts classroom?

Ms. June: When I came here, I had the use of a laptop, it wasn't mine, but umm.. I had use of one of my son's laptops and… from the laptop I was able to borrow the department's projector that was available. I was able to… to amend the sound, to amend the sound of the laptop by using the department's speakers. So I was able to add an element of audio to lesson to my lessons as well as an element of visual to the lessons. I think one of the absolute best lessons that I have had since I came here was one where I was assisted by Ms. December, the teacher in the Modern Studies Department where I was teaching plot, the plot of a story and we found videos online, using YouTube, several cartoon type videos online which we showed to form two

English students

Researcher: Ooh so you used the Web 2.0 tool, Youtube?

Ms. June: Yes. And there was an answer sheet or questionnaire for them to fill out so it was a combination of doing listening, viewing and writing. As well as you know the children giving oral feedback and umm… I think that was one of the best sessions that I had. So in addition to using the ICT I also had a second body in the room to assist me with ensuring that everything was alright. Also, ensuring that the more challenged students-the classes were streamed-so she helped me to keep the challenged students to focus on the lesson.

Researcher: Any other facilitator that have allowed you to implement ICT in the English Language Arts classroom?

Ms. June: Well I have allowed students to break the school rule of not using cell phones during class time as I would allow them to conduct research on topics. For example I was telling them about the "code war" and I really didn't have the time to go into it during our lesson so I asked them to use their phones (those who had smart phones and internet) to research about the "code

war" and before the end of the class someone was able to reveal the information to me. And that is when I discovered what a powerful tool having internet devices in the classroom. Some of these students can access dictionaries online so they can use their thesaurus on their phones to research words they do not know the meaning . And this is exactly what I use the cell phone to do in the class. I asked my students to download a thesaurus on their smart phones so that we can use it in the classroom. Of course there are some students whose parents do not allow them to bring to school their cell phones so they usually work with their peers. I usually give students Home-Work assignments using the computer for example to conduct a research or type an essay after teaching a unit on a particular genre. Also with this new portfolio assessment students have to create media pieces and bring them on their flash drives.

Researcher: Alright. Umm…Ok. You mentioned that you used to bring your laptop in the beginning and getting assistance from another teacher to assist you with the ICT in the classroom and allowing students to use their cell phones to do research right?

Ms. June: Yes.

Researcher: With that in mind, I just want to focus on some challenges you experienced when Implementing ICT in the English Language classroom. In your perspective what are the factors that impede your use of ICT in the English Language Arts classroom?

Ms. June: Ok well, I have to say that things have improved slightly in that, in the first year that I was here we didn't had basic things like electricity in some of the classrooms. So… umm.. I didn't go to the extreme that I saw other teachers going to. I saw other teachers going to the extreme that they would walk with an extension cord to source electricity from another classroom, umm… to, to plug in their devices. So I selected or opted to use my machine only in those classrooms where there was actual electricity.

Researcher: So let me just interject, they used to go to the other classroom that has electricity and source the electricity from that classroom to teach in another classroom. Oh yes! It is true.

Ms. June: And, they would have to go when there is a teacher present in that classroom because if they plugged in the extension umm… they needed adult supervision to ensure that some

children wouldn't go and unplug the extension.

(Both Miss June and the Researcher laughs simultaneously).

Ms. June: While they were using their device

Researcher: laughs

Ms. June: So it was a huge undertaking to coordinate maybe just as something as simple as playing a radio or powering a projector to ensure that you are able to implement ICT in the English classroom.

Researcher: So you have to make sure that the classroom has electricity first before you try to implement ICT in the classroom?

Ms. June: That problem has been fixed now. Now across the lower school we have electricity in I would say practically all the classroom. Ummm… right now the problem is the provision of the machinery to teachers because at the moment I do not have a laptop. Umm.. the laptop that I had access to when I first arrived umm… it fell and I have not been able to replace it as yet. So I am

without a personal laptop. We have to use the school's laptops. The school has two laptops that are available for teachers to borrow and those laptops are not the best condition. I believe I try to use my broadband in order to show videos and at one point in time the laptop was not able to pick up the signal. So Iwas not able to show the video via the laptop. What I had to do in that instance was to borrow the biggest tablet type telephone that one of the students had and ask them to gather around me because that was the biggest screen that we had available. At that point I opted to use one of the students tablet because that screen was bigger than my telephone.

Researcher: So you are telling me the electricity, the poor quality of the equipment and the lack of broadband connectivity were challenges in implementing ICT in the English classroom. Any other challenges you may be facing?

Ms. June: Well I am my own challenge in a sense that… in a sense that there are things that I do not know how to do on my phone and even if I did do certain things on my phone my phone

do not have the capacity to store some of these things. So I use the wireless option.

Researcher: Or so you are speaking about downloading videos and audios to your phone?

Ms. June: Yes yes, Umm… I have used whatsapp as a means to disseminate information. The problem with that is that you assume that all your children have smart phones and through umm… through sharing videos about grammar and literature with them I realise that not all students have smartphones and even those who have smart phones don't all have access to data. So that I discovered is a discriminatory practice. So I have slowed down on sharing things through that means. Another option is one that I have been introduced to through Ms. October and Ms. November who are in the Science Department and who use edmodo. Over the holidays I am going to learn more about it. And we have a case that because teachers are now using this edmodo there is an even greater demand for connectivity and the use of the seven desktops in the library.

Researcher: Tell me something, during your four years has there ever been training in using ICT by the DEIE or the school?

Ms. June: No

Researcher: Tell me, now in 2010 the then PP government introduced the eCAL policy a laptop initiative where every form one students were given laptops to use in school and at home. How have you been using these laptops?

Ms. June: No, Not at all. There is no internet and space and facilities to charge equipment what is the point in using it. The classroom is too tiny to facilitate group work far less for every child using their own laptop.

Researcher: Have you been using the kindles available by the school in your classroom?

Ms. June: I have tried to use it once to engage in a comprehension exercise but because there was no internet we were not able to use google to download a passage. I attempted to use it again but when I did all the kindles were malfunctioning.

Researcher: Ms. June I just want to thank you so much for assisting me with my research and thank you for dedicating a fraction of your lunch time to me.

Interview with Ms. May

Researcher: Ok, Good Afternoon

Ms. May: Good Afternoon

Researcher: I know I am taking part of your lunch time but I just want to thank you so much for just giving me a little fraction of your lunchtime.

Ms. May: *(Ms. May Laughs),* No problem.

Researcher: Alright. Ummm… you know what the interview is about ?

Ms. May: Right.

Researcher: I just want to know in your perspective what are the facilitators and barriers to implementing ICT in the ELA classroom. Tell me, How long have you been teaching at this school?

Ms. May: Umm.. well currently I have been teaching seven years now.

Researcher: Alright. Do you use the ICT innovation in the teaching of English Language Arts?

Ms. May: Very Rare.

Researcher: Why do you use it even though you do not use it frequently in the classroom?

Ms. May: ICT is known to be the tool that really grabs the interest of today's learners. It is the tool that deviates from chalk and talk and I try to use it in order to give the students another learning strategy. It can really assist teachers with teaching and students with learning but I do not utilise it fully because of many reasons.***(Researcher interjects)***

Researcher: Good, so on that note can you tell me in your perspective what facilitates the use of ICT when you decide to use it in the ELA classroom?

Ms. May: In the beginning of my teaching career there were some training programs that we tried to implement and an entire two days of training.The staff and I myself attended a work shop where they tried to give us ideas in terms of methods that we could use in the classroom.

Researcher: When you say they, whom do you refer to?

Ms. May: Or, I mean the curriculum officers and the Division of Education. I do not use ICT in Terms of how they taught it to us directly. When I do use ICT I just use the ones that we are accustom to like the power point presentation. I just use it at the basic level. I

don't have children

actually use it in the classroom like they advised us to do because of a number of reasons but I

just use it for visual or audio assistance. So in essence I do not really use it in my

instruction as I would like to. Social media has become such a huge thing in the entire school

population and students spend so much time focusing on social media even to the point where it

takes away so much time from their concentration and studies. The fact that teachers have been able to

implement social media in a constructive way for the students for example using whatsapp and

facebook to discuss assignments works for both the teacher and the student. Sometime you try to

do the power point thing and you try to implement it and there is one A.V. room and the school has only

about two laptops for a school of eighty teachers to use. So on top of that you have to bring your

own laptop to school if you want to use power point, or audio in the English class. That is

basically where my problem is right now.

Researcher: Ok so we're talking about one or two challenges that you are experiencing implementing ICT in the EL classroom. Can you outline for me any other challenges that you are experiencing?

Ms. May: Well for us we are the largest school in Tobago and there are approximately one hundred and fifty students in each year group and both lower and upper school students need to be able to use the technology not just in terms of finding information using their devices but how to actually research and how to use the tools on their laptops and phones to assist them with their own learning. So even when they go beyond secondary school they are ready for the next level and to be efficient in technology for the world of work. Our students do not know how to use technology in a positive way unless you teach them how to and I think that is the reason for the ICT initiative. Teachers need to know how to teach using the technology and to allow students to use the technology in the classroom but some of us are not competent enough or comfortable with the technology. There are even certain tools I do not know how to use on the laptop for

example digital story , I remember UWI taught us how to create a website and I cannot remember

what sites would assist you to do that. The next barrier is that we do not have space. The

classrooms in which we teach do not have the space and the facilities such as outlets to charge

equipment and the whiteboards to project a power point, or sound proof to not disturb other

classes, or the comfort of AC and wireless connection to implement ICT on the real level or the

way that we are supposed to. Yes we may have some training as teachers in implementing ICT to

some extent but you train teachers and you do not provide them with the facilities to implement

what they have learnt? The schools and classrooms are not upgraded to assist teachers in

implementing ICT in the curriculum. Even if regular classrooms are not upgraded, proper rooms

are not provided with the necessary equipment to implement ICT. By the time you get

equipment you forget all that you have learnt about ICT implementation. The language

department now has two projectors and one speaker box but it is tedious to carry

these to the classroom and the set up can take forever if you struggle with just setting up the equipment. Because of this I really do not fight up with that. We need proper ICT rooms man! With the one AV room that we have it is so much fight to get the room that you do not even bother. Teachers tend to implement ICT using the AV room because of the whiteboard and the electricity and outlets available. The AV. Room even has an overhead projector so you can just ask the IT technician to assist you and it is a sound proof room where you can play audios and not disturb other classes. But there is so much fight for that room you just don't even bother sometimes. So basically we do not have the space and we do not have enough equipment to implement ICT in the classroom; we do not really have the skill set to train students to use the ICT efficiently.

Researcher: Now you mention the barriers to you implementing ICT in the classroom, but what facilitates your use of ICT when you do choose to use it?

Ms. May: Always, at the success of anything must begin form the head. We do have an

accommodating administration and an accommodating HOD in that if you speak to them the issues they really do try to shift things around for you. (***Sniffs, Ms. May has a little common cold).*** Administration really do try in that they allot time to use the AV room if you have a request to do so. I even use the little audio visual equipment that we have in the language department when I do implement ICT in the classroom. Our ICT teachers have also made themselves quite available to assist us with whatever questions we may have a challenges in using a particular tool or program. It really comes from cooperation. Cooperation doesn't always happen but it really goes a long way when we cooperate.

Researcher: Well you are familiar with the eCAL policy where laptops were given to form one students in 2010 and in the flowing years even up to last year. How have you been using these laptops in the classroom?

Ms. May: Well like I told you there isn't enough outlets to charge equipment in the classroom and since whenever I want to use it some child always need his or her equipment charged. It really frustrates me. We do not even have connectivity to say we can YouTube a video or the like

so any effort in using the ICT with connectivity is bound for failure. There was this one episode where I was teaching descriptive writing and I asked students to draw the scene they described but some children were doing their own thing while others were working. So I do not really fight up to use the laptops because it is difficult to supervise students and because of the structure of the classroom and the lack of facilities to use it .

Researcher: What about the Kindles the school has, have you ever used them?

Ms. May: No I haven't.

Researcher: Thank you so much Ms. May.

Ms. May: You're welcome Mr. Benjamin

Interview with Ms. April

Researcher: Good day Ms. April and how are you?

Ms. April: I am fine sir and how are you?

Researcher: Elated that you decided to do this interview with me. Let me first define ICT for you, ICT covers all the technologies used for the handling and communication of information. These technologies include: computers/ laptops, storage devices e.g. flash drives and CD's, mobile phones, Tablets, iPad, satellite communication, audio and audio visual equipment, email messaging and Web 2.0 tools. So tell me, do you use the ICT innovation in your English Language Arts classroom?

Ms. May: Well Mr. Benjamin to be honest no. I can state why if you want me to.

Researcher: Well on that note, Can you relate to me, in your perspective, what are the factors that impede the use of ICT in the ELA classroom?

Ms. May: Well Mr. Benjamin, firstly the curriculum demands so much from you as the teacher, everything done at the lower school is geared towards preparing students for NCSE. The term has so many interruptions that you just have to teach and prepare the students for in house examinations and the big examination at the end of form three. So I really do not get the time to fit ICT into my lessons because I am too busy trying to keep up with teaching for the examination. At times I am so consumed in correcting papers and with this new portfolio thing I am so busy with paper work, I really do not get the time to implement ICT in my classroom. The only thing I could say that I use now is the flash drive where students put their multimedia pieces and digital story on the flash drive for me to attach to their portfolio.

I do not use ICT in the classroom because the classroom is just not outfitted to implement ICT. There aren't enough outlets for students to charge their laptops for those who need to charge their laptops during a lesson. There isn't any internet connectivity in the classroom for both teacher and student to access during a lesson and the structure of the classroom is so rigid that desks cannot be manipulated to really use ICT to promote 21st century skills such as collaboration, team work, and empathy to name a few. There aren't even enough laptops for teachers to use as there are only two laptops available at the school and I am not going to carry my expensive Mac laptop to the classroom with my playful students.

Researcher: Hmmm

Ms. April: Yes.

Researcher: So have you ever utilised the e-CAL policy?

Ms. April: No. Laptops were provided for the students but where are the laptops for the teachers? Where is the internet connectivity in the classroom? Where are the classrooms that suit the 21st century to implement ICT where chair and desks are easily manipulated for group work and there is AC in the classroom with proper lighting? So until the infrastructure is provided I am not going to even bother.

Researcher: Have you ever used the Kindles the school has available?

Ms. April: No, I have never used them as they are not easily accessibly but are stored in the cupboard of another department.

Researcher: Ms. April, how long have you been teaching at this school?

Ms. April: About 10 years, wow! that's a lot.

Researcher: My goodness Kudos to you. Alright. Have you ever received training in ICT?

Ms. April: Yes I have received ICT training by the Division of Education but it was just a one day in a life time training. Of which is somewhere in my distant memory. I received ICT in my Dip Ed course and I have been on training by the DEYAS during the July/August vacation but as you can see I do not apply what I have learnt for the various reasons I have listed.

Researcher: Do you see the need for ICT in the classroom?

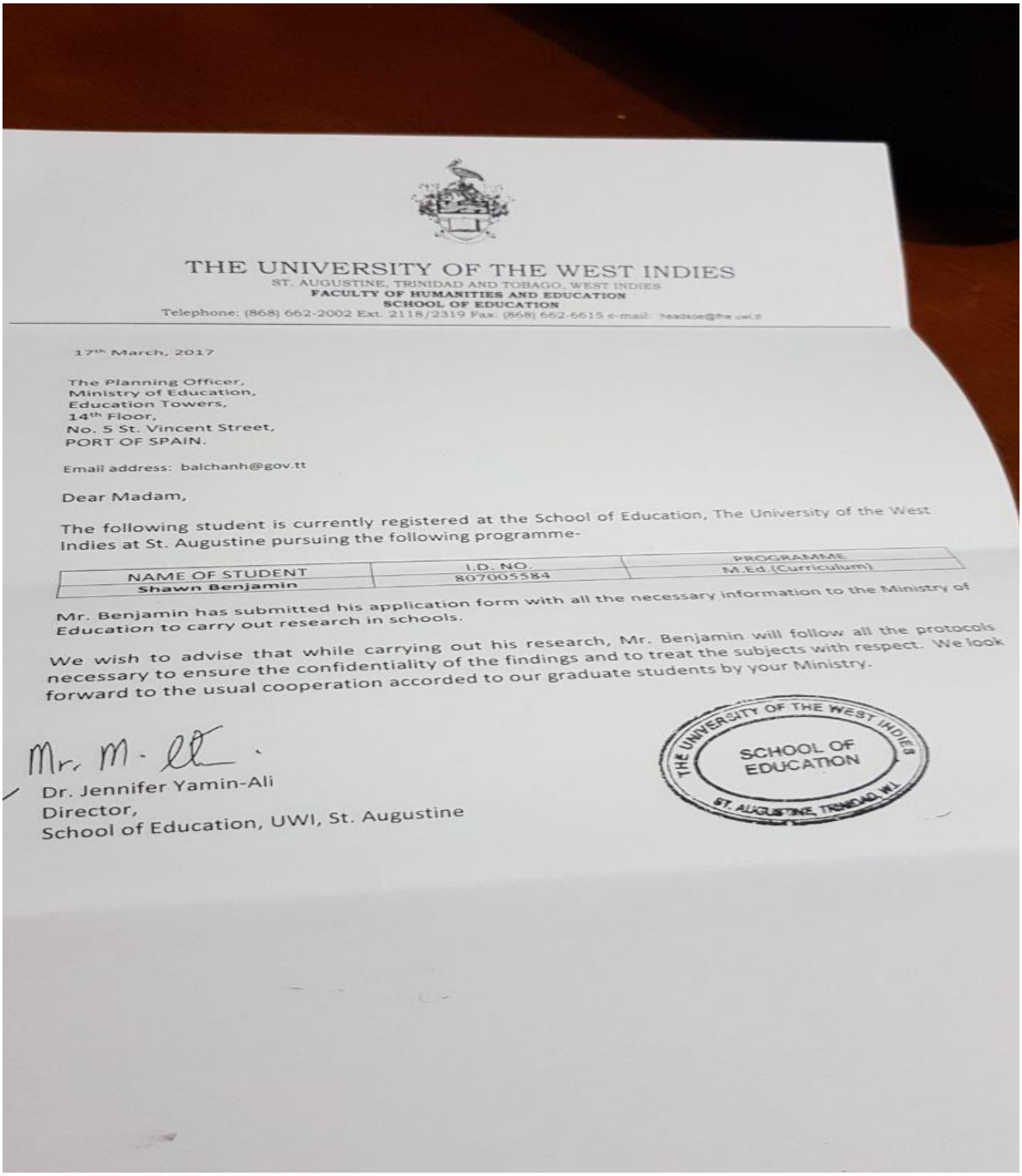
Ms. April: Yes I do see the need as ICT is what the students know and what better way to teach them than to utilise ICT. Students are always on social media and always on their phones so I think use of ICT would actually capture the students' interest but when teachers are met with so many obstacles it is a big turn off.

Researcher: Ok Ms. April thank you for your offering me your lunch time to conduct this interview.

Ms. April: You're welcome Mr. Benjamin. Anytime.

Appendix C

Permission Letter



THE UNIVERSITY OF THE WEST INDIES
ST. AUGUSTINE, TRINIDAD AND TOBAGO, WEST INDIES
FACULTY OF HUMANITIES AND EDUCATION
SCHOOL OF EDUCATION
Telephone: (868) 662-2002 Ext. 2118/2319 Fax: (868) 662-6615 e-mail: headsoe@fhe.uwi.tt

17th March, 2017

The Planning Officer,
Ministry of Education,
Education Towers,
14th Floor,
No. 5 St. Vincent Street,
PORT OF SPAIN.

Email address: balchanh@gov.tt

Dear Madam,

The following student is currently registered at the School of Education, The University of the West Indies at St. Augustine pursuing the following programme-

NAME OF STUDENT	I.D. NO.	PROGRAMME
Shawn Benjamin	807005584	M.Ed.(Curriculum)

Mr. Benjamin has submitted his application form with all the necessary information to the Ministry of Education to carry out research in schools.

We wish to advise that while carrying out his research, Mr. Benjamin will follow all the protocols necessary to ensure the confidentiality of the findings and to treat the subjects with respect. We look forward to the usual cooperation accorded to our graduate students by your Ministry.

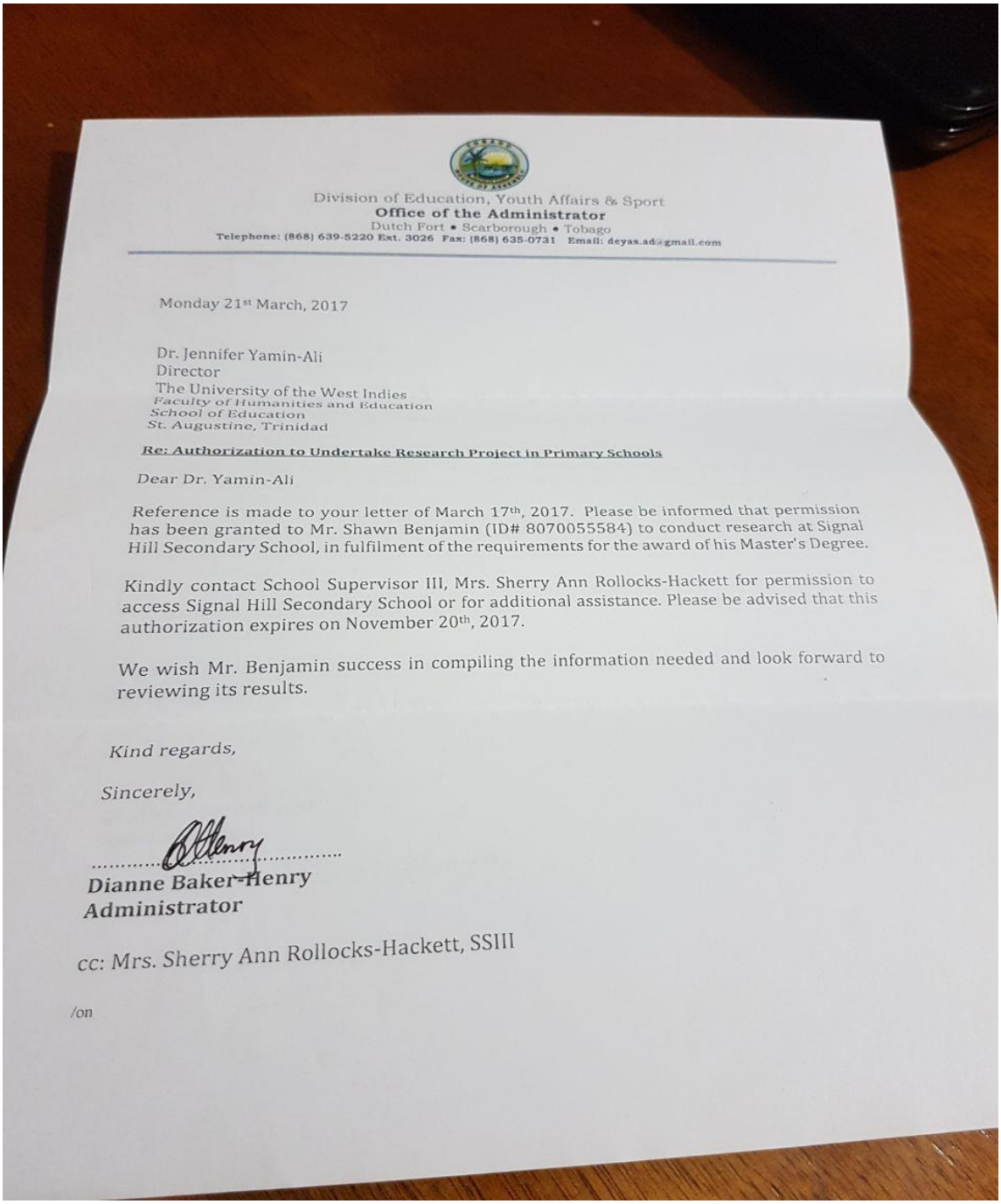
Mr. M. Ali

Dr. Jennifer Yamin-Ali
Director,
School of Education, UWI, St. Augustine

THE UNIVERSITY OF THE WEST INDIES
SCHOOL OF EDUCATION
ST. AUGUSTINE, TRINIDAD, W.I.

Appendix D

Letter of Consent



Division of Education, Youth Affairs & Sport
Office of the Administrator
Dutch Fort • Scarborough • Tobago
Telephone: (868) 639-5220 Ext. 3026 Fax: (868) 635-0731 Email: deyas.ad@gmail.com

Monday 21st March, 2017

Dr. Jennifer Yamin-Ali
Director
The University of the West Indies
Faculty of Humanities and Education
School of Education
St. Augustine, Trinidad

Re: Authorization to Undertake Research Project in Primary Schools

Dear Dr. Yamin-Ali

Reference is made to your letter of March 17th, 2017. Please be informed that permission has been granted to Mr. Shawn Benjamin (ID# 8070055584) to conduct research at Signal Hill Secondary School, in fulfilment of the requirements for the award of his Master's Degree.

Kindly contact School Supervisor III, Mrs. Sherry Ann Rollocks-Hackett for permission to access Signal Hill Secondary School or for additional assistance. Please be advised that this authorization expires on November 20th, 2017.

We wish Mr. Benjamin success in compiling the information needed and look forward to reviewing its results.

Kind regards,

Sincerely,

.....
Dianne Baker-Henry
Administrator

cc: Mrs. Sherry Ann Rollocks-Hackett, SSIII

/on