The University Of Sheffield.

Developing and Evaluating Communication Supporting Classrooms in Brunei Primary Schools

By:

Siti Rafizah Badar

A thesis submitted in partial fulfilment of the requirements for the degree of Doctor of Philosophy

The University of Sheffield
Faculty of Medicine, Dentistry and Health
Department of Human Communication Sciences

September 2016

Table of Contents I

Table of Contents II

List of Tables

List of Figures

List of Abbreviations (in order of appearance)

Chapter 1

SLCN = Speech, Language and Communication Needs

UK = United Kingdom

ASD = Autism Spectrum Disorder

SLT = Speech and Language Therapy / Speech and Language Therapists

SEN = Special Educational Needs

SLI = Specific Language Impairment

USA = United States of America

Chapter 2

NICHD = National Institute of Child Health and Human Development

CsC = Communication Supporting Classroom

LLE = Language Learning Environment

LLO = Language Learning Opportunities

LLI = Language Learning Interactions

Q-CLE = Quality of the Classroom Learning Environment

SENCO = Special Educational Needs Coordinator

SSLD = Specific Speech and Language Difficulties

SCIP = Social Communication Intervention Project

COSMIC = Classroom Observation Schedule to Measure Intentional Communication

ADOS-G = Autism Diagnostic Observation Schedule

M-COSMIC = Modified Classroom Observation Schedule to Measure Intentional Communication

COSTI = Classroom Observations of Student-Teacher Interaction

Chapter 3

GCSE = General Certificate of Secondary Education

MoE = Ministry of Education

BNV 2035 = Brunei National Vision 2035

SPN-21 = Sistem Pendidikan Negara Abad ke-21/ National Education System for the 21st Century

GSEP = General Secondary Education Programme

ASEP = Applied Secondary Education Programme

SEP = Specialised Education Programme

SENP = Specialised Educational Needs Programme

UNESCO = United Nations Educational, Scientific and Cultural Organization

SEU = Special Education Unit

SENA = Special Educational Needs Assistance

IEP = Individual Education Plan

MIS = Model Inclusive School

MoH = Ministry of Health

PIES = Perceptions of Inclusive Education Scale

MIB = Melayu Islam Beraja / Malay Islamic Monarchy

Chapter 5

Non-MIS = Non Model Inclusive School

T = Time point

T1 = Time point 1

T2 = Time point 2

T3 = Time point 3

P.S. = Proportion Scores

A = Achieved

PA = Partially Achieved

NA = Not Achieved

K = Cohen's Kappa

SE = Standard Error

ICC = Intra-class Correlation Coefficient

SPSS = Statistical Package for the Social Sciences

ANOVA = Analysis of Variance

Chapter 6

C.S. = Combined Scores

SD = Standard Deviation

Chapter 7

RCT = Regular Classroom Teachers

CAQDAS = Computer Assisted Qualitative Data Analysis Software

Chapter 9

ECCE = Early Childhood Care and Education Unit

Glossary of Terms

Brunei National Vision 2035	The country of Brunei's five year national development plan to stimulate economic growth. It comprises of eight strategies to achieve the country's aims of highly educated people, high quality of life, and a dynamic, sustainable economy.
Combined Scores	The sum of the proportion scores from each dimension of the Communication Supporting Classroom (CsC) Observation Tool (proportion scores of the Language Learning Environment + proportion scores of the Language Learning Opportunities + proportion scores of the Language Learning Interaction).
Malay Islamic Monarchy/ Melayu Islam Beraja	The national philosophy adopted by the country of Brunei. It reflects the three most important values of the country and its people, namely the combination of the Malay and Islamic values (due to the highest percentage of the population being Malays and Islam as the main religion) and the absolute monarchy (long history dating back to the 14th century). (Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014)(Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014)(Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014)(Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014)(Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014)(Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014)(Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014)
Model Inclusive School building	This refers to an additional building within the existing school compound. This building consists of classrooms equipped with specialist equipment, facilities and teaching resources for supporting the learning of children with special educational needs in the school.

National Education System for the 21st Century / Sistem Pendidikan Negara Abad ke-21 (SPN-21)	The national education system of Brunei has undergone major educational changes in alignment to the Brunei National Vision 2035. The aim of this reformed education system is to meet the social and challenges of the 21st century, to equip students with 21st century skills, to realise the mission and vision of the Ministry of Education.
Proportion Scores	To account for the different number of items in the three dimensions of the CsC Observation Tool, proportion scores were calculated. This was conducted by dividing the actual number of observations by the total number of possible observations in each dimension. This resulted in a minimum score of '1' and a maximum score of '0'.
Regular Classroom Teachers	Teachers who are responsible for a class or teaching a particular subject to the class. In this study these teachers refer to those teaching pre-school, year one and year two classrooms.
Special Education Unit	The main agency under the Ministry of Education responsible for the educational provisions of children with special educational needs (SEN) in Brunei schools. This unit is responsible for planning, coordinating and implementing school-based education programmes for children with SEN, and also in teacher training.
Special Educational Needs Assistance	These teachers are qualified in special education (ranging from certificate level to a masters level) and are based either in primary or secondary schools. Their role is to assist regular classroom teachers in working with special needs children in the classrooms and in schools.
Special Educational Needs Coordinator	Teachers qualified in special education (ranging from a certificate to a masters level) and based in the Special Education Unit. Their role is to support and oversee the implementation of school-based programmes for children with special educational needs, and to collaborate with Special Educational Needs Assistance teachers in school. They are also responsible for conducting training to teachers.
Specialised Special Educational	Classrooms within the Model Inclusive School

Needs Classrooms	building. These classrooms are usually used by Special Educational Needs Assistance teachers to teach children with special educational needs in the school.

Abstract

Background

Research has investigated how changes to the classroom layout, activities and teachers' language can facilitate children's communication development. Very little is known about how children's communication is supported in Brunei primary schools. Furthermore, there is very little research into how best to support teachers to increase the communication supportiveness of their classrooms.

Aims

- Examine how children's communication is supported in Brunei primary school classrooms using the Communication Supporting Classroom (CsC) Observation Tool.
- Provide an intervention to increase teachers' use of communication supporting strategies.
- Investigate the use of the CsC Observation Tool within an intervention to modify teachers' classroom practice in supporting children's communication, and its use as an outcome measure.
- Identify facilitators and challenges in creating communication supporting classrooms in Brunei schools through teachers' perspectives.

Method

Classroom observations in the profiling phase explored patterns of performance on the CsC Observation Tool (n = 12). Observations in the intervention phase examined changes in teachers' classroom practices for Intervention (n = 5) and Control classrooms (n = 5) over four months. Intervention involved working with Special Educational Needs Assistance (SENA) teachers in conducting observations and supporting the classroom teachers. Focus group sessions (profiling, n = 4 groups and intervention, n = 1 group) explored teachers' perspectives of the facilitating and challenging factors in developing communication supporting classrooms. SENA teachers were also asked about their experience in implementing the intervention.

Outcomes and results

The profiling phase indicated children's communication was supported in the participating classrooms, especially in structured language learning environments. The intervention phase demonstrated the effectiveness of the CsC Observation Tool as an

outcome measure of changes in teachers' classroom practice, and progress in achieving target items. Children's communication was indicated to be supported more in pre-school classrooms than year one. Focus group data identified six facilitating and eleven challenging factors.

Conclusions and implications

This study provides evidence for the use of the CsC Observation Tool as a measure of classroom practice to develop children's communication. The findings support the success of the CsC Observation Tool in increasing teachers' use of evidence-based strategies in focused intervention targets, and in their overall classroom practice. It also highlighted the need for increased school support and understanding of factors impacting on developing communication supporting classrooms in Brunei schools.

Acknowledgements

"In the name of Allah, Most Gracious, Most Merciful."

I am thankful for this incredible opportunity that has tested my strength, patience, and resilience in completing this PhD journey.

To my amazing supervisors, Dr Judy Clegg and Dr Sarah Spencer, no words can describe my gratitude to you both. You believed in me and guided me in completing this PhD within the time limit. The many times I doubted myself, you both were always there to encourage and support me. I am truly blessed.

I am grateful to the Government of His Majesty the Sultan of Brunei Darussalam in awarding me the scholarship to embark on this PhD, and the wonderful support received from the Brunei High Commission in the United Kingdom.

Thank you to the teachers and schools involved in my study. This would not have been possible without your participation and support. To the SENA teachers who selflessly gave up their precious time to help me throughout this study, you have my utmost appreciation and I hope to never forget your kindness.

To my PGR friends, both who have finished and those who are still continuing their own PhD journey, you guys are the best. Thank you for all the tears, laughter and words of encouragement that we have shared.

To my colleagues at the Special Education Unit who contributed in terms of knowledge, assistance and most importantly emotional support, I thank you from the bottom of my heart.

Finally, to my beautiful family, my husband and twin sons, this is for you. Muzaffar and Muazzam, this PhD is almost as old as you both and I hope one day you will understand how difficult it was to leave you at such a young age. To my husband, Rizza, thank you for your understanding and support, and thank you for taking care of our babies. To the rest of my family, thank you for making sure the twins were happy and healthy and I only hope that I can repay you by making you proud.

Introduction

The aims of the current study are to explore how children's communication is supported in Brunei primary school classrooms, and to examine the use of the Communication Supporting Classroom Observation Tool (Dockrell, Bakopoulou, Law, Spencer, & Lindsay, 2015, 2012) as part of a teacher intervention programme. The study has a mixed method design and involves a profiling and intervention phase forming the structure of this thesis. There are ten chapters and an overview is presented below.

Chapter one entitled 'Children's communication and educational attainment' presents the definition of communication and discusses its proposed links with various aspects of children's educational attainment. It also includes a discussion about terminology for children with speech, language and communication needs, and the recent debate around this terminology.

Chapter two on 'Communication friendly classroom environments' describes communication in classrooms, reviews the literature on communication friendly classrooms, and discusses the importance of exploring this aspect through classroom observations and teachers' perspectives.

Chapter three on 'Background about Brunei Darussalam' provides an overview of the Brunei educational system, the development of inclusive education and government initiatives, and the current state of local speech and language therapy provisions in informing this study.

Chapter four entitled 'Mixed methods approach to explore communication supporting classrooms' reviews literature of mixed methods research including the definition, design, implementation, and issues surrounding this method of enquiry. The application of mixed methods research to explore communication supporting classrooms is discussed in the context of the current study.

Chapter five on 'Classroom observations' outlines the method for conducting the classroom observations. It includes the research questions and details the pilot study, design, participant sample, instrument, and implementation procedures used.

Chapter six on 'Communication supporting classrooms' presents the results from the classroom observations and describes the patterns of performance of participating Brunei primary classrooms in supporting children's communication.

Chapter seven on 'Focus groups' presents the method for the focus group sessions to examine teachers' perspectives on communication supporting classrooms in the Brunei context. This includes the research questions, design, participants, materials, and implementation procedures used.

Chapter eight on 'Teachers' perspectives' describes the findings from the focus groups. Teachers' perspectives of supporting children's communication in Brunei primary classrooms are discussed. Factors perceived by teachers as impacting on developing communication supporting classrooms in Brunei schools are identified.

Chapter nine entitled 'Discussion on communication supporting classrooms in the Brunei context' is the discussion chapter. The findings from the study are discussed in relation to each research question, and to existing research. Methodological issues, the implications of the findings, limitations of the study's design and outcomes, and directions for further research are discussed.

Context of the Problem

Inclusive education means all children are able to access education irrespective of various factors including abilities, gender and location (United Nations Educational, Scientific and Cultural Organization [UNESCO], 1994). As Brunei's education system practices the inclusive education policy, all children, including those with special educational needs, are educated together with their peers in mainstream schools (Koay, 2007; Wong & Mak, 2005). Support is provided through trained teachers and the availability of appropriate equipment and resources in schools. Specialist support is also provided through trained professionals from the Special Education Unit, Ministry of Education. These professionals include speech and language therapists who provide services to children with speech, language and communication needs within the education setting.

Since the inception of the speech and language therapy service at the Special Education Unit in 2002, there are currently only two qualified speech and language therapists employed by the Ministry of Education. These therapists are responsible for delivering services to all school-aged children in schools across the country. Due to the limited number of speech and language therapists, effective intervention is restricted and at present there has been no measure to demonstrate the impact this has on the children and on the schools. If this practice continues, there will be no robust evidence to support the effectiveness of the services provided by these therapists to schools, and consequently may result in jeopardising the overall efficiency and use of this already limited resource.

This study explored other methods to support children's communication skills in Brunei primary schools. The current state of how some primary school classrooms support children's communication was examined through classroom observations. An intervention with teachers was included, and focus groups were conducted to investigate teachers' perspective of this potential form of service delivery.

Statement of the Problem

The speech and language therapy service at the Special Education Unit aims to provide services to all children with speech, language and communication needs in all schools across Brunei. Unfortunately, due to the limited number of speech and language therapists at the unit, a more comprehensive and effective service is not possible to cater to these needs. If this continues, there will be a potential increase in the number of children whose speech, language and communication needs are not supported in schools, along with a continuous rise in the number of referrals to the service. To address this issue, this study aims to explore ways in which schools can support children's communication, specifically within the classroom context.

Purpose and Significance of the Current Study

This study aims to explore how schools currently support children's communication in the classroom through standardised observations. It also seeks to refine our current understanding of teacher's knowledge and perception of the importance of communication skills through conducting focus groups. Furthermore, this study adds substantial evidence to measure the overall effectiveness of the current practice of the speech and language therapy service, specifically at the Special Education Unit in Brunei, and provides support in exploring other methods of delivery.

Research Questions

1. Is children's communication supported in Brunei primary school classrooms?
2. Are there differences between classrooms in Model Inclusive Schools (MIS) and non-Model Inclusive Schools (non-MIS) in supporting children's communication?
3. Is an intervention programme based around the CsC Observation Tool successful in increasing teachers' use of communication supporting behaviours?
4. What factors facilitate a 'communication supporting classroom' in all, i.e. MIS and non-MIS, Brunei primary schools?
5. What are the challenges in creating such a classroom environment in Brunei schools?

Chapter 1: Children's Communication and Educational Attainment

1.1 Introduction

This chapter defines children's communication and its proposed association with children's educational attainment. This is followed by a description of speech, language and communication needs including issues surrounding the terminology.

1.2 What is Communication?

When describing human communication, 'speech', 'language', and 'communication' are frequently used together and interchangeably, despite being separate terms and having different meanings (Martin & Miller, 2003; Paul & Norbury, 2012). Therefore, it is important to look and define each of these terms.

'Speech' involves the physical process of producing sounds to communicate words, and is often broadly defined as comprising of articulation and phonology (Afasic, 2009; Martin, 2000; Thompson, 2003). The main difference between these two components is one involves the physical aspect of producing sounds, while the other comprises the rules that govern how sounds are produced to form words and then meaningful utterances (Martin & Miller, 2003; Martin, 2000; McCormick, 2003a; Thompson, 2003). Articulation is the process of moving the lips, tongue, palate, teeth and jaw to form the sounds of speech (McCormick, 2003a; Thompson, 2003), while phonology involves the organisation and formation of words and phrases from these speech sounds (Martin, 2000; Thompson, 2003).

'Language', refers to how we put these words together to build meaningful sentences (Afasic, 2009; McCormick, 2003a; National Council for Curriculum and Assessment, 2007; Sage, 2000). Many definitions of language have been proposed. Nonetheless, language can be defined as a complex yet organised system of arbitrary signals, sounds, and symbols, governed by rules and used by human beings to communicate with each other (Brandone, Salkind, Golinkoff, & Hirsh-Pasek, 2006; Martin & Miller, 2003; McCormick, 2003a; Parish-Morris, Golinkoff, & Hirsh-Pasek, 2013). Furthermore, language is a general term encompassing the different components of understanding (receptive) and use (expressive), either written or spoken forms (Afasic, 2009; Brandone et al., 2006; Martin, 2000; Parish-Morris et al., 2013; Thompson, 2003).

Different categorisations of language exist ranging from specific components of phonology, syntax, semantics, morphology and pragmatics (Brandone et al., 2006; McCormick, 2003a) or phonemes, semantics, grammar, and pragmatics (Parish-Morris et al., 2013), to broadly encompassing sounds, meaning, and grammar (Martin & Miller,

2003). Despite the differences, Martin and Miller (2003) emphasised these categorisations co-exist, have the same underlying principles, and are fully interdependent on one another. Therefore, language is shown to comprise of sounds (phonology, phonemes, and phonetics); meaning of words or phrases (semantics); language structure (grammar which has three components: syntax, morphology and phonology); and how language is used in social contexts (pragmatics) (Brandone et al., 2006; Martin & Miller, 2003; Parish-Morris et al., 2013; Thompson, 2003).

The term 'communication' is thus used to refer to the process of interacting and exchanging information, ideas, thoughts and feelings with others (Gross, 2013; Martin & Miller, 2003; McCormick, 2003a; Royal College of Speech and Language Therapists, 2014). Communication can be verbal or non-verbal. Thompson (2003) defined verbal communication as comprising of speech and language, which McCormick (2003a) argued was not necessarily the case. Human communication is multifaceted, and can take many forms including spoken, written and sign language (Edelman, 2004; Martin & Miller, 2003). Non-verbal includes body language, eye contact, facial expressions, gestures, touch and pointing (Martin & Miller, 2003; Martin, 2000; McCormick, 2003a). Therefore, communication is the ability to convey one's ideas and thoughts using the modalities of speech and language, and the non-verbal forms of communication. Communication is commonly used as it encompasses the complex levels and forms of human communication, particularly for those where verbal communication may not be an option (National Council for Curriculum and Assessment, 2007).

Speech, language, and communication are frequently used collectively. The relationship between these terms is reinforced by Paul and Norbury (2012) who state if functioning in one area is affected, this will also have an impact on the development and competencies in the other areas. Examples include communication breakdown due to failure in conveying information clearly for an individual with speech impairment, or being unable to provide feedback expected in a typical interaction resulting from difficulties in understanding (Martin & Miller, 2003; Paul & Norbury, 2012). Furthermore, speech is often viewed as a spoken form of language (Martin & Miller, 2003; Martin, 2000), but both modalities are used for communication (Brandone et al., 2006; Parish-Morris et al., 2013). The highly interactive nature of speech, language, and communication highlights the collective and interchangeable use of these terms as it represents the relationship as well as the separate needs of each area (Cross, 2011; Freeman & Hartshorne, 2009; Paul & Norbury, 2012). For this thesis, the term communication is used to include all aspects of speech and language.

1.3 Defining Speech, Language and Communication Needs

As previously discussed, the terms 'speech', 'language' and 'communication' are often used as a collective term to portray the close relationship, and simultaneously represent individual needs (Cross, 2011; Freeman & Hartshorne, 2009; Paul & Norbury, 2012). Speech, language and communication needs (SLCN) therefore, is a combined term generally used to describe individuals who experience a wide range of difficulties in communicating with others (Bercow, 2008; Early Support, 2012; McConnellogue, 2011; The Communication Trust, 2008). This means either one or more aspects of communication are affected. Individuals with SLCN are unable to effectively use and understand spoken language, use language appropriately in a social context, have problems with fluency, and in processing and forming sounds (Bercow, 2008; Freeman & Hartshorne, 2009; Hartshorne, 2006a, 2006b; The Communication Trust, 2008, 2011).

Aside from the different terms used in the literature, there also exists differences in perspectives and in categorisation of children with SLCN (Cross, 2011; Dockrell, Ricketts, & Lindsay, 2012; Early Support, 2012; Lee, 2008; The Communication Trust, 2008). An ongoing issue, is the inconsistent use of terminology to refer to this group of children (Dockrell, Ricketts, et al., 2012; Lee, 2008; Lindsay, 2011; The Communication Trust, 2008). Martin and Miller (2003) highlight the traditional use of categorising difficulties in speech and language into two, the first of which names the problem (for example dysphasia, dysarthria and dyslexia to indicate difficulties with spoken and written language), and the second is the identification of the underlying cause (for example as a result of cerebral palsy or a hearing impairment). This reveals differences in perspectives of describing children with SLCN. Besides SLCN, other terms used include 'speech, language and communication difficulties' (SLCD) (Edelman, 2004; Lindsay, Dockrell, Desforges, Law, & Peacey, 2010), communication difficulties, 'specific language impairment' (SLI) (Slonims & Pasco, 2009), and 'specific speech and language difficulties' (Lindsay, 2011).

Two main perspectives commonly reported in the United Kingdom (UK) are the medical and the educational perspective (Cross, 2011; Dockrell & Lindsay, 2001; Lindsay, 2011; Roulstone, Wren, & Goodlad, 2012). According to Cross (2011), the medical perspective focuses on the diagnoses of children with SLCN, while those in the education profession categorises them according to their special educational needs. The speech and language difficulties exhibited by these children are further categorised as either a primary need, where the difficulties are not associated with any other neurodevelopmental conditions, or a secondary need, where it is a result of conditions including cerebral palsy, hearing impairment, and Autism Spectrum Disorder (ASD) (Edelman, 2004; Lee, 2008;

Lindsay et al., 2010; Lindsay & Dockrell, 2004; Martin & Miller, 2003). Low socio-economic disadvantage is another factor viewed to contribute to children's SLCN (Lindsay, 2011; Lindsay et al., 2010). This clearly indicates the different approach speech and language therapists (SLTs), educational psychologists, and teachers, have in identifying and addressing the needs of this group of children (Dockrell & Lindsay, 2001; Lindsay et al., 2010; Lindsay, Dockrell, Law, & Roulstone, 2012; Lindsay, 2011; Roulstone et al., 2012).

These differences are illustrated by Roulstone et al.'s, (2012) study which explored the interventions available for children with SLCN. The findings revealed a significant issue in the identification and categorisation of children with SLCN. Through interviews of educational psychologists and SLTs, they found these differences were driven by the focus on the educational needs of children by educational psychologists, and SLTs were more diagnostic-based (Dockrell, Lindsay, Letchford, & Mackie, 2006; Lindsay et al., 2010; Lindsay, 2011; Roulstone et al., 2012). This study also highlighted that particularly in England, even within the educational system itself, there is confusion about the classification of the needs category. The classification of the categories for children with special educational needs (SEN) used by the UK Department for Education is guided by the SEN Code of Practice (Dockrell, Ricketts, et al., 2012; Lindsay et al., 2012; Roulstone et al., 2012; The Department for Education and Skills, 2001). SLCN here is used to describe children where the speech, language and communication difficulties are the primary focus, in the absence of aetiological causes such as sensory impairment, ASD and others (Dockrell, Ricketts, et al., 2012; Lindsay et al., 2012; Lindsay, 2011). Moreover, the Code of Practice also lists SLCN and ASD as separate categories but subsumed under the main category of Communication and Interaction Needs (Lindsay, 2011; Lindsay et al., 2012; The Department for Education and Skills, 2001).

In a broad context SLCN includes all aspects of speech, language, and communication difficulties, irrespective of whether it is a primary or a secondary need (Bercow, 2008; Dockrell, Ricketts, et al., 2012; Lee, 2008; The Communication Trust, 2008). Although the motivation for this is considered as an endeavour to support inclusion, (Lindsay, 2011; Lindsay et al., 2010, 2012; The Communication Trust, 2008) resulting issues include: a) difficulties in specifying the identification of needs, b) the development of the appropriate intervention, and c) implications for data collection and comparison (Dockrell, Ricketts, et al., 2012; Lindsay, 2011).

Recent debate about describing children's speech and language difficulties has highlighted issues with terminology. Bishop (2014) argues the term SLCN as being too broad as it encompasses both speech and language difficulties, and does not identify language problems resulting from known aetiological causes and those that are

unexplained. Reilly, Tomblin, et al. (2014) discussed the disadvantages of the term SLI and argued the lack of empirical evidence for its continued use to describe unexplained language disorders in children. Both Bishop (2014) and Reilly, Tomblin, et al. (2014) considered the pros and cons of labelling children for diagnostic purposes, and proposed alternative terms to describe children's language difficulties. Central to this debate however, is the recognition of the need for a universally agreed terminology to describe children's language difficulties across a range of professions (Bishop, 2014; Reilly, Tomblin, et al., 2014; Reilly, Bishop, & Tomblin, 2014).

Although there are disadvantages in using SLCN as a general term to describe all aspects of speech, language and communication difficulties, there are also benefits. This includes ensuring all children's needs are addressed to some extent by practitioners in the health and education field (Bercow, 2008; Lindsay et al., 2010). For the current study, SLCN is used to refer to difficulties encompassing all aspects of speech, language and communication within the educational setting. This is based on the context of this study where children are classified according to their learning needs, described in more detail in 3.5 (page 52).

1.4 The Relationship between Children's Communication and Educational Attainment

The relationship between communication and education has long been established (Brice, 2001; Dockrell, Ricketts, et al., 2012). Numerous studies have highlighted the importance of communication competence as a vital element for children's success in the educational context, particularly in the development of reading and writing (Dickinson & Porche, 2011; Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012; Dockrell & Connelly, 2009; Hartshorne, 2006a, 2006b; National Council for Curriculum and Assessment, 2007; National Reading Panel, 2000). Within classrooms, language has been shown to be a medium of instruction and learning (Gascoigne, 2006; Martin & Miller, 2003; Muter, Hulme, Snowling, & Stevenson, 2004). Additionally the National Institute of Child Health and Human Development (NICHD) Early Child Care Research Network (2000) proposed that stimulating children's language growth in the early years impacts on their later reading, vocabulary and mathematical performance.

This means communication plays a very significant role in a child's ability to participate socially, interact with their peers and teachers, and in their learning process through accessing the curriculum and later educational achievements (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012; Dockrell & Lindsay, 1998; Royal College of Speech and Language Therapists, 2005). The ability to communicate meaningfully may also predict

success in language related educational tasks (Magee & Newcomer, 1978).

1.4.1 Links between communication and literacy skills in children with language impairments

Bishop and Snowling (2004) carried out a large-scale review of studies investigating the relationship between dyslexia and specific language impairment (SLI). In their review, they found a strong connection between oral language problems with reading comprehension difficulties and decoding skills. In many of the studies they reviewed, although children with SLI and dyslexia share some similarities in phonological processing problems, children with SLI are shown to have specific deficits in semantics, syntax and discourse, which impacts on literacy acquisition. This adds to the body of research that phonological processing skills are also associated with literacy development.

Further support for links between children's language abilities with later literacy skills are from the findings of several longitudinal studies, particularly in individuals with language impairments. Bishop and Adams (1990) carried out a UK based study of a sample of children (n = 83) identified as language impaired at age four, and were followed up at age eight and a half where their reading and spelling skills were once again reassessed. They found children who were able to resolve their language problems at age five and a half, were more likely to achieve better reading and spelling outcomes at age eight and a half, compared to children who still had persistent language problems (Bishop & Adams, 1990). It was also recognised literacy difficulties faced by children in the sample whose language problems continued beyond the age of five years, did not occur in isolation and was contextually linked to difficulties in their spoken language. The findings provide insight into factors that predict literacy difficulties at two stages of children's development. However, this may be restricted to a similar sample involved in the study, which are children under the age of eight identified and referred by professionals as being language impaired.

Similar, and perhaps an extension of the study by Bishop and Adams (1990), was another longitudinal study by Catts, Fey, Tomblin, and Zhang (2002), investigating the relationship between deficits in language and reading of a group of children with language impairments in the United States of America (USA). This study attempts to address some of the issues raised by the previous study as children's reading outcomes were measured at age eight and again at ten years old. Importantly, this study involved a larger group of children identified through epidemiologic methods, rather than through referrals from professionals. Their language, reading and nonverbal cognitive abilities were followed through over a four year period and assessed at two different time points (second and

fourth grade). The outcomes also indicated children with persistent language problems had poorer reading attainment than those whose language issues had resolved, although the performance was still lower than the control group. However, this relationship between children's language abilities and reading achievement was only examined concurrently in the study and does not inform the causal direction between the two areas.

Both Bishop and Adams's (1990) and Catts et al.'s (2002) studies provide evidence of the relationship between early language impairment and later literacy problems for children with language impairment. Overall, the outcomes of these studies indicate a major factor affecting children's reading achievement was the persistence of developmental language impairment particularly between the ages of four and ten. Children who have language problems earlier in life but are able to resolve these problems, have a higher chance of achieving better reading outcomes than those with ongoing language impairments. Despite the findings and similarities from these two studies, particularly in the target population and the aims, methodological differences are apparent. This was in the participant recruitment, criteria in identification of children, children's family background and differences in the educational system and context.

The studies discussed above have confirmed a connection between language abilities and reading outcomes, which impacts on overall educational attainment. Literacy also involves the ability to write, therefore studies examining the link between language and writing abilities are also examined for further links between communication and later educational attainments (Berninger & Abbott, 2010; Dockrell, Lindsay, Connelly, & Mackie, 2007; Dockrell, Ricketts, Charman, & Lindsay, 2014; Mackie, Dockrell, & Lindsay, 2013). A longitudinal study investigating the effects of oral language on writing outcomes of 64 children identified and referred with a history of SLI, was conducted by Dockrell et al. (2007). This study also evaluated the relationship between oral language, reading and writing skills. The cohort of children that completed the language, reading, writing, and cognitive tasks were first assessed at age eight and later reassessed at age ten. Results of the study revealed children with persistent language difficulties at the later age also had poorer writing outcomes. The findings provided support for the existence of the link between language and literacy skills particularly in children with SLI. Although the findings also suggests a facilitatory nature of reading and writing skills, in that both skills supports the development of the other, it is constrained to children identified with SLI educated largely in mainstream schools in the UK.

Further evidence from the UK for the association between oral language abilities and writing in children with SLI was provided by Mackie et al. (2013). An aim of this study was to examine the relationship between oral language, non-verbal ability, phonological

short-term memory and three writing constructs of word reading (productivity, complexity and accuracy), using a detailed analysis of children's writing. This study extended Dockrell et al.'s (2007) study, as a control group matched for chronological age with the SLI group was involved. Using a survey on educational provisions for children with developmental language difficulties, 46 children were included in the SLI group. The comparison group consisted of 42 children reported to perform at average levels in classroom activities, and also attended the same schools as the children in the SLI group. Both groups were initially identified at seven to eight years of age, were followed up two years later, and were subjected to a range of assessments, including standardised oral language tests, narrative writing sample, non-verbal ability and short-term phonological memory tests. Children with SLI were found to score lower in almost all the measures compared to the control group. In particular, the findings indicated the writing difficulties of children with SLI, reflects their spoken language difficulties. This demonstrates children with SLI also have difficulties with writing skills, as well as the other aspects of language (Dockrell et al., 2007; Mackie et al., 2013). These findings may only be applicable to children with English as the native language, and based in UK mainstream schools. The writing skills of this group of children were also only assessed at one point in time, and may not take into account other cognitive, developmental or environmental factors that may also be influential.

Dockrell et al. (2014) had a similar interest in finding out more about the effects of language on writing outcomes and focused on two groups of children whose language abilities were impaired due to different underlying factors. They compared children identified as language impaired (n = 93) and those with ASD (n = 64), where both groups were reported to experience difficulties in written text production. In this longitudinal study, both groups of children were identified and assessed at two different times throughout the study (initial assessment when children were aged between 6 to 12 years), with a gap of two years in between. Outcomes were measured using a wide battery of tests for the different language components including writing. Interestingly, not all the participants completed the writing assessments due to several reasons. This included a refusal to write by participants from both groups. In the first group, Dockrell et al. (2014) reported this as mainly due to the children's awareness of their difficulties and were not able to complete the written tasks. The ASD group however, was attributed to their difficulties in talking about events, which is reflected in their difficulties and hence refusal to write. Overall, the analysis of the written production of participants who completed the written task revealed those with ASD did better than the language-impaired group. These findings are particularly useful as it points to different areas of focus for intervention purposes. Although this may be true to some extent, the children in this study were mainly

native speakers of English and educated in mainstream schools. The researchers also acknowledged methodological limitations in terms of relating the writing abilities of the participants with their learning context (Dockrell et al., 2014).

1.4.2 Links between communication and literacy in typically developing children

The studies illustrated above demonstrated the relationship of language and literacy skills, particularly in children with some form of language impairment. Longitudinal studies of typically developing children also suggest links between language skills and literacy outcomes.

Associations between children's language skills and their educational achievement was supported by findings from Roulstone, Law, Rush, Clegg, and Peters's (2011) study. An investigation on how children's communication environment in their first two years of life impacted on their school readiness was conducted using data from a previous large scale general population longitudinal study. Aspects of children's communication environment included: activities and interaction of mother and child, the support perceived by and provided to mothers, and the resources available to mothers during this period. The primary outcome measure was children's school entry performance collected by teachers at mean age of 54.5 months for 4941 boys and 4688 girls. Information on children's language development and the mother's activities, feelings, attitudes and environment were obtained from questionnaires completed by the main carer when children were aged between 0 and 2 years old. Results of this study found: a) children's early language development at 2 years of age was strongly associated with their performance on the school entry assessment, b) a strong predictor of children's school performance was their communication environment including the range of parent-child teaching activities, the amount of resources available, and support received by mothers, and c) children's school entry scores are highly influenced by both children's early language skills and their communication environment.

Another example is Muter et al.'s (2004) study of a group of children (n = 90) over a period of formal education. This study investigated the significance of early language skills on starting school as predictors of reading performance over the two year initial period. Children's performance was measured using a wide range of standardised tests shortly from the start of formal schooling, and repeated twice, at similar times throughout the two year period. Muter et al. (2004) found for reading comprehension, vocabulary and grammatical skills play an essential role, while early word recognition is influenced by letter and phoneme knowledge, at least to typically developing British children in the early stages of formal schooling. The results highlight the significance of early oral language skills in

laying the foundation for developing later literacy skills and accessing the educational curriculum (Dickinson, 2011; Muter et al., 2004). Nevertheless, the study only examined the role played by these predictors for early word recognition and reading comprehension as part of children's normal development, and did not explore the potential roles and interrelationship in more detail, such as through intervention studies.

Further support for links between children's language and educational attainment is from an American study by Berninger and Abbott (2010) investigating how listening and reading comprehension, and oral and written expression may be linked or differentiated at different stages of children's development in a representative sample of children beginning grades 1 (n = 128) and 3 (n = 113). It also explored how language develops through the mouth, ears, hands and eyes. In this five year longitudinal study, children were individually assessed on the four different language components according to their cohorts i.e. cohort one, at grades one, three and five, and the second cohort, at grades three, five and seven. Berninger and Abbott (2010) found the four language systems involving listening and reading comprehension and oral and written expression, each contribute uniquely but at the same time are intrinsically linked in its contribution to a functional language system. The participant's performance assessed at different grade levels, also indicate language is a continuous developing process. Consequently, this study contributes to our understanding of the different language components and how it is interrelated but also unique in influencing language abilities, through comprehension and expression in reading or written form. However, Berninger and Abbott (2010) acknowledged the findings were not comprehensive as other external factors were not explored. Furthermore, the participants were assessed at a specific age with various educational experiences, and also on typically developing children in American primary schools, hence the findings may only be applicable in this context. Nevertheless, it contributes to the growing amount of evidence indicating that impairments in language may impact on written language skills for all children.

This section illustrated the relationship of children's communication skills with their educational outcomes. The studies discussed are only a representation of the research studies investigating the effect of different language components on children's educational attainment. Overall, the findings suggest the diverse influential role of communication on children's learning outcomes. Although it contributes to the existing wealth of knowledge in this area, further research is still required to obtain a more in depth understanding about the relationship between communication and educational skills in children.

1.5 Summary

This chapter has addressed the definition and usage of the terms speech, language, and communication. The terminology to describe children with difficulties in these areas was examined, highlighting existing differences in perspectives. Findings from previous research were also explored to support the relationship between children's communication and educational attainment.

Chapter 2: Communication Friendly Classroom Environments

2.1 Introduction

This chapter describes communication in classrooms and considers the evidence for communication friendly environments in classrooms. The significance of examining teachers' perspectives on various aspects of children's communication, and conducting classroom observation to investigate classroom practices is also explored.

2.2 Communication in the Classroom

2.2.1 The impact of teacher talk on children's learning

Within classrooms, communication occurs between children and with teachers. Classrooms are areas where there is a constant flow of information mainly for educational but also social reasons (Cullen, 1998; Johnson, 1999). A broad perspective is that the communicative intent is different for both teachers and children. Where children are generally viewed as the learners and receivers of information, teachers communicate mainly to teach and deliver the curriculum content, and in setting up classroom practices that facilitate children's learning (Dunn, Cole, & Estrada, 2009; Johnson, 1999; Martin & Miller, 2003). However, Johnson (1999) argued in order for teaching to be effective, the communication that occurs between teachers and children must be successful, and is measured by the amount of knowledge gained by children during the lesson. The emphasis here is teachers should not only focus on delivering the content, but also on teaching children the skills to use communication to effectively process this information for learning (Cullen, 1998; Kiewra, 2002). For children, classroom communication is essential for learning, as it impacts on their understanding and knowledge development (Mercer and Hodgkinson, 2008).

Communication is an essential element in the learning process and for successful teaching to occur (Goswami & Bryant, 2010; Maclure, Philips, & Wilkinson, 1988). This is facilitated further by classrooms that provide children with the opportunities to talk (Gross, 2013; Martin & Miller, 2003). Being actively involved in the classroom communication such as through discussions, allows children to discover areas of existing and missing knowledge within themselves, and this is an important part of the learning process (Alexander, 2008b; Sage, 2000). Through this active participation in classroom communication, it also provides teachers with the opportunities to measure children's overall learning (Mercer & Howe, 2012). The complexity and variability of teachers' interaction also facilitates understanding and thinking processes and so contributes to children's learning (Dickinson, 2011; Howe & Mercer, 2010; Johnson, 1999; Mercer &

Howe, 2012; Sage, 2000). This means it is important for teachers to be aware and understand the impact of their communication on children's development for effective teaching and learning.

The pattern of discourse used by teachers to elicit information from children in classrooms, is suggested to play a facilitative role in children's language development (Radford, Ireson, & Mahon, 2006; Wells, 1999). Teachers' use of the IRF or IRE pattern, commonly referred to as 'triadic dialogue' consists of; 1) the teacher 'initiation' (I), usually in the form of questions, 2) the child's 'response' (R), commonly providing the required information, and 3) the option for teachers to either provide feedback (F) or evaluation (E) to the child's answer (Radford et al., 2006). The dialogue sequence is enhanced when teachers and children collaborate (also known as collaborative dialogue) to decide on topical content for classroom activities. This form of teacher talk has greater potential for language learning as it involves more shared teacher-child interaction and responsibility (Alexander, 2008b). Wells (1999) proposed an inquiry oriented approach to the curriculum, which provides opportunities for teacher-children collaboration as it allows teachers to meet curricular requirements simultaneously allowing children to choose their areas of interest. This approach to the curriculum provides children with increased opportunities to engage in various forms of spoken and written dialogues. Collaborative dialogues between teachers and children in generating the topical content are typically evident during activities such as speaking-book and story-writing, but less so during circle-time activities (Radford et al., 2006). As such, teachers have the potential to transform their classroom practices by engaging in more collaborative dialogues, and by sharing responsibilities with children in selecting class activities, thereby facilitating children's learning (Radford et al., 2006; Wells, 1999). However, in practice, teachers may not necessarily have the skills or knowledge to engage in collaborative dialogue in classrooms, particularly for children with language impairment. This highlights the importance of specific teacher training in providing instructional input in classrooms (Sadler and Mogford-Bevan, 1997).

The importance of talk as an essential component of children's thinking, learning and active participation in classrooms especially in the initial stages of education is recognised by Alexander (2012). A result of international comparative research, perspective of classroom talk, and observational data from classrooms in the United Kingdom (UK), an emphasis on children's 'oracy' is believed to be the key to improved teaching in UK primary schools (Alexander, 2008a). Oracy is the process of how schools develop children's ability to use listening and speaking skills to express and communicate their thoughts with others on a more cognitive level (Alexander, 2012). This belief is

drawn from the findings of a comparative study investigating the relationship between culture and pedagogy in French, Russian, Indian, American and English classrooms (Alexander, 2001, 2008a). Differences in the value and purpose of educational talk within the curriculum was observed across countries where an emphasis on children's oracy contributed to their learning and understanding (Alexander, 2001, 2008a, 2008b). In UK classrooms, the purpose of classroom talk was primarily social and for competence in literacy, while French and Russian classrooms used talk for children's cognitive development (Alexander, 2001, 2008b). Teachers therefore have a significant role in transforming classroom talk to develop children's thinking, and facilitate their learning and understanding (Alexander, 2008a, 2012).

Huttenlocher, Vasilyeva, Cymerman, and Levine (2002) conducted a longitudinal study involving 40 pre-school classrooms in the United States of America (USA), over seven months, observing teachers' communication and measuring the impact of variations in syntactic complexity in teachers' language on children's comprehension. They found evidence of improvement in children's syntactic comprehension as a result of teachers' complex use of syntax, after exposure throughout the school year. This indicates children learnt to understand longer sentences as a result of the teachers' continuous use. However, the study only examined the average class scores at the beginning and end of the school year, and did not focus on the educational achievement of individual children.

Furthermore, gains in children's educational achievement are associated with teachers' language use. Another USA based longitudinal study followed 57 children from low income families over four years (Dickinson and Porche 2011). Children who were exposed to different types of teacher language at pre-school were given a battery of language and literacy tests when in kindergarten (mean age 5 years 6 months) and then followed up with the same tests in, fourth-grade (mean age 9 years 7 months). When teachers talked less, used different types of language to extend, analyse, correct and to get children's attention, and used more sophisticated words in pre-school, there were significant gains in children's emergent literacy, comprehension, word recognition and vocabulary when they were older.

Further evidence of the impact of teachers' talk on children's learning comes from a longitudinal, observational study in the USA by Gonzalez et al. (2014) examining the impact of teacher talk during shared book reading on children's vocabulary. Over a period of 18 weeks, 17 small groups of five to seven pre-school aged children involved in the intervention were video recorded during shared book reading sessions guided by a teacher. The results found the duration, frequency and placement of teacher talk (discussing and questioning the meaning and concept of words used in the book reading session) after the

book reading activity resulted in gains in children's expressive vocabulary, and receptive vocabulary improved as a result of the duration of teacher talk. However, the researchers acknowledged the focus of the study was on teacher talk and did not examine to what extent interactional factors from children's participation contributed to gains in children's vocabulary. Moreover, these findings only examined book-reading activities in the English language, and focused on science and social studies themes.

2.2.2 Children's peer talk in the classroom

The quality of communication among children in the classrooms also impacts on children's learning outcomes. In particular, children's talk when participating in collaborative work effects their individual learning performance (Mercer, Wegerif, & Dawes, 1999; Wegerif, Mercer, & Dawes, 1999). Specially designed teaching programmes aimed to elicit more constructive talk among children were taught to teachers who then disseminated these skills to 60 children aged between 9 and 10 years old in the UK. The children's conversations when participating in collaborative activities were analysed to determine the use of these skills. Use of the skills was associated with improvements in children's individual performance on a standardised non-verbal assessment.

The benefits of language used in collaborative work by children was also found in another study by Rojas-Drummond, Mercer, and Dabrowski (2001). This study measured the impact of two different teaching methods (directive and an interactive approach) in two Mexican schools, for 80 children aged 5 to 6 years. Observational data was collected and analysed to determine differences in teacher-children interaction for both approaches. Teachers who adopted the interactive approach were found to frequently support and guide children to work collaboratively in solving issues that facilitate learning. However the study only compared two teaching methods and the generalisability of the findings to other methods may need to be explored further. An earlier study by Mercer (1996) examined observational data from primary school children involved in collaborative work during computer based activities. This study identified the need to develop classroom practice through improving the types of talk used among children based on collaborative work. This includes encouraging children to use talk for solving problems, and building shared knowledge and understanding during joint activities. It also highlighted the importance of children's understanding and acceptance of the rationale for this type of class activities, and the type of talk used. The findings from these studies provide further evidence for the importance of teachers developing the quality of children's talk. Most research so far only focuses on joint work activities and so further study is needed to look at the type of children's talk in other contexts.

Mercer and Howe (2012) carried out a review on the empirical research of talk and learning to explore the educational functions of classroom communication. They argued the type of interaction between teachers and children shapes the children's way of thinking, understanding and learning process. In particular the culture of the classroom rules that contribute to the learning process, such as the amount of interaction allowed for children and the type of questions by teachers. This has the potential to either expand or limit the quality of talk in classrooms that will benefit both parties. This was also examined by Wegerif (2011) in his paper that discusses a theory of thinking and how children learn to think that had implications for education. He proposed a dialogic approach to thinking, which involves teaching children skills to question their own and other's perspectives in developing understanding and insight. An example was through establishing classroom rules that encourage children to constructively explore ideas for learning. Wegerif (2011) stressed the importance of exploring these classroom rules and suggested ways of improving it to support children's learning process. To change teachers' classroom practice particularly in using language that facilitates learning, is an area that still requires more research but potentially impacts on classroom-based intervention outcomes (Dickinson, 2011; Howe & Mercer, 2010).

2.2.3 Children's role in their learning process

Although teachers play a significant role in classroom communication, children also play a part in their learning outcome. Successful communication in classrooms not only depends on effective teaching by teachers, but is also a result of children being effective communicators (Frymier, 2005; Kiewra, 2002). Kiewra (2002) highlighted poor learning outcomes are a result of teachers' focus on teaching the content of the curriculum instead of teaching the skills on how to learn and understand the content. He stressed the importance for teachers to present information effectively, which in turn motivates children to become more successful learners. This is supported by findings from a preliminary investigation by Frymier (2005) on the relationship between students' communication and learning, conducted using self-rating measures of a group of University students in the USA. The results show better learning outcomes were achieved by students reported to be more involved, responsive, assertive in classroom communication, and had more out of the class interaction with their teachers. Although these findings were from a sample of population that was older and aware of the impact of the classroom communication on their learning, the emphasis here is children should be equipped with the skills to process and use the information they receive to facilitate their learning. This

supports Alexander's (2008a, 2008b, 2012) emphasis for oracy skills in developing children's learning within classrooms.

2.3 Communication Friendly Environment

2.3.1 The terminology

The term communication friendly has been widely used in studies examining children's educational environments, such as classrooms, schools and other learning settings (Alper & McGregor, 2015; Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012; Gràcia, Vega, & Galván-Bovaira, 2015; Lindsay, Dockrell, Law, & Roulstone, 2011; National Council for Curriculum and Assessment, 2007; Wilson, McNeill, & Gillon, 2015). As previously discussed, communication is often used in a broad context, to embrace the multifaceted levels encompassing speech and language, either verbal or non-verbal, and either in the spoken or written form (Edelman, 2004; Martin & Miller, 2003; Martin, 2000; McCormick, 2003). In particular, the National Council for Curriculum and Assessment (2007), stated the use of this term was important for individuals where other forms of communication is the only alternative. Therefore, communication comprises of the ability to convey one's thoughts and feelings and to understand others (Gross, 2013; Thompson, 2003), where a breakdown would constitute a communication disability (Dodd, 1995).

Fundamentally, a communication friendly environment suggests a place where communication is easily accessible to all individuals of all levels. The National Council for Curriculum and Assessment (2007) used the 'communication friendly' term, especially in the school setting to describe classrooms that value communication skills as a highly significant and essential skill in the development of children's learning. This emphasises the importance of classrooms that facilitate and motivate children to interact with one another to achieve successful participation and communication outcomes (Alper & McGregor, 2015; National Council for Curriculum and Assessment, 2007). This is especially significant as a classroom that enhances spoken language skills of children with diverse communicative abilities, also has the potential to facilitate their educational success (Brice, 2001; Cooper & Galvin, 1983; McCormick, 2003b). The terms communication friendly and communication supportive environments are used interchangeably in the literature (Cross, 2011; Gross, 2011; Lee, 2008).

'Language-rich environment' is another commonly used term to represent the same concept. Auten (1985) used this term to define an environment that teachers can create in the classrooms to promote continuous vocabulary growth. This is supported by Justice (2004), who defined this concept as a classroom or a learning space where children are provided with high quality language content and interaction opportunities between peers

and adults. In the UK, the importance of children's communication and language development particularly in the early years of education is recognised, and as such opportunities for a language-rich learning environment are emphasised (Department for Education, 2014). Additionally, Gross (2013) and Jarman (2008) also used language-rich environments to refer to learning spaces within schools that facilitate and stimulate listening and talking among peers and adults, and recognises the significance it plays in children's early language development. Similarly, Kalmar (2008), described a space where children are encouraged to interact in order to practice and develop their language skills as a 'talk-rich environment' (p. 89).

Although, different terminologies are used to represent the communication friendly environment concept, they all have the ultimate goal of creating a place where children's language and communication skills are enhanced to the fullest potential to achieve educational and social success, where possible (Brice, 2001; Cooper & Galvin, 1983; Dockrell et al., 2012; Gross, 2013; Justice, 2004; Lindsay et al., 2011; Martin, 2000; McCormick, 2003b). Additionally, the 'environment' especially when relating to school-aged children, refers to the school or classroom setting. This is because children of this age spend a considerable amount of time in schools, therefore it is imperative classroom environments be communication friendly (Cross, 2011; Dickinson & Sprague, 2001; Hartshorne, 2006a; Justice, 2004; Lee, 2008; Pence, Justice, & Wiggins, 2008). Moreover, Gascoigne (2006) highlighted children with speech, language and communication needs (SLCN) also benefit from being in mainstream schools. To this end, there is much support for communication friendly classrooms, not just for children with diverse communication needs but also to benefit all children within the class. The classroom environment, therefore, is one of the best places to start developing language and communication skills, as it comprises of an interconnected network of sociocultural and administrative aspects, teachers' values and skills, and children's needs and strengths (Justice, 2004; Sommer, 1977).

In the context of the current study, both the terms communication friendly and communication supporting will be used interchangeably throughout this thesis.

2.3.2 Theoretical perspective

Dockrell, Bakopoulou, et al. (2012) viewed communication friendly environments as essential to supporting children to acquire language through interaction with their peers and adults in their environment. This is consistent with the social-interactionist perspective to children's language development, where a combination of both within-child factors and frequent, external verbal interactions support language progress (Chapman,

2000; Dockrell, Bakopoulou, et al., 2012). The social-interactionist perspective focuses on the importance of interpersonal interactions as an initial medium for children to learn language and structure thought (Hernandez, 2009). Brandone et al. (2006) and Justice (2004) emphasised that children learn language through communicating with others instead of being taught explicitly, and there is evidence for the impact of environmental interaction input on children's language growth.

Children's vocabulary growth and syntactic skills are related to the amount and quality of the language input they receive, where larger and more complex linguistic input resulted in more advanced vocabulary and syntactic skills (Dickinson, 2011; Huttenlocher, 1998; Huttenlocher et al., 2002). Adults who are trained and skilled in language facilitation strategies within educational settings were suggested to result in more language output from children (Girolametto & Weitzman, 2002). The NICHD (2000) demonstrate the importance of the adult's role in creating an environment that facilitates children's language growth. Creating communication friendly classrooms is crucial due to the substantial amount of time children spend in schools as a main learning context (Cross, 2011; Dickinson & Sprague, 2001; Justice, 2004).

2.3.3 Importance of a communication friendly environment

The role of the environment in children's learning is influential, particularly in the way children adapt their intellectual skills with ongoing challenges and situational contexts (Roskos & Neuman, 2001). The environment for school-aged children, as was previously discussed, consists of mainly within school settings. Hence classrooms are viewed as an environment that has the potential to influence various aspects of children's development including educational and communication outcomes (Connor et al., 2011, 2014; McLean, Sparapani, Toste, & Connor, 2016). There are many benefits as a result of schools and classrooms implementing the communication friendly approach. Some of them are discussed and highlighted here.

In schools, language is of utmost importance as it is the main medium of instruction for both teaching and learning, and for children to access the curriculum (Lee, 2008; Leyden, Stackhouse, & Szczerbinski, 2011; Martin & Miller, 2003). In almost every aspect of the school day, language and communication are key tools utilised by both teachers and children, and because of this it is important for classrooms to be set up in such a way to enhance and encourage these skills (Auten, 1985; Cooper & Galvin, 1983; Kalmar, 2008). Among the reported benefits of creating a classroom environment that supports communication, are children achieve better educationally, and socially (Gross, 2013; Hartshorne, 2006b). Clegg and Vance (2015) also highlighted the extensive benefits

of communication friendly environments for children with various communicative abilities and experiences, including those with SLCN and children whose language use is context-driven. Specifically, a classroom environment that children consider as a safe place to actively experiment with what they have learnt, and simultaneously enriches them with language experience, is essential for continuous communication growth (Auten, 1985; Justice, 2004; Kalmar, 2008; Martin, 2000). As the process of language learning involves receptive and expressive language, listening, speaking, reading, and writing, children who have been exposed to an environment that enhances all these skills tend to be more inclined towards better social and literacy skills (Dickinson & Sprague, 2001; National Council for Curriculum and Assessment, 2007; National Literacy Trust, 2009).

Particularly for children with SLCN, it is essential that the classroom's teaching and learning environment is adapted and matched to their communicative abilities. This is crucial for effective interactions between teachers and children, as well as among their peers resulting in better educational and social gains (Brice, 2001; McCormick, 2003b). Moreover, it is important to note that a communication friendly environment should be one that is conducive for learning to all learners but at the same time should also support individual needs (Crosskey & Vance, 2011; Martin, 2000). Effectively, adopting the communication friendly environment approach has the added potential of preparing children for the increase in language demands as they progress through school, and also in filtering out those who may require specialist help (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012; Lindsay et al., 2011).

Evidence from the UK highlighting the importance and use of the term communication friendly was from Dockrell, Bakopoulou, et al.'s (2012) study. They reported on the increased demand of speech and language therapy services in schools, with increasing referrals for children with SLCN. In order to accommodate and support the needs of these children, schools have moved towards ensuring that the classroom environments are more communication friendly. This environment is defined as one that enriches the language learning of children, especially their listening and speaking skills (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012). A major outcome of this study was the development of the 'Communication Supporting Classroom (CsC) Observation Tool'. This observational tool was a result of extensive literature review on the existing research that has reported on the key elements and practices in creating an environment that supports language development in children. This resulted in three main areas of focus, the Language Learning Environment (LLE), Language Learning Opportunities (LLO) and the Language Learning Interaction (LLI) dimensions.

The CsC Observation Tool was used in 101 classrooms in 39 schools across the UK, as part of a feasibility study to explore the elements, resources and practices of classrooms in supporting children's communication skills. Three categories of classrooms were observed comprising of reception (n = 38), year one (n = 35) and year two (n = 28) classrooms. The results showed classrooms across all year levels scored significantly higher in the LLE dimension compared to the other two dimensions. Scores in the LLI dimension were also found to be significantly higher than the LLO dimension. This indicates classrooms were largely providing children with a structured language learning environment (including labelling of areas and resources, teacher strategies for transition or noise management, and use of teaching materials) but did not provide sufficient opportunities for developing children's language. Although classrooms were observed to significantly provide more opportunities for small group work than other language learning opportunities (interactive book reading, structured conversations with adults and peers, and inclusion of all children in small group tasks) these language learning opportunities were observed less frequently than items in the LLE and LLI dimensions. In the LLE dimension, year two classrooms scored significantly lower than reception suggesting structured language learning environments for children was not sustained in the older classrooms.

The finding that classrooms were not providing children with sufficient opportunities for language learning is similar to Sigafoos, Roberts, Kerr, Couzens, and Baglioni's (1994) study. Only a small percentage (13.86%) of the classrooms they observed provided opportunities for communication (naming, requesting, answering and imitating) for children with developmental disabilities. These findings suggest teachers need to modify their classroom practice to allow for more communication opportunities. However, a major challenge identified by Dickinson (2011) was in changing teacher practices particularly in the area of language, which potentially impacts on the move towards creating communication friendly learning environments.

An implication of Dockrell, Bakopoulou, et al.'s (2012) study is that the CsC Observation Tool can be used to measure existing classroom practices. It also has the potential to be used as part of training and intervention to guide teachers towards creating communication friendly classrooms. This was conducted as part of the CsC Observation Tool development where it was used to measure the impact of a communication intervention in 28 intervention and 15 comparison classrooms over a period of two to three months. Although the aim was not to evaluate the intervention programme, it suggested the usefulness of the CsC Observation Tool to examine changes in how children's communication is supported in classrooms. However it mainly examines the

role of the teacher and not the children in the communication process. Moreover, the CsC Observation Tool is limited as it does not measure teachers' attempts at involving children in activities, nor the occurrence of interaction between teachers and children (Gràcia et al., 2015).

To address these limitations, an extension of Dockrell, Bakopoulou, et al.'s (2012) study was conducted by Gràcia et al. (2015) through the development of the Assessment scale of oral language teaching (EVALOE) tool. The aim was to examine the approach to teaching spoken language in Spanish primary schools using the EVALOE. This tool comprises of two parts, a classroom observation scale and a semi-structured interview with the teacher after observation. This was deemed as a valuable addition in measuring communication-facilitating practices in classrooms, which was absent in the CsC Observation Tool. Additionally, the EVALOE was also designed to simultaneously examine the communicative behaviour of teachers and children. The EVALOE was field tested on 39 state and private primary schools involving 39 professionals (speech therapists, educational psychologists and teachers) and two university students. A total of 80 classroom observations and 47 interviews were conducted. The field test indicated the EVALOE provided teachers with guidelines to observe children's communication abilities and strategies in creating communication friendly classrooms. The EVALOE also provided opportunities for teachers to discuss areas for improvement during the interview, based on the observation scores. Further work on the use of EVALOE is warranted to test the feasibility outside of the Spanish school system.

2.3.3.1 Training teachers to support communication friendly classrooms

The challenge of modifying teacher practices was the focus of a study by Crosskey and Vance (2011) who explored the impact of a teacher training programme on teaching practice in a mainstream UK primary school. Their study investigated the effectiveness of training teachers on supporting children's listening, and this was measured through children's perception. Questionnaires were completed by 27 children (aged seven to ten years) pre and post training. The findings suggested children were aware teachers were using more focused strategies to support their listening skills during class activities, indicating teachers were striving to change their practice in supporting children's listening. It also indicated through training, teachers are more equipped with the knowledge and skills to provide a much better language environment for children. While the study mainly concentrated on teachers and did not examine the impact of the perceived change in teachers' practice on children's learning outcomes, children were found to be more aware of specific listening skills.

McDonald et al. (2015) modified teacher practices in order to support children's communication skills. Their study examined the impact of training on teachers' interaction behaviour, and explored their views and experiences of being involved. Six early childhood educators completed three group training sessions targeting language strategies, communication-facilitating and conversation-hindering behaviours. The study compared the participants' interaction behaviours with a group of children pre and post training. Teachers significantly increased in the use of two communication-facilitating strategies (commenting as a cue for a turn and encouraging interaction through facial expression), and showed a significant decrease in a conversation-hindering behaviour (closed ended/rhetorical/insincere questions). Overall findings indicated not all the teachers modified their interaction behaviours as a result of training, and communication-facilitating strategies showed the most consistent change. This was explored by McDonald et al. (2015) further through semi-structured interviews with a different group of early childhood educators who also underwent similar training. Data from the interview highlighted several factors that resulted in teachers employing more communication-supporting strategies. This included the training giving more focus to these strategies through repetition and practice. These findings, although limited to the use in early childhood settings, highlighted the importance of considering factors that influence the effectiveness of a teacher training programme.

Further evidence from the UK investigating the impact of teacher practices on children's communication was provided by Bain, James, and Harrison (2015). They explored a teacher's perspective of their role in supporting children's communication in the early years setting. The use of an ethnographic approach involved gathering observational data, reflective notes, recorded conversations and a semi-structured interview of a teacher working in an early year's unit in a rural primary school. Two prominent themes from the teachers' perspectives were identified. The first theme was the teachers' knowledge and understanding of communication-facilitating strategies, and the second theme involved positive perception towards parental involvement. Although these findings are constrained to the perception of an individual teacher working in the early years setting, it reflects the importance placed on these two areas in supporting children's communication.

2.3.3.2 Collaboration between teachers and speech and language therapists

The studies discussed have emphasised the importance of changing teacher practice in supporting children's communication skills. However, the establishment of communication friendly classrooms is also influenced by the support teachers receive from other professionals. Wilson et al., (2015) explored the perception and knowledge of trainee

speech and language therapists (SLT) and teachers in areas of language, school curriculum, collaboration and service delivery. An online survey was implemented to gather this information from the participants who were all in their final year at several New Zealand universities. A limitation of this study was although it aimed to examine the perception on collaboration, only 5% and 46% of the trainee teachers and SLTs respectively had previous experience collaborating with each other. Significant differences were found where the SLT group displayed greater knowledge of spoken language and speech to print concept, while the teacher group were more knowledgeable in the area of literacy curriculum. Furthermore, both groups viewed the teaching and assessment of reading and spelling was the responsibility of teachers, and SLTs should provide intervention within classrooms. The findings indicated the need for more shared knowledge of curriculum content for the trainee SLTs and better understanding of collaborative approaches for the teacher trainees. The impact of improving these two areas will therefore need to be examined in relation to children's learning outcomes and in creating communication friendly classrooms.

The need to improve shared understanding and knowledge of collaboration methods and curriculum content for SLT and teachers was further supported by Glover, McCormack, and Smith-Tamaray (2015). This Australian study aimed to explore the two groups' needs and service delivery preferences in supporting children with SLCN in mainstream, primary schools. Fourteen teachers and two SLTs completed an online questionnaire and a subsample (two SLTs, one teacher and one learning support officer) was further involved in a focus group. The data from the questionnaires and focus group highlighted three levels of need (individual, inter professional, and organisational levels) perceived to be essential in creating school environments that support children's communication. At the individual level, SLTs wanted a better understanding of the school curriculum, and teachers expressed the need for teaching strategies to support the learning of children with SLCN. The inter professional level included both groups expressing interest in more collaborative opportunities but also identified barriers to this such as time constraints, limited resources and support. At the organisational level, participants highlighted issues that needed to be addressed such as insufficient services to support children with SLCN in schools and funding-related issues. Though these findings were based on a small participant sample and replication on a larger sample is needed to improve generalisability, it lends further support to the importance of knowledge and training.

The importance of establishing communication friendly classrooms is illustrated by the studies in this section. The development of tools to measure how classrooms support communication is discussed, alongside the various factors impacting on practices to

develop children's communication. This includes support from teachers and SLTs, opportunities for training in relevant fields, and shared knowledge of educational curriculum and teaching strategies. Additionally the studies also highlighted factors viewed as barriers for schools in creating communication friendly classrooms.

2.3.4 Features of a communication friendly environment

An environment that attracts the interest of children, and stimulates their desire to communicate, will most likely facilitate their language learning and social interaction skills (McCormick, 2003c; National Council for Curriculum and Assessment, 2007). The challenge, therefore, is to identify aspects of the environment and existing practices leading to such an environment. In the development of the CsC Observation Tool (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012) a major part of the project was to research the existing evidence on what features of the learning environment support language and communication development. This observational tool was a result of extensive literature review on the existing research reporting on the key elements and practices in creating an environment that supports language development in children. Dockrell, Bakopoulou, et al. (2012) identified three reoccurring themes throughout the literature review resulting in three main dimensions of the CsC Observation Tool previously mentioned, namely the LLE (the physical layout of the classroom/ learning space), LLO (the activities and tasks that are available throughout the day), and the LLI (the interaction between adults and peers in the classroom/ learning space). The EVALOE tool developed by Gràcia et al. (2015) also identified three areas to measure communication friendly classrooms. They are the: a) communication management, including strategies for communication among children and with the teacher, and the social and physical learning setting, b) the instructional design including teacher practices to share language aims, asses previously shared knowledge, and to learn the session's linguistic content, and c) communicative functions and strategies implemented by both children and teachers in developing children's communication skills.

Another study that identified aspects of the classroom environment was conducted by McLean et al. (2016). Although this USA based study did not focus on measuring the communication friendliness of classrooms, it does highlight similar classroom qualities that influence children's overall development, including communication skills. This longitudinal study involved observations of 49 classrooms, from 18 primary schools and measured the classroom quality using the Quality of the Classroom Learning Environment (Q-CLE) instrument (Connor et al., 2011, 2014). The Q-CLE observational tool measured three aspects of the classroom encompassing: a) the instructional quality provided by the teacher

including strategies teachers use to address the whole classroom and needs of individual students, b) how classrooms are organised and orientated by the teacher through physical and instructional methods and, c) how teachers manage the classrooms including their interactional skills, and how they respond to children. Children's (n = 533, aged between six to seven years) literacy skills were assessed at three time points throughout the academic year and the outcomes indicated that 'high quality classrooms' (classrooms that scored high on the Q-CLE) resulted in better children's performance on measures of reading comprehension and expressive vocabulary.

McLean et al.'s (2016) findings lend support to Dockrell, Bakopoulou, et al.'s (2012) and Gràcia et al. (2015) study of aspects of the classroom impacting on children's learning and communication outcomes. Although there are differences in the areas of focus, the classroom features mainly viewed to contribute to children's development includes the physical environment, the management and quality of the classroom interaction and instructions, and the activities and opportunities available for children within the classroom context. Additionally Alper and McGregor (2015) proposed the concept that children should also be empowered with knowledge of strategies and understanding of the purpose for improvement (sense of agency), as this will have a positive impact on their communication skills. This indicates that creating communication friendly classrooms involve a multifaceted procedure that reflects the complex nature of the communication process (Justice, 2004). In addition, teachers also need to ensure that classrooms are communication friendly at the social, physical and didactic level to address the wide range of children's communicative ability in the classroom context (Alper & McGregor, 2015; Clegg & Vance, 2015). However, some aspects of a communication friendly environment are easier to implement than others, as demonstrated by Dickinson and Caswell (2007). They investigated the outcomes of an in-service intervention for a group of teachers trained in a Literacy Environment Enrichment Program. Teachers appeared to find physical modifications easier compared to making changes to their interaction styles and in enhancing opportunities for language. This is supported by similar findings of previous studies, which implies a need for more training and support to equip teachers with the skills in creating a communication friendly environment (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012; Sigafoos et al., 1994).

However, as the current study implemented the CsC Observation Tool as the main observational instrument, the three dimensions of the CsC Observation Tool (LLE, LLO and LLO dimensions) will be used as a framework. The next section explores what literature has found about each dimension in turn, within a learning or classroom environment.

2.3.4.1 Physical layout

An essential factor in creating a classroom for language and communication enrichment, is the environmental arrangement (McCormick, 2003c). This includes the way physical space is organised and utilised to facilitate language and communication (Jarman, 2008; McCormick, 2003c). The actual use of space and how furniture is laid out in the classroom is considered part of the non-verbal communication system, and can be used by teachers as tools to stimulate interaction (Adelman & Walker, 1974; Sommer, 1977). Importantly, the environment has to be arranged in such a way children are encouraged to interact with their surroundings, and also create more opportunities for verbal and non-verbal interaction among those present in them (McCormick, 2003c; Sommer, 1977).

The significance of the physical classroom set up for communication development has been reported particularly in terms of the organisation of space, type, and access to materials (Duncanson, Volpe, and Achilles, 2009; Jarman, 2008; Justice, 2004; McCormick, 2003c). This is essential, especially for children with SLCN where support for their learning and communication is largely based on the actual physical arrangement of access to the resources, to the teacher and among their peers (Martin, 2000). Therefore, a feature of communication friendly classrooms involves the appropriate utilisation of the actual physical space. This includes the furniture arrangement which define seating positions, specific learning areas, and controls traffic flow within the classrooms (Cooper & Galvin, 1983; Hazelkorn, Bucholz, Goodman, Duffy, & Brady, 2011; Simonsen, Fairbanks, Briesh, Myers, & Sugai, 2008). Specifically, Roskos and Neuman (2001) claimed in order to ensure quality interactions and activities take place, it is important there is adequate space within the classrooms for both teachers and children. This is further supported by Duncanson et al. (2009), whose findings reported the importance of ensuring classroom space is organised and used in such a way it is conducive to and supports learning. Moreover, Gross (2013), Jarman (2008) and Justice (2004), also stressed the importance of the availability and maximum use of spaces within the classrooms, or schools, that stimulate children's desire to interact and thus facilitate enriched language learning opportunities.

Equally, the actual selection of the types, quantity and accessibility of resources and materials play a major role in contributing to the communication friendliness of a classroom (Duncanson et al., 2009; Justice, 2004; Kalmar, 2008; McCormick, 2003c). Consideration of the quality of the resources, such as toys, books, and other materials, is vital, as it must interest children and invite conversations to take place (Duncanson et al., 2009; Justice, 2004; Kalmar, 2008). In addition, the placement of these materials around the classroom, and how easily accessible it is to children to result in language use, is

another major component of a communication friendly classroom (Justice, 2004; McCormick, 2003c). This is important, as McCormick (2003c) and Roskos and Neuman (2001) argued in some settings toys, books and other materials are arranged in such a way children can have access to it without having to use as much language as possible. Communication friendly classrooms should also be equipped with visual materials that support children's learning, and appropriately sized furniture adaptable for various purposes (Adelman & Walker, 1974; Alper & McGregor, 2015).

Other factors have been reported as influential features for learning in a classroom environment, such as the lighting, amount of noise, movement, and use of colour (Jarman, 2008; Tanner, 2009; The Communication Trust, n.d.). Evidence to support this is from the findings of Tanner's (2009) study, which looked at movements and patterns of circulation, patterns of day lighting, and patterns of view, examining their influence on educational achievement. The results suggested all three aspects impacted on students' achievement, in different subjects, thus adding evidence of the influence the physical environment have on children's achievement.

This section highlights the importance of physical environment in the context of learning and language development. However, it is important to note although it is associated with the educational process and achievement outcome, it is only one of the many contributing factors to a communication friendly classroom environment (Alper & McGregor, 2015; Martin, 2000; Sommer, 1977; Tanner, 2009).

2.3.4.2 Interaction between children and adults

Aside from the physical layout of the environment, another important factor that constitutes a communication friendly classroom is the quality and nature of the interactions between children with each other and with the adults in their surroundings (Gross, 2013; Justice, 2004; McCormick, 2003c; Roskos & Neuman, 2001). Brice (2001), Cooper and Galvin (1983) and McCormick (2003b) stress the importance of effective interactions between teachers and children, as this impacts on children's overall achievement and social integration with their peers. In addition, Justice (2004) highlighted it as vital for communication friendly classrooms to be enriched with effective and quality adult-child interaction. Thus the role of the teacher is crucial in facilitating the process of language learning (Justice, 2004; McCormick, 2003c).

The adult's ability to adapt and enhance the quality of the interactions in the classrooms is an invaluable feature in the process of a communication friendly environment (Gross, 2013). Likewise, interactions among peers has also been found to contribute to the language learning environment (Adelman & Walker, 1974; Cooper &

Galvin, 1983). Findings from studies such as those conducted by Girolametto, Weitzman, and Greenberg (2003) and Pence et al. (2008) lends support to this. Girolametto et al., (2003) explored the outcomes of a training package to facilitate language to child-care providers in day care centres. These caregivers were randomly assigned to a control group and an experimental group. In the latter group, the caregivers were trained on the strategies to respond, engage, model and encourage interactions between adults and peers. A speech and language therapist provided this 14-week program, and included eight group sessions and six individual sessions. A pre-test and post-test design was used to measure the outcomes through observations in an adult-directed and a child-directed context. The outcome indicated the caregivers from the experimental group were more responsive to children's interaction, knew the ways to encourage interaction among the children, and practised the language stimulation strategies they have learnt. In doing so, they were more able to provide the children with an effective language learning environment (Girolametto et al., 2003).

However the findings from Girolametto et al.'s (2003) study is limited as it only focused on a child-day care setting for typically developing children aged between 18 to 72 months. Furthermore, classroom sizes in a day care centre do not represent those in a typical classroom in schools: the maximum size was eight children per group. Additionally, the childcare providers were intensively trained with a specific context, activities and toys for the purpose of the study. Therefore, although these findings highlight the benefits of such in-service training, the extent to which it can be generalised to a regular classroom consisting of children with diverse learning needs across the primary school years, is unclear.

These issues were partly addressed by Pence et al. (2008) who also focused on children in the similar age range as Girolametto et al.'s (2003) study. Pence et al. (2008) aimed to explore ways to enrich the quality and quantity of children's language environment through interactions, particularly children identified as at-risk in pre-school. Teachers were randomly assigned to a control group or to a group which provided them with training on implementing a language-rich curriculum. Teachers in the experimental group were trained on modification strategies for each activity and instructional contexts of the curriculum. This consisted of a 15-hour training conducted over a period of three days. These teachers were also given a 'refresher' course where they viewed video recordings of themselves. The control group attended a similar period of training on more neutral topics, but without the added 'refresher' course. The outcomes were measured through observations conducted at three time points over the academic year and a teacher-questionnaire. The findings showed teachers were more inclined to using activity-based

modifications compared to instructional strategies. This indicated, in order to ensure teachers practised more interactional stimulating strategies, more support is required from others, such as speech and language therapists.

Although the findings of Pence et al.'s (2008) study attempted to address how in-service training can benefit preschool programmes conducted in the regular schools, generalising it to the school curriculum as a whole requires careful consideration. This is because Pence et al.'s (2008) study used a language rich curriculum, and a checklist to measure the outcome of this particular curriculum developed specifically for this research. Additionally, the teachers were also provided with intensive training to deliver in accordance with the curriculum targets. It is unclear to what extent this curriculum resembles or differs to existing curriculums in the preschool programs in schools. Furthermore, the children in their study were those identified as at risk for later educational difficulties, and their classrooms were already affiliated to other programs designed to provide them with the necessary intervention. This may also have had an effect on the study's outcomes.

The studies above mostly focused on interaction with preschool aged children, from the ages of 18 months to six years old. These studies also examined more on teacher outcomes and not so much on how or what effect these changes had on children. A study that addressed the effect of teacher training on a group of older children (aged between seven years to ten years old) was conducted by Crosskey and Vance (2011), and this has already been presented in section 2.3.3.1 (page 25). This study's findings highlighted the advantages of a particular training package to both teachers and children in mainstream, primary schools. However, it only focuses on one aspect of the curriculum, which is improving the ways teachers support children's listening skills. The extent of the applicability of these findings to children of different age ranges than that in the study, is a question of interest and warrants further investigation.

The role of children and teacher interaction in creating a conducive environment for language learning, and in later educational attainment has been acknowledged as a significant factor, particularly in creating a communication friendly setting (Brice, 2001; Cooper & Galvin, 1983; Gross, 2013; Justice, 2004; McCormick, 2003b, 2003c; Roskos & Neuman, 2001). Overall, the studies above lend support to the impact of children and teacher interactions on the quality of language input in a communication friendly classroom environment. Not only does it enhance the language acquisition of children, but it also has the potential to involve them socially and educationally (Brice, 2001; Cooper & Galvin, 1983; McCormick, 2003b). Nonetheless, it is important to note these studies were

conducted in schools in the UK and USA and, and involved children whose primary language was mainly English.

2.3.4.3 Opportunities for language and communication

Another important feature of a communication friendly environment is the availability of opportunities to support language learning. Similarly, this factor does not exist as a separate entity, and is intrinsically linked with the other two factors previously discussed. Subsequently, in setting up a communication friendly environment, it is crucial to ensure opportunities are available throughout the day to facilitate children's language development (Gross, 2013; National Council for Curriculum and Assessment, 2007). The amount and type of opportunities provided in the classroom, is to some extent, dependent on how the curriculum is planned and structured for teaching oral language (McCormick, 2003c; National Council for Curriculum and Assessment, 2007). Justice (2004) emphasised the importance of initially identifying particular objectives together with the corresponding activities to enable a more focused approach to language development. In addition to set activities and routines, language learning is also facilitated by an adult who is able to create opportunities where possible (Jarman, 2008; Roskos & Neuman, 2001). Explicitly, activities and tasks that are linguistically stimulating and challenging are more likely to produce effective communication among children (Gross, 2013; Kalmar, 2008; Roskos & Neuman, 2001). From this, it can be seen not only do the choice of the activities have an effect on children's learning, but how teachers support and respond during this time is also crucial.

In creating opportunities for language learning, the activity settings recognises the relationship between people, place and occasion, and how they are linked with one another (Roskos & Neuman, 2001; Smith & Dickinson, 1994). Smith and Dickinson (1994) suggests book reading, small-group times, free play, meal times, or any other occasions where there are opportunities for children to interact constructively with adults, as examples of effective activity settings. Four main dimensions were examined in relation to preschools in low socioeconomic areas: the classroom circumstances (including class size, student-teacher ratio, length of classroom day, and English proficiency of children), teacher specific variables (measures of teachers reported and observed pedagogical orientations), activity settings (observations, reports and audio recording of tasks), and interactional precursors (information gathered from audio recordings of teacher-student interaction). An interesting outcome of the study was teachers' practice of activities such as book readings and role-playing, contributed positively in facilitating the overall language environment of the classroom.

Given that activities such as book reading can facilitate the language environment of children, an earlier study to examine how this particular activity impacts on children was conducted by Dickinson, De Temple, Hirschler, and Smith (1992). In this study, they looked at a group of mothers and children (n = 25) from a low-income background and who were native English speakers, and examined the patterns of relationships of book reading in two different settings (home and school). Data was collected from interviews and audio recordings of book reading at home (mother and child), and at school (teacher and child), when children were aged three years, and again when they turned four. An indication of this longitudinal study was the experience of book reading in both these settings could be further enhanced and enriched by a partnership between both mothers and teachers. Simultaneously, this study also adds to the potential benefits of book reading activity to the language learning experience of children. However, this study used a sample of children from a specific background already highlighted as being at risk for later educational problems. Involving mothers or other family members in research may not be an easy task and may not be feasible in everyday circumstances. Additionally, it also focuses on one aspect of language learning in two different contexts, and how it impacts on the larger picture of literacy development is unclear.

Teachers undeniably play a significant role in the process of children's language learning, and especially in creating a communication friendly environment (Gross, 2013; Justice, 2004; McCormick, 2003c). The role of teachers in certain activity settings was the subject of interest in Kontos's (1999) study. In this study, the involvement of teachers during free play particularly their talk, the roles, and the activity settings were examined. Audio recordings of interactions between teachers and children within the classrooms were transcribed and analysed. The results showed teachers spent the majority of their time assisting children in getting involved in play as well as facilitating them during this activity. However, although teachers were able to adapt their roles in certain activity settings, training is still needed to equip them with strategies to further enhance the language experience of children (Kontos, 1999). Here Kontos (1999) has attempted to show that teachers have the potential to enrich the language input and experience of children during certain activities, particularly during free play. This finding however may be constrained to children below the age of four, in addition to the classrooms involved not representing a typical full day classroom schedule. Furthermore, all the teachers involved were trained in providing early childhood care to children of families from low socio-economic income.

The significance of creating opportunities for children to learn language was discussed. These studies are among the numerous researches conducted to demonstrate the benefits of providing children with language-enriched activities within their

environment. However, it is only one feature in creating a communication friendly environment highlighting the complexity of children's language learning process. Furthermore, how comprehensive and applicable these findings are when applied to a different population other than schools in the USA and UK is something that needs to be explored further.

2.4 Exploring Teachers' Perspectives

Research to examine teachers' perspectives is essential as teachers play a key role in implementing any educational reforms and school based interventions (Dockrell & Lindsay, 2001; Flores & Alonso, 1995). This is especially vital in ensuring schools are able to accommodate specific groups of children, such as those with special needs. Numerous studies have been conducted into teachers' perspectives exploring their existing knowledge, understanding, current skills and teaching practice, and views for evaluation and success of intervention programs (Forlin, 2001; Marshall, Ralph, & Palmer, 2002). The overall aim of these studies is to determine if there are any discrepancies with what teachers are expected to know and practise, with their existing knowledge and skills. It also informs on the success or challenges when conducting intervention for children with special needs.

2.4.1 Teachers' perspectives of the inclusion of children with speech, language and communication needs

Exploring teachers' perspectives as a result of the move towards inclusion was the focus of a study by Dockrell and Lindsay (2001). This study investigated class teachers' and Special Educational Needs Co-ordinators' (SENCO) views and understanding of children with specific speech and language difficulties (SSLD) in various primary education settings in the UK. The perspectives of teachers to 69 children identified with SSLD were collected through a semi-structured interview and three standardised scales. The findings highlighted the insufficient knowledge and skills of the teachers in supporting children with SSLD, and the need for support and further training. The importance for these to be accessible to teachers was emphasised by Dockrell and Lindsay (2001), as it facilitates the implementation of appropriate educational provision for children with SSLD. However, these findings are limited to teachers of children with SSLD in year three and did not examine differences in the responses of class teachers and SENCOs.

Further evidence for the lack of sufficient teacher training was reported by Marshall et al. (2002) who investigated how teachers regarded the inclusion of children with speech and language difficulties in mainstream classrooms. This was as a measure to determine the success of inclusion. Questionnaires were distributed and completed by 149 UK

teacher trainees studying for a Post Graduate Certificate in Education. Their previous experience with this group of children was unclear, and differences between primary and secondary teachers were not examined. Nevertheless, findings indicated issues with teachers' insufficient training, time and resources as barriers for successful inclusion, and highlighting the importance of including these issues in pre-service teacher courses. These two studies informed on the issues teachers faced in supporting and accepting children with speech and language difficulties in mainstream primary education in the UK.

Teachers' perspectives on the inclusion of children with special needs in Australian primary schools was also investigated by Forlin (2001). This study aimed to identify potential stressors for teachers in classrooms that have a child with moderate to severe intellectual disability. A total of 571 primary school teachers (classroom teachers, teaching principals and key teachers) completed the Teacher Stress and Coping questionnaire. The stressful factors identified included limited competence in supporting children with moderate to severe intellectual disability, and the children's behaviour. This emphasises the importance of sufficient teacher training to reduce the stress potential of these factors. However a limitation of this study was the level of involvement of the different groups of teachers with the child in the classroom was not specified.

2.4.2 Teachers' perspectives of school-based intervention programmes

Additionally, studies to explore teachers' views on services and intervention programmes impacting on teaching practice were also conducted. This was for evaluation and improvement purposes to achieve the intended change. This also includes examining teacher's knowledge and skills to support children's learning needs in schools. Letts and Hall (2003) investigated early years practitioners' knowledge in the UK about children's speech and language development and impairment through the use of questionnaires. Findings from the completed questionnaire data (n = 829) highlighted the need for comprehensive training on topics including children's speech and sound development and symbolic play, and in identifying speech and language problems. To explore this further, Mroz and Letts (2008) conducted interviews on a representative sample of these questionnaire respondents (n = 50) investigating their experiences of children with SLCN. They found many of the participants (30/50) were able to identify children with complex SLCN, participants knew strategies to support children with SLCN one-to-one (22/50) and in collaboration (25/50), but only a small number of participants (15/30) solely identified children with SLCN. The findings from these two studies indicated teachers are aware of children's SLCN, are able to identify and support their learning to some extent, but still require more training in specific areas of speech and language.

Dunn et al. (2009) investigated the criteria teachers in the USA and Canada used when referring children for special education services. General education teachers (n = 97) teaching grades 1 to 6 and combined elementary grade level completed a survey to identify the criteria ranked highest for referral. Differences in the criteria by teachers from rural, suburban and inner city schools were found however this was not examined and was acknowledged by Dunn et al. (2009). Although differences in the criteria for teachers' of different grade levels were also not examined, the results indicated teachers focused on factors impacting on children's educational success, which were inattention and aptitude. This reflects general education teachers' focus on educational outcomes as an important criteria when referring children for services, however this may not match the views of the service provider.

Examining the perspectives of teachers and service providers is imperative as it informs on improvements in the service provision. In an attempt to address this need, Feiler and Watson (2011) conducted a two year UK based longitudinal study exploring the perspectives of teachers, speech therapists and teaching assistants on involving children with severe learning and communication difficulties in the decision making process. The outcomes of the interviews for the different groups of professionals resulted in variability in the opinions on this group of children's involvement. Overall all the participants identified the need for further training to develop their existing skills. Although these findings provide further support for teacher training, it is constrained to teachers' perspectives from two British special primary schools.

School-based intervention programmes also examine teachers' experience of the implementation process, as this informs on the success and recommendations for improvements. Leyden et al. (2011) explored the experience of four head teachers and four coordinators of a 'Whole school approach' programme for children with SLCN from participating UK primary schools. Separate semi-structured interviews were conducted for the two groups and the overall findings showed school experiences differed as a result of school circumstances, such as the population of children with SLCN and experience of the school staff. Although the findings reported on the success of the intervention approach and identified areas for improvement, the sample only included schools committed to the intervention and had shown positive outcomes.

Baxendale, Lockton, Adams, and Gaile (2013) explored the views of parents and teachers of eight children involved in the 'Social Communication Intervention Project' (SCIP), and to identify the perceived changes in children's communication. Parents and teachers of children identified with pragmatic language impairment took part in semi-structured interviews within two months of the children completing the SCIP. The results

revealed significant information specific to this intervention approach including differences in the values parents and teachers viewed as success for children's outcomes. Although these findings provide valuable information on the effectiveness of SCIP, the sample was relatively small and involved variability in children's ages and intervention objectives.

Overall, the described studies in this section highlighted the benefits of exploring teachers' perspectives in light of educational reforms towards inclusion, and in evaluating school based interventions. The findings have indicated gaps in teachers' knowledge and skills, identified training and support needs, and informed on facilitating and challenging factors. By taking into account teachers' views on any changes in the education system, and the effectiveness of intervention programmes, it would identify any potential resistance from teachers and facilitate success by removing these barriers (Flores & Alonso, 1995).

2.5 Conducting Classroom Observations

As the current study employs the use of observational methods, it is also important to discuss the literature around classroom observations. Classrooms are complex environments where the intrinsically-linked processes of teaching and learning occur at such a rapid pace (Jesse, 2001; Zaare, 2013). This suggests an important outcome of such an environment is the impact on children's learning, which reflects how effective teachers are in delivering the curriculum content (Strong, Gargani, & Hacifazlioglu, 2011). A measure to determine this would be through classroom observations, which Williams (1989) emphasised as a basic component of teacher training. Classroom observations provide an insight to the quality of children's learning experience and how much this is influenced by teachers' ability to bring together their knowledge and skills (Farrell, 2011; Van Tassel-Baska, Quek, & Feng, 2006; Williams, 1989). It is a widely used method to capture teaching practice and examine other aspects of the learning environment within the classroom that impacts on children's outcome, within a given amount of time (Smolkowski & Gunn, 2012; Van Tassel-Baska et al., 2006). Classroom observations have played a large role particularly in teacher evaluation, as it informs on teaching practice impacting on children's learning outcomes (Estacion, McMahon, Quint, Melamud, & Stephens, 2004; McLean et al., 2016). Observations have also been used for professional development (Farrell, 2011) particularly as it provides credible evidence for teachers to adopt more effective strategies enhancing children's learning (Cordingley, 2004).

The use of systematic classroom observations based on an interactive coding system are viewed to facilitate researchers in examining real-time classroom and teaching practices as it is straightforward, transparent, highly objective and limits judgemental

perspectives (Garrett & Steinberg, 2015; Strong et al., 2011; Zaare, 2013). Although observational studies have been identified as being resource-intensive with regard to procedural issues for coding, it is still regarded as a valuable tool in exploring effective educational processes (Connor et al., 2014; Estacion et al., 2004). There are a number of research-based observational protocols developed and designed to measure various aspects and inform on the most effective classroom practice (Connor et al., 2014; McLean et al., 2016). As the current study aims to examine children's communication, examples of previous research in this area are discussed.

The study by Sigafoos et al. (1994) investigating the frequency and types of communicative opportunities teachers provided to children with developmental disabilities in four Australian special schools, was briefly presented in section 2.3.3 (page 24). Observations were carried out in seven classrooms consisting of children with a wide range of communicative abilities. Teachers were recorded for the occurrence and type of communicative opportunities provided, and the first response from children upon given the opportunity was also documented. The results showed only 13.86% of the total observation intervals across the seven classrooms provided opportunities for communication, and more than half of these opportunities consisted of object or event naming. Teachers were also found to provide more opportunities for children with higher communicative ability. Although this has implications on improving teaching practice for children with developmental disabilities, particularly in the provision for various forms of communication, it is also restricted to teachers' initiation of communication.

Classroom observations have also been used to evaluate intervention effectiveness on children's communication. An example of this was the study by Pasco, Gordon, Howlin, & Charman (2008) who developed the Classroom Observation Schedule to Measure Intentional Communication (COSMIC) to provide valid outcome measures of social-communication skills. The sample included 91 children (aged between 4 to 11 years old) diagnosed with low-functioning Autism Spectrum Disorder (ASD) in special educational classrooms in the UK, where 83 of them were involved in a previous communication-focused intervention. Observations were based on video recordings of the children during two settings, namely snack time and other classroom activities (duration of 15 minutes each). The study examined and compared concurrent and predictive validity of items in the COSMIC with items of the Autism Diagnostic Observation Schedule (ADOS-G, Lord et al., 2000) another observational instrument used to assist in the diagnosis of ASD. Concurrent validity of the COSMIC items for initiated speech/vocalisations, echolalia, gesture and pointing were found to be significantly associated to the ADOS-G items that measured similar aspects. Predictive validity was measured for a sub-sample of

children (n = 28) who were not involved in the previous intervention study. The findings suggested COSMIC items of initiated speech/vocalisations and commenting predicted later language and communication competence. Although these findings informed on the validity of the COSMIC to measure intentional communication, it is limited to children with ASD who were largely non-verbal in the special educational settings.

To address this limitation, revisions to the COSMIC was conducted by Clifford, Hudry, Brown, Pasco, and Charman (2010) to evaluate the validity of the tool in measuring the social and communication skills of children with more varied functioning and language ability. This follow up study included 41 children with ASD (age range 4 to 6 years) from a range of educational settings. Similar to the previous study, observations were based on video recordings of the children, but for different settings (snack time was omitted for this study) and time duration (5 minutes for teacher-led activities and 10 minutes for free play). The coding structure was also revised to reflect the potentially higher functioning and language abilities of the participants. An examination and comparison of items between items in the modified COSMIC (M-COSMIC) and the ADOS-G indicated significant associations for the M-COSMIC items of initiated vocalisations/single words and show/give. However, overall there was high variability in the associations between items of the M-COSMIC and ADOS-G. Furthermore, differences were found for rates of compliance behaviour, responding, gaze and following pointing gestures between teacher-led activities and free play. These findings indicate the potential validity of M-COSMIC as a measure of social and communication skills of children with a range of functioning and language ability levels. However these findings are only confined to children with ASD and it does not examine the teacher's role in the communication process.

The studies illustrated above have provided evidence for the use of observational methods to investigate children's communication outcomes in classrooms. Classroom observations are also widely used as a measure to evaluate teachers' performance and to inform on best teaching practices (Garrett & Steinberg, 2015; Van Tassel-Baska et al., 2006). An example of a study examining children-teacher interaction was implemented by Smolkowski and Gunn (2012). Although this study did not focus solely on children's communication outcomes, it does examine the impact of teachers' interaction on children's overall outcome. Specifically it reported on the validity and reliability of the Classroom Observations of Student-Teacher Interaction (COSTI) tool as a measure to determine the impact of student-teacher interaction during children's beginning reading instruction. The teaching practices included in the study were teacher demonstration and corrective feedback, student errors and independent student practice. Kindergarten teachers (n = 54) from 24 elementary schools in the USA were involved in the study, which investigated the

COSTI's reliability and validity within a school-randomised trial reading curriculum. As such, 26 teachers were in the reading trial and the remaining implemented the common literacy curriculum. Observations were carried out three times during an entire literacy session throughout the academic year where teachers had the option to participate in either one or two years of the study. Findings reported the reliability of the COSTI across the teaching practices was consistently high (achieving substantial to almost perfect agreement), and stability value and the observed means for the student independent practice indicated its consistency and reliability throughout the academic year. Furthermore, the rate of students' independent practice was observed to be the significant predictor of students' outcomes. These findings provide evidence of the impact of interaction on children's outcomes. However, variability in the children's socio-economic status, school locations and ethnic background, were not examined in relation to their outcomes.

Further evidence from the USA was provided by McKie, Manswell Butty, and Green (2012) who investigated an early childhood program for children aged between three to four years old. The study aimed to provide support for the use of classroom observations in improving the quality of children's education programmes. Through the use of two observation tools to measure children's language and literacy, and the quality of the classroom environment, McKie et al. (2012) examined 755 children from 49 classrooms within a period of two years. Although the findings showed the average percentage scores of children's language and literacy remained at the basic range, there was a slight increase in the second year. This included improvement in areas such as oral language facilitation, recognising diversity and approaches to reading and assessments. For the classroom quality, improvements were also observed in areas such as language reasoning, interaction, classroom arrangement, and activities. The observations also informed on areas for improvement in supporting children's communication including appropriate listening and talking, introducing concepts based on children's interest and linking verbal communication with written language. These findings had implications on using classroom observations as part of an evaluation for an early childhood programme. However it only focused on the classroom environment and teachers but did not examine children's outcomes.

The use of classroom observations for educational purposes has been illustrated through the selection of studies presented and the significance of observational methods has been highlighted. The findings inform on teachers' knowledge and skilfulness in transferring this during teaching, in addition to evaluating their classroom practice (Farrell, 2011; Williams, 1989). However, Strong et al. (2011) argued that classroom observational

methods for teacher evaluation purposes have not been used in a sufficient and systematic manner. As a result classroom observations should not be used solely to determine teacher effectiveness and other measures should also be considered (Garrett & Steinberg, 2015; Strong et al., 2011).

2.6 Summary

This chapter explored the importance of classroom communication and its impact on children's learning. A description of a communication friendly environment was presented together with the defining features according to existing literature. The features required to create such an environment are complex and intrinsically linked. This means an absence of one or more factors will result in an incomplete and insufficient communication friendly environment.

Although the existing literature has varying perspectives on the terminology and features of a communication friendly environment, it is essential to ensure all the factors are in place to create a supportive communication environment which acts as the foundation for learning (Gross, 2013; Justice, 2004; McCormick, 2003c; Sommer, 1977; Tanner, 2009). The current study elected to utilise Dockrell, Bakopoulou, et al.'s (2012) study as a guideline, resulting in the features of a communication friendly environment defined according to the three dimensions of the CsC Observation Tool. As the current study also examines teachers' perspectives and uses classroom observations in gathering the required data, research in this area was also discussed in relation to its use and significance. This chapter highlights the following issues contributing to the rationale of the current study:

- Although there are studies that have developed observational instruments to specifically measure communication practices in classrooms (Clifford et al., 2010; Dockrell et al., 2012; Gracia; Pasco et al., 2008), more research is needed to examine the use as part of an intervention and training programme.
- Dockrell, Bakopoulou, et al. (2012) indicated the use of the CsC Observation Tool to measure change in classroom practice after a communication intervention programme (section 2.3.3, page 24). However, they did not base the intervention on items of the CsC Observation Tool. As such, the current study explores a school-based intervention using items from the CsC Observation Tool.

Chapter 3: Background about Brunei Darussalam

3.1 Introduction

This chapter focuses on setting the context for the current study. The country profile of Brunei Darussalam is presented followed by an overview of the education system. The development of inclusive education and the resulting initiatives to address the educational needs of children with diverse learning difficulties is also described. The final section highlights the speech and language therapy services, the perspectives of teachers, cultural aspects and related issues informing the current study.

3.2 The Country of Brunei Darussalam

Negara Brunei Darussalam, or translated as the "State of Brunei, the Abode of Peace", is located on the north-west part of Borneo Island, between the Malaysian states of Sabah and Sarawak (e-darussalam, 2016; Oxford Business Group, 2013). It is a small country covering an area of 5, 765 square kilometres and is located along the South China Sea (The Brunei Economic Development Board, 2016a). The population of Brunei Darussalam was estimated to be around 411, 900 in 2014 (Economic planning and development, 2015), and comprises of three main ethnic groups, Malay (67%), Chinese (15%) and other indigenous groups (12%) (Oxford Business Group, 2013). Brunei Darussalam is divided into four districts, where the capital city, Bandar Seri Begawan and the most densely populated area is Brunei-Muara (e-darussalam, 2016; Oxford Business Group, 2013).

The Malay language is the official language, but English is used widely throughout alongside other dialectal languages (e-darussalam, 2016). Islam is the official religion, and other religions such as Christianity and Buddhism are also practised (Oxford Business Group, 2013). Brunei Darussalam was formerly a British protectorate, but gained full independence in 1984 and is currently ruled by His Majesty Sultan Haji Hassanal Bolkiah, the 29th monarch from a long line of rulers (Oxford Business Group, 2013; The Brunei Economic Development Board, 2016a). The country's economy has been heavily dependent on the oil and gas industry, and currently ranks fourth as the largest producer of oil in South East Asia, and the ninth largest exporter of liquefied natural gas globally (The Brunei Economic Development Board, 2016b). For this thesis, from hereafter Brunei will be used when referring to the country of Brunei Darussalam.

3.3 Education System in Brunei

This section describes the history of the Brunei education system, including significant turning points in education, from the country's national vision to the implementation of inclusive education.

3.3.1 Education structure

The Brunei government, through the Ministry of Education (MoE) provides its citizens with 12 years of free education (Ministry of Education, 2015; Oxford Business Group, 2013). This comprises of seven years in primary education (including a year in pre-school), and five years in secondary education (three years in lower secondary and two years of upper secondary, vocational or technical education) (Ministry of Education, 2014b; Oxford Business Group, 2013). Children enter pre-school at age 5, but formal education is between the ages of 6 to 15 years (Ministry of Education, 2015). In primary school, children follow a common curriculum for six years, and sit the Primary School Assessment to enter secondary schools (Ministry of Education, 2014b). At the secondary level, children either follow a four year (years 7 to 10) or five year (years 7 to 11) programme after which they will then take the Brunei Cambridge General Certificate of Education Ordinary Level examination (Ministry of Education, 2008b). This is equivalent to the General Certificate of Secondary Education (GCSE) in the United Kingdom (UCAS, 2014).

3.3.2 Brunei National Vision 2035

The Brunei National Vision (BNV) 2035 or Wawasan Brunei 2035 in Malay, was launched in 2008 with the aim Brunei be globally recognised for the accomplishment of its well-educated people, the quality of life and for the dynamic and sustainable economy (Ministry of Education, 2013). To realise these aims, eight national strategies were identified including education, economics, security, institutional development, local business development, infrastructure, social security and environmental (Ministry of Education, 2008a, 2008b, 2012). The first strategy area is most relevant to this thesis, and is described in detail.

The BNV 2035 has a key objective to develop a nation where the people are highly skilled and well-educated (Oxford Business Group, 2013). Accomplishing this is a priority for the government, particularly the MoE as the central administrative agency responsible for the development and growth of education in Brunei. The MoE is responsible for ensuring the policies relating to the education system is continuously reviewed and

improved to achieve this objective (Ministry of Education, 2008b). This is reflected in the MoE's vision and mission statements:

- Vision: Quality education towards a developed, peaceful and prosperous nation.
- Mission: Provide holistic education to achieve fullest potential for all.

(Ministry of Education, 2012, p. 6-7)

The education strategy is designed to prepare and train the Brunei youths to meet the challenges of the highly competitive and increasingly knowledge based national and international market. As a result, under this strategy, eight policy directions have been further identified and will be undertaken, of which the policy most relevant to this thesis is on embracing international best practices in teaching and learning (Ministry of Education, 2008a, 2008b).

3.3.3 Reforms to the national education system

The national education system has undergone major reforms and is now known as Sistem Pendidikan Negara Abad ke-21 (SPN-21) or the National Education System for the 21st Century (Ministry of Education, 2008b, 2012, 2013). This was motivated by the need to adopt international best practices, a result of a series of reports from local and international consultants on the present education system, and a desire to improve and increase students' achievements, performance and enrolment in key areas and higher education (Ministry of Education, 2013).

In this reformed education system, the Ministry of Education (2008b, 2013) highlights modifications in three key areas: structure of the education system, curriculum and assessment, and technical education. This newly reformed system aims to be more student-centred, where it is designed to accommodate the needs and abilities of the students rather than the other way round. This will provide the students with more flexibility, particularly in the duration of their studies at the secondary education level (Ministry of Education, 2008b, 2013). In SPN-21, there are four secondary education programmes offered;

1. General Secondary Education Programme (GSEP) (year 9 to year 10 or year 9 to year 11);
2. Applied Secondary Education Programme (ASEP) (year 9 to year 11);
3. Specialised Education Programme (SEP) (year 9 to year 11) and
4. Special Educational Needs Programme (SENP) (year 9 to year 11).

(Ministry of Education, 2013, p. 8-9).

The GSEP is for academically inclined students, while the ASEP is designed to cater for more business and technologically oriented individuals. The other two

programmes have been structured to meet the needs of individuals who do not quite fit in the previous programmes, and require a more specialised route. This is in line with the MoE's mission "to provide holistic education to achieve fullest potential for all" (Ministry of Education, 2012, p. 7). Students who excel in specific academic or non-academic fields are able to pursue the SEP route. The SENP is intended for students with specific learning, physical and intellectual difficulties and those with visual and auditory impairments (The Ministry of Education, 2008b, 2013).

3.3.4 Impact of the reformed national education system

The educational reform has resulted in increased flexibility regarding the length of time for completion of secondary education. Such reforms are designed to increase and diversify the work force in Brunei so more people are qualified in a range of professions in a relatively shorter period of time (Ministry of Education, 2008b). This is driven by the need to reduce the dependency on revenue generated by the oil and gas production industry. Brunei's economy has not been able to match the expanding population, and concern over the country's dependency on non-renewable resources has led the governments' initiative for alternatives to contribute to future economic growth and stability (The Brunei Economic Development Board, 2016b). An initiative is education, as it is one of the BNV's 2035 goals, which is to achieve a dynamic and sustainable economy through well-educated and highly skilled population (Ministry of Education, 2012, 2013).

3.3.5 Legal framework of education in Brunei

The MoE's continuous efforts to improve and upgrade the Brunei educational provision, revolves around a number of existing legal frameworks. These include the Bilingual Education Policy of 1984, National Education Policy 1992, the Education Order 2003 and the Compulsory Education Order 2007 (Ministry of Education, 2008a, 2008b, 2012, 2013; United Nations Educational, Scientific and Cultural Organization [UNESCO], 2009) (see Appendix A). As the Bilingual Education policy is most relevant to the current study's data, this is described further.

The Bilingual Education Policy was introduced in 1984, which meant the medium of instruction in private and government schools was both the Malay and English language (Ministry of Education, 2014b). Other languages were also used such as the Arabic language in Islamic institutions in the country (Oxford Business Group, 2013). This policy stems strongly from the MoE's mission of ensuring students achieve their fullest potential, and are fully trained and prepared for the global market, as stated in the BNV's 2035 education strategy. The use of the English, Malay and the Arabic language as a language of

instruction in educational institutions, is also highlighted in the Education Order 2003 (Brunei Darussalam Government Gazette, 2007).

3.4 Inclusive Education in Brunei

Brunei signed a pledge during the United Nations Convention on the Rights of the Child in 1989 which supports the basic right of every child to have access to education (Koay, 2007; Lawrence, 2009; Ministry of Education, 2008b; UNESCO, 2009). In 1994, Brunei was among 92 government representatives, and 25 international organisations that attended the World Conference on Special Needs Education in Salamanca, Spain (Koay, 2007, 2012; Ministry of Education, 2008b). Brunei became a signatory member in embracing and advocating the statements and framework of actions specified during the conference (Koay, Lim, Sim, & Elkins, 2006; Ministry of Education, 2008b). This involved all the member countries and organisations to "adopt as a matter of law or policy the principle of inclusive education" (UNESCO, 1994, p. ix) and all children should be in mainstream schools despite differences in their "physical, intellectual, social, emotional, linguistic, or other" needs (UNESCO, 1994, p.6). Inclusive education is where education is accessible to every individual, including those that tend to be excluded (UNESCO, 1994, 2009). In other words, inclusive education is about how schools design and develop the physical environment, activities and curriculum so all children can participate and learn.

The MoE as the central provider for education policies and practices at the national level adopted the inclusive education policy in 1997 (Koay, 2007, 2012; UNESCO, 2009). This was officiated through the launching of the First National Conference on Special Education in 1996. The former minister of education, in his opening address, stressed the importance of improving the education system to better serve and include all children with varying learning needs (Abdul Aziz bin Begawan Pehin Udana Khatib Dato Seri Paduka Haji Awang Umar, 1996). Prior to the implementation of inclusive education in Brunei, children with diverse learning needs have long been accepted in local government and non-government schools (Hamid, 2000; Norjum, 2002). Although this indicates a certain level of awareness for inclusion, this practice was not consistent throughout all schools (Hamid, 2000). There were only a small number of teachers trained in special education, and they attempted to assist these children by offering special programmes (Hamid, 2000; Norjum, 2002). However, due to an absence of a nationally coordinated system and policy for including and meeting the needs of children with special needs in schools, many of them were not able to cope (Hamid, 2000). These children frequently ended up failing in exams, held back for years resulting in either being over-aged in primary schools before

proceeding to the secondary level, or dropping out of schools altogether (Hamid, 2000; Norjum, 2002).

This resulted in several educational reforms aimed to support and accommodate the implementation of inclusive education policy within mainstream schools (Koay, 2012). The underlying philosophy of inclusive education is reflected in the national education system policy, in accommodating students with special needs in mainstream schools (Ministry of Education, 2008b; UNESCO, 2009). This is also reinforced by the Education Order 2003, where government primary or secondary schools are to provide special education where necessary (Brunei Darussalam Government Gazette, 2007).

The implementation of the inclusive education policy led to the development of the Special Education Policy guidelines, with the philosophy that "all children are able to learn given an appropriate learning environment. Appropriate learning environments can be created within the inclusive school. The inclusive school is one which provides appropriate instruction for all children based on their level" (Special Education Unit, 1997, p. 2). Brunei therefore interprets inclusive education policy as one where schools provide suitable learning environments and instructions for children with diverse learning needs (Koay et al., 2006; Koay, 2012; Ministry of Education, 2008b; UNESCO, 2009). Furthermore, the MoE's commitment in fully embracing and implementing inclusive education can be seen in the reformed education system, SPN-21, where pathways are available for specific groups of children, in particular the SEP and the SENP routes (Ministry of Education, 2008b, 2012, 2013).

3.4.1 International practices of inclusive education

Brunei's initiatives in implementing inclusive education are similar to those conducted by other countries in this area. One such study to promote inclusion was conducted in India by Timmons and Alur (2004). India's national education policy is similar to that of Brunei, and aimed to upgrade the nation to the 21st century. The national education policy included improving and developing India's basic education system. Efforts to promote inclusion were initiated with the establishment of the National Resource Centre for Inclusion-India (NRCI-I) in 1999. Staff and parents at the NCRI-I engaged in a transformational learning process that was initially aimed at improving inclusionary practices for children with cerebral palsy. This learning process involved extensive training to parents and NCRI-I staff on the theoretical aspects of inclusive practices. It also included collaborating with parents and staff from regular schools on individual cases, thus providing opportunities for further refinement of skills and promoted inclusion on a wider scale. This approach supported the inclusion of over 1000 children

from disadvantaged areas and with special needs across the country to be included in schools. While other factors unique to India may have also contributed to the success of promoting inclusion through transformational learning, the potential use of this learning approach on an international level is indicated (Timmons & Alur, 2004).

An important aspect of inclusive education is to develop every child's academic skills regardless of disability. This entails developing their reading, writing and verbal competence so they are able to communicate and express their thoughts and ideas. In a study conducted by Berry (2006), engagement and instructional strategies were used to encourage and include children with learning disabilities (LD) to participate in a writing task. The instructional strategies (engagement and involvement) implemented by two regular primary classroom teachers in the United States during a selected writing instruction task were analysed from video-recorded lessons in each of their classrooms. Three main groups of strategies were identified; procedural, involvement, and discussion, of which only the first two strategies were examined. A further six coding categories were identified under the procedural and involvement strategies group which included naming/modelling, overlapping/directing, encouraging, orchestrating, scaffolding, and sharing ownership.

The findings indicated that in the procedural strategies group, both teachers mainly used overlapping and directing (85% and 65%). For the involvement group, teachers used varying degrees of scaffolding (24% and 35%), and encouraging (18% and 35%) strategies, while only one teacher used more of the sharing ownership strategies (23%) in their discourse with children. These findings demonstrate that teachers are able to encourage and facilitate children with LD to verbally participate in classroom activities, if they engage in more involvement strategies. However, these findings are only based on the classroom interaction of two regular classroom teachers during a writing lesson thereby limiting their generalisability in other contexts.

A more recent study by Wickremesooriya (2012, 2015) examined adult-child interaction for students categorised with speech, language and communication needs (SLCN) in regular classrooms in a private school in Sri Lanka. This study aimed to promote inclusion by equipping teachers with the skills to critically evaluate and develop their current student-teacher communication practices. Wickremesooriya (2012, 2015) employed a two-cycle action research method each involving a critical reflection, planning, action, and a monitoring and evaluation phase. The participants included 7 students (aged between 6 to 12 years), their teachers (only 6 agreed to participate) and their parents. Semi-structured interviews were employed to gather information on the current student-teacher communication practices. Student perspectives were gathered through informal methods

including story telling, informal conversations and through picture drawing. Self-reflections of teachers' communication strategies were conducted in both action cycles, and the planning phase included identifying the inclusionary and exclusionary practices targeted for intervention. Quantitative data was also gathered in both cycles through classroom observations and a comparison of the students' test results pre and post intervention.

Findings from both action cycles indicate that teachers increased their use of inclusionary strategies such as maintaining eye contact, praising students' communication attempts, providing single directions, and assigning a communication buddy. The teachers also reported positive student outcomes as a result of changes to their practices, and this was reflected through student feedback and comparison of pre and post test scores. Although based on a relatively small sample, Wickremesooriya (2012, 2015)'s study provides empirical evidence that children with SLCN are able to succeed in regular classrooms if teachers are trained and use adult-children communication strategies to include this group of children. Teachers also highlighted the importance of continuous support and access to information for the successful inclusion of children with SLCN.

The aforementioned studies highlight several important factors in ensuring the successful inclusion of children with disabilities. Firstly, involvement strategies may be used effectively to facilitate children's verbal participation in class. Secondly, findings revealed the importance for teachers to reflect on their communication strategies when interacting with children in inclusive classrooms. Children responded particularly well when teachers engaged in inclusionary strategies that encourage their communication in classrooms and this also impacted on their overall learning.

3.5 Special Education Unit

Although children with diverse learning needs were accepted in mainstream schools prior to the formal implementation of inclusive education policy (Hamid, 2000; Norjum, 2002), there were no adaptations to the educational curriculum to address their specific needs (UNESCO, 2009). Recognising this, the MoE created the Special Education Unit (SEU) as the main agency to attend to the educational needs of this group of children (Ministry of Education, 2008b, 2014c). Established in 1994, its main aim is to support the planning, coordination and implementation of school-based special education programmes for children with special educational needs (SEN) (Hamid, 2000; Koay, 2012; Sim & Koay, 2004; Wong & Mak, 2005).

In Brunei, children with SEN are characterised with one or more of the following features: a) significant difficulty in learning b) difficulty in accessing the school curriculum c) physical or sensory impairment d) display behavioural, emotional or social issues, and e)

require additional or adapted educational provisions (Special Education Unit, 2014). According to this classification, children are considered to have SEN if they have difficulties in; a) cognition and learning b) behaviour, emotional and social development c) communication and interaction d) sensory and/or physical and, e) other needs (Special Education Unit, 2014). This definition is based on the UK classification of children with SEN, particularly to describe children with speech, language and communication needs (SLCN). This was described in 1.3 (page 7) where children with SLCN are subsumed under the main category of Communication and Interaction needs, similar to the Brunei classification.

This initiative, together with the inclusive education policy, resulted in the availability of specialist support services aimed to facilitate the inclusion of children with SEN in mainstream classrooms (Mundia, 2009; UNESCO, 2009). There is a range of support services provided by the SEU to support the inclusion and learning of children with SEN in both primary and secondary schools. These include educational psychology services, speech and language therapy services, support service for students with hearing impairment and visual impairment, educational support service for children in hospitals, the Special Educational Needs Coordinators (SENCO), and the gifted education programs and services (Special Education Unit, 2014; Unit Pendidikan Khas, 2013; Wong & Mak, 2005). The main role of these services is to support schools in the identification, assessment and intervention of children with SEN, conduct teacher training, and in monitoring school based education programmes (Ministry of Education, 2008b).

3.6 The Role of the Special Education Unit in Teacher Training and Monitoring of Service Provision

The SEU was initially created for the purpose of training teachers to support the learning of children with SEN (Lim, Mak, & Koay, 2006; Wong & Mak, 2005). As such, the SEU has collaborated with a local university in implementing a teacher training programme designed to develop regular classroom teachers into becoming Special Educational Needs Assistance (SENA) teachers (Koay, 2012; Lim et al., 2006; Sim & Koay, 2004). SENA teachers are trained in identifying and addressing the educational needs of children with SEN, through individual education plans (IEP), in mainstream classrooms in primary and secondary schools (Ministry of Education, 2008b; Sim & Koay, 2004). They play the key role in delivering special education programmes in schools and support class teachers in implementing them (Koay, 2012; Lim et al., 2006). SENA teachers are monitored by SENCOs, who are similarly trained but are based at the SEU (Unit Pendidikan Khas, 2013). Among the roles of the SENCO is to support and monitor all

primary and secondary SENA teachers, and loan out resources to facilitate the implementation of special education programmes (UNESCO, 2009). The learning needs of children with SEN are therefore supported through collaborative approaches between personnel from the SEU and schools (Hamid, 2000; Ministry of Education, 2008b; UNESCO, 2009). The different support services of the SEU also provide regular training sessions to inform and equip teachers with skills needed to support children with SEN in schools (Wong & Mak, 2005).

3.7 Model Inclusive Schools

In 2008, the MoE through the SEU launched Model Inclusive Schools of Excellent Services, or commonly referred to as Model Inclusive Schools (MIS) (Ministry of Education, 2008b; UNESCO, 2009). This was the next step in implementing the inclusive education policy and supporting the learning needs of children with SEN within mainstream schools. The MIS project selected primary and secondary schools across Brunei and additional funding and support were allocated for facilities, specialised learning and teaching resources, access to support services and teacher training (Ministry of Education, 2008b). MIS schools have additional buildings on existing school premises equipped with the additional resources to support learning for children with SEN.

The rationale for MIS was to provide a learning environment where intensive and structured support is delivered at regular intervals (Ministry of Education, 2008b). This is especially for children who are recognised as initially requiring individualised support in learning prior to joining their peers in the mainstream classrooms (UNESCO, 2009). Currently there are five primary and four secondary schools that are categorised as MIS, and planning is underway for more MIS across Brunei (Special Education Unit, 2016a). An initial evaluation of the effectiveness of the MIS initiative indicated encouraging results (UNESCO, 2009). Feedback obtained from one of these schools suggested improvements in the identification and implementation of inclusive practices and activities. This resulted in a majority of children with SEN successfully achieving their educational and social learning goals (UNESCO, 2009).

3.8 Speech and Language Therapy in Brunei

Speech and language therapy assesses and provides intervention for difficulties with speech, language, communication and swallowing in individuals of all ages (Royal College of Speech and Language Therapists, 2016). Speech and language therapists (SLTs) are responsible for the management, diagnosis and treatment of all forms of speech, language and communication needs, or related problems in swallowing and feeding (Martin & Miller,

2003; Martin, 2000). There are variations in the terms different countries use to refer to SLTs including:

- Speech-language pathologists, commonly used in the United States of America, Canada, India and Malaysia (American-Speech-Language-Hearing Association, 2016; Indian Speech and Hearing Association, 2013; Malaysian Association of Speech-Language Hearing, 2011; Speech-Language and Audiology Canada, 2016);
- Speech pathologists in Australia (Speech Pathology Australia, 2016);
- Speech therapists in Hong Kong (The Hong Kong Association of Speech Therapists, 2016); and
- Speech and language therapists in Brunei, the United Kingdom, the Republic of Ireland and the Republic of Singapore (Irish Association of Speech & Language Therapists, 2013; Royal College of Speech and Language Therapists, 2016; Speech-Language and Hearing Association Singapore, 2014).

For this thesis, SLTs is used to refer to all of the above. SLTs are allied health professionals, and work closely not just with individuals who have difficulties in speech, language, and communication, but also with people around them, such as parents or guardians, carers, professionals working in the health or education settings such as doctors, occupational therapists, psychologists and also teachers (Martin, 2000). As such, SLTs work in a range of settings such as clinics, hospitals, nurseries, schools, social care, legal settings and independent practice (Royal College of Speech and Language Therapists, 2006; The Scottish Government, 2005).

In Brunei, SLT services for school-aged children are provided by two ministries, the Ministry of Health (MoH) and the MoE. In the MoH, SLT services are mainly allocated in the Child Development Centre, where young children (under the age of five) are enrolled in an early development programme to equip them with the learning skills prior to formal schooling (Ministry of Education, 2008b, 2015). The SLTs employed by the MoE are based in the SEU, and provide services to children in all schools (Special Education Unit, 2014; Unit Pendidikan Khas, 2013). SLTs from both ministries often work together as part of a multidisciplinary team, particularly in the exchange of children's information relating to the assessment and intervention history when a child begins school (Ministry of Education, 2015; UNESCO, 2009).

The SLT service at the SEU was established in 2002, and currently has two qualified SLTs (Wong & Mak, 2005). The main role of this service is to address the speech, language and communication needs of all school-aged children in primary and secondary schools across Brunei (Unit Pendidikan Khas, 2013). These SLTs provide both

direct and indirect forms of service delivery. Information is initially obtained from interviews, observations and assessments of children referred to this service (Ministry of Education, 2008b; Wong & Mak, 2005), but direct intervention is restricted due to limited resources. Direct forms of service delivery has been identified as most effective particularly when administered by qualified SLTs (James, Jeffries, & Worley, 2008). This was the findings of a systematic review by James et al. (2008) on several studies measuring the effectiveness of various SLT models particularly for school children. However, they also highlighted the effectiveness of indirect and collaborative intervention is subject to several factors including adequate liaison time and training of school staff by SLTs (James et al., 2008).

SLTs at the SEU collaborate with SENA and classroom teachers in developing intervention programmes to address and support children's communication and educational needs (Special Education Unit, 2014; Unit Pendidikan Khas, 2013). As intervention is mostly delivered through the SENA and classroom teachers, the SLT service is also involved in training to equip teachers with the skills and knowledge to assist children with SLCN in schools (Ministry of Education, 2008b; UNESCO, 2009; Wong & Mak, 2005). Therefore, the main model of service delivery is via a consultancy model (Law et al., 2002). This suggests a need to examine the effectiveness of this current service delivery model in the Brunei context.

3.9 The Brunei Teachers' Perspective

As the current study involves exploring teachers' perspectives, it is important to highlight some of the research that has been conducted in the Brunei context. Past research involved identifying issues and evaluation of teaching practices and training programs. An example is Yong's (1994) study on the perception of teacher trainees enrolled in a primary teacher certification course in a local university. The aim was to identify factors that attracted people to the profession. A sample of 173 teachers across the first to the third year of the course completed a questionnaire that comprised of 25 statements pertaining to attractive factors of being a teacher. The participants rated the factors according to a six-point attractiveness scale. Despite the fact that the findings were only confined to specific factors and did not allow for open-ended responses, the results indicated the attractive factors to teaching at the primary level mainly centred on issues relating to financial and status benefits.

Evaluation studies have also involved teachers' perspectives as part of the process. Teachers' accounts on the patterns of students' and their own questioning behaviour during a Mathematics lesson in four Brunei secondary schools were investigated by Shahrill

and Clarke (2014). This was a two-part study that involved both video recorded sessions and individual teacher interviews for four Mathematic teachers in year eight. A limitation of this study was it only measured the amount of talk resulting from questions but did not examine the impact of the quality of the questions on the amount of talk. Nonetheless, the interview findings were interesting as teachers reported students asked more questions on an individual basis. It also identified time constraints as contributing to teachers' reluctance in changing their questioning behaviour. Another evaluation study was conducted by Mohidin, Mak, Leong, and Mundia (2008) on the effectiveness of a Malay remedial training workshop. Two groups of primary teachers teaching years four to six (150 regular class teachers and 47 SENA teachers) rated the effectiveness and identified factors relating to the workshop. The findings included 99% of the teachers rating the usefulness of the workshop, and time constraints (41.1%) and lack of teaching resources (14.1%) were highlighted as barriers in the implementation of the remedial program in schools. A limitation of this study was that differences in the perceptions of the two groups of teachers and the demographics of children who required the remedial program in their respective schools were not examined.

Since adopting the inclusive education policy, there is an increasing body of research on how Brunei teachers view the inclusion of children with SEN in mainstream schools (Koay, 2012). These studies provide valuable insight into the success of inclusion in schools while simultaneously identifying barriers and areas for improvement. It also contributes to the evaluation and development of teacher training programmes to support the educational needs of children with SEN (Koay, 2012). Evidence to support this was from a study by Koay, Lim, Sim, and Elkins (2006). This study explored differences in the perceptions of SENA and regular classroom teachers towards the inclusion of children with SEN in mainstream schools. The participants included 453 class teachers (226 had experience in teaching children with special needs, and 227 with no experience), and 138 SENA teachers (82 practicing and 56 upgrading) across primary and secondary levels. SENA teachers in the process of upgrading were advancing their academic qualifications in the area of special needs. The participants indicated the extent of their agreement or disagreement for four statements on the Perceptions of Inclusive Education Scale (PIES) using a six-point rating scale. The results indicated the upgrading SENA group had more positive perceptions towards inclusion, and achieved the highest mean on the PIES subscales followed by practicing SENAs, class teachers with experience, and lastly those with no experience. Although the study did allow open-ended responses, this was constrained to the participants' responses on the PIES. The findings indicated positive

views towards inclusion was influenced by opportunities to gain more knowledge and undergo further training to support the inclusion of children with SEN in Brunei schools.

The need for provision of sufficient teacher training and access to information was highlighted by the findings of an earlier study by Hamdan (2006). The aim was to identify the facilitating factors for classroom teachers to support learning in children with SEN. Through the use of a questionnaire, 108 monolingual Malay speaking teachers teaching years one to three prioritised factors such as teaching materials, specialised training and personal support. Teachers also recognised their limited knowledge on children with SEN and rated highly on the importance of working with parents, SENA teachers and other professionals. The importance of collaboration was further examined by Taha, Yoong, and Koay (2004) who focused on the collaborative roles between regular classroom (n = 100) and SENA (n = 25) teachers in the educational provision of children with special needs. The perceptions of four specific areas of collaboration were gathered using a questionnaire from all participants, but a sub sample from each group was also interviewed (2 SENA and 10 regular teachers). Findings indicated a general consensus for collaboration between SENAs and classroom teachers in identifying children requiring specialist services. However SENA teachers were more positive towards collaborating on the development and implementation of children's individualised education programs and in the modification of assessments than the regular classroom teachers, and these findings resulted in significant differences between the two groups. A limitation of this study was the collaborative roles were only constrained to four specific areas.

Most of the studies discussed compared the perceptions of SENA and regular classroom teachers in supporting the learning of children with SEN. A study that focused on regular classroom teachers' views towards collaboration was investigated by Bradshaw (2005). Primary school teachers (n = 54) completed a questionnaire of 18 statements regarding collaboration, and a semi-structured interview investigating attitudes towards collaboration with other professionals. Teachers were generally positive about working with consultants, administrative staff, specialists and SENA teachers. The interviews examined factors which facilitated collaboration such as specialised teaching strategies, involving parents in children's learning, for assessment purposes and the preference for children to be assisted in class or pulled out. Although it was unclear about the experience of these teachers in working with children with SEN, the findings informed on areas of improvement for supporting the learning of children with SEN in Brunei primary schools.

Another study that explored Brunei teachers' perception was by Serajul Haq and Mundia (2012) who investigated if gender and program of study resulted in differing attitudes for a sample of teacher trainees. Using a field survey method 67 female and 22

male pre-service student teachers completed a three part self-report instrument adapted for the study and comprised of 36 items. The first part obtained demographical information, while the second and third parts measured the participants' attitudes towards inclusive education and specific disabilities respectively using a five-item Likert-type scale of agreements. The student teachers were from two teacher education programme, Bachelor of Arts and Bachelor of Science in Education. It was unclear what the differences in these two programmes were as this was not made explicit. However the findings have significant implications for evaluating, reviewing and developing the teacher education programmes in Brunei. The findings showed no significant differences in the attitudes towards inclusive education as a result of differences in education programmes and gender. However this study involved an unequal number of female and male teachers and this needs to be examined further in future studies. It also revealed that the student teachers did not positively view the inclusion of children with specific disabilities including those with sensory impairments, multi-disabilities and displaying challenging behaviours.

This section discussed previous Brunei studies examining teachers' perspectives. However, many of these studies focused on inclusion of children with SEN. This suggests the need for research in other areas relating to children's learning in the Brunei context.

3.10 The Cultural Aspect in Brunei Education

Although the national language of Brunei is the Malay language, English is widely used mainly for matters relating to business and education (Oxford Business Group, 2013). As a result of the Bilingual Education Policy described in 3.3.5 (page 47), both government and most private schools in the country use both the Malay and English languages as the medium of instruction (Martin, 1996; Oxford Business Group, 2013). The use of both languages in teaching and learning has resulted in code switching in Brunei classrooms (Martin, 1996, 1999). Code switching in the most simplest form refers to the ability of the individual to switch between two or more languages during a single conversational occurrence (Gumperz & Toribio, 1999; Toribio, 2001).

A result of Martin's (1996) examination of the code switching phenomenon in a small sample of primary four and five classrooms (equivalent to years four and five in the UK), suggested this was a necessary coping strategy within the classroom settings. This meant although teachers were only supposed to use one language when teaching, this tended not to be the case, as children still needed words to be translated to achieve full comprehension. To explore this further, another study was conducted by Martin (1999) through observations of two Brunei primary four classrooms from two schools over a period of five months. The findings indicated the symbiotic relationship of these two

languages in Brunei primary classrooms where both languages were necessary to support children's learning.

Additionally, Brunei customs and etiquette is steeped in tradition and the communication style is deeply rooted in both the Malay and Islamic values. These values include showing respect to elders through the use of appropriate salutation titles when addressing someone of seniority, speaking in a low tone or voice and bowing the head (Kwintessential, 2014; The Government of Brunei Darussalam, 2015). Brunei's national philosophy is the concept of the Malay Islamic Monarchy, or locally known as Melayu Islam Beraja (MIB) (Minnis, 1999; Muhammad, 2014; Oxford Business Group, 2013). This philosophy reflects the three most important values of the country and its people, namely the combination of the Malay and Islamic values (due to the highest percentage of the population being Malays and Islam as the main religion) and the absolute monarchy (long history dating back to the 14th century) (Hamid, 2000; Ministry of Education, 2008b; Minnis, 1999; Muhammad, 2014). In an effort to ensure the Brunei youth were instilled with these social and traditional values the MoE had embedded the concept of MIB in the national curriculum SPN-21 (national education system for the 21st century) (Hamid, 2000; Ministry of Education, 2013). Furthermore, the importance of nurturing students with high moral, aesthetic, cultural and religious values was also reflected in the MoE's vision and mission statements (Ministry of Education, 2012).

A study investigating the impact of cultural factors on the learning environment of Brunei schools was conducted by Dhindsa (2008). This study examined gender equity, collaboration, competition, modelling, deference and congruence among students in secondary and tertiary education. A sample of 2,212 science students from lower (mean age of 14.1 +/- 1.1 years) and upper secondary (mean age of 15.5 +/- 0.9 years) from government secondary schools across Brunei, and tertiary education (mean age of 21.4 +/- 3.2 years) from a local university were involved. Participants completed a questionnaire to describe their classrooms. The findings indicated the participants from the three groups perceived equal levels of gender equity, collaboration and competition within their classrooms. The lower and upper secondary participants equally viewed the knowledge they learnt in schools was useful at home, and this perception was moderately higher than the tertiary group.

With regard to levels of modelling and deference, the tertiary group were found to be more independent learners and willing to express their opinions and views in class compared to the other two groups. Dhindsa (2008) attributed this to the level of the participants' education. As Brunei customs highly regards those in a higher position or are more knowledgeable, teachers are often viewed as superior to students particularly within

classrooms. However, this appears to decrease as students progress further in their education, as indicated by the findings. The impact of bilingual education was another contributing factor to students becoming more vocal. The results indicate better proficiency in the English language as students advance to the tertiary level, thus increasing their confidence in expressing their views in class. Additionally, students became more independent learners once they reach the tertiary level of education reflecting the impact of traditional and exam-oriented methods of teaching at the secondary level.

The willingness to speak in class was also investigated by Abdullah, Abu Bakar, and Mahbob (2012). Although not conducted in Brunei schools, it examines the culture of students' classroom participation in the neighbouring country of Malaysia. Brunei and Malaysia share a similar religion (Islam) and language (Malay), including customs such as respect to elders and those in a higher position. Participants classified as passive and active students were identified through classroom observations conducted over a period of five weeks in a second year (n = 39) and third year (n = 31) undergraduate class, and a postgraduate class (n = 29). Three groups of passive and three groups of active students were involved in a focus group discussion aimed to identify motivating factors for participation in classroom interaction. These factors include: characteristics of individual students (passive students had low self-confidence, were afraid to ask, afraid of being scolded, and came from cultural and family backgrounds that did not encourage them to speak up), personality of instructors (passive students willing to talk if instructors were friendly), support from active students who encourage passive students to communicate, and environmental factors (passive students were unwilling to speak if classroom sizes were large).

Although the results from these two studies may only be applicable to students at the secondary and university education level, it highlights the importance of teachers or educators to be aware of the range of factors impacting on children's participation in their learning process.

3.11 The Relevance of a Communication Friendly Environment in the Brunei Context

A result of Brunei's reformed national education system was changes to curriculum and content. One of the learning domains of this new curriculum emphasises children's communication skills as one of the essential skills, including listening, speaking, reading and writing (Ministry of Education, 2013). Brunei's inclusive education policy means children with SEN are educated in mainstream schools. This includes children with SLCN, or as categorised by the SEU as those with communication and interaction difficulties (Special

Education Unit, 2014). With regard to statistics, the SEU has its own databank of children that have been referred and are currently attending schools, including information on their diagnosis (Ministry of Education, 2008b). Since the establishment of the SLT service in 2002 (Wong & Mak, 2005) the number of children referred has been steadily increasing; 117 children in 2002 (Wong & Mak, 2005), 212 in 2008 (UNESCO, 2009), and 646 as of April 2016 (Special Education Unit, 2016b). This illustrates an increasing awareness about SLCN and its impact on children's educational attainments. Consequently, it is crucial that the most effective provisions are in place to address the needs of this particular group of children within mainstream schools.

The SLT service is striving to achieve this, however due to only two qualified SLTs (one is the author of this PhD thesis) direct intervention is limited (Special Education Unit, 2016b). To overcome this, most of the intervention is conducted through SENA teachers and regular class/ subject teachers. These teachers are provided with training on strategies to facilitate and develop communication skills, through continuous professional development, one of the key roles of the SEU (Ministry of Education, 2014c). A recent effort by the SLT service was a five day training workshop on the Picture Exchange Communication System, sponsored by the MoE (Pyramid Educational Consultants of Australia Pty Ltd, 2010). This comprised of a selected group of 70 teachers who then became itinerant teachers designated to support children with SLCN in schools.

Due to resources constraints, in particular SLT to children ratio, there is an obvious need to explore alternative ways to provide a more effective and efficient SLT service in mainstream schools. Existing practices are concentrated on teacher training to equip them with strategies to develop communication skills, with the ultimate aim of maximising their learning potential. At present there is no measure to see whether the current practice is effective in meeting the needs of children with SLCN. There is also a need to investigate the best ways to ensure a more effective and efficient SLT service to support these children in mainstream schools. With the current focus on communication as an essential skill in the revised curriculum by the MoE, there is added pressure on teachers to support children's communication in the classroom context.

As the special education policy guidelines in Brunei states "appropriate learning environments can be created within the inclusive schools" (Special Education Unit, 1997, p. 2), this therefore reflects the need for classrooms to be more communication friendly. This is in accordance with the purpose of the current study, which aims to explore the current state of classrooms in Brunei schools in relation to supporting children's communication skills. Factors that facilitate and are challenges in creating such an environment are also examined. As previously discussed, the importance of creating a

communication friendly classroom environment is essential as it facilitates children's development socially, linguistically and educationally (Auten, 1985; Cooper & Galvin, 1983; Gross, 2013; Hartshorne, 2006a; Kalmar, 2008). Most importantly, a communication friendly environment has been found to be especially beneficial for groups of students such as those with SLCN (Brice, 2001; Crosskey & Vance, 2011; Martin, 2000; McCormick, 2003b).

3.12 Summary

This chapter described the context of the current study: Brunei and its educational landscape. Recent educational reform has taken place within a wider scheme of the national vision and strategic plan, in relation to Brunei's economy. The inclusive education policy has included the MIS project and the establishment of the SLT service at the SEU. The challenge for the SLT service at the SEU is to deliver intervention for a large number of children indirectly through collaboration with teachers. The barrier in the provision of direct intervention is the limited number of SLTs to attend to all children with SLCN in schools across Brunei. As such, this chapter highlighted the need to explore other ways to address the communication and learning needs of children with SLCN in Brunei schools.

Exploring the potential of developing communication friendly classrooms will assist in improving the provision of services to children with SLCN in mainstream classrooms. This will enable schools to have some responsibility in preparing children for increased language demands throughout their years of schooling. It also has the potential to focus specialist intervention on children who have not made progress as expected (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012; Lindsay, 2011). Moreover, it offers the ideal opportunity for language enrichment to occur in the naturalistic context (Brandone et al., 2006). Thus, by exploring communication friendly classrooms in Brunei schools, it is hoped service delivery to children with SLCN can be facilitated and improved, not just by the SLT service at the SEU, but also through a whole school approach. This chapter has highlighted the following issues informing the current study:

1. As the CsC Observation Tool was developed based on extensive literature research on communication supporting environments, the current study attempts to examine its applicability in the context of Brunei primary schools.
2. Current research in Brunei mainly focuses on perception of teachers, children with special needs in mainstream schools and matters relating to the inclusive education policy. To the researcher's knowledge, there has been no study that examines how children's communication is supported in Brunei primary school classrooms. The current study aims to inform on the current status of primary

school classrooms in supporting children's communication, and explore teachers' perspectives on the factors that facilitate and challenge schools in creating communication friendly classrooms.

Chapter 4: Mixed Methods Approach to Explore Communication Supporting Classrooms

4.1 Introduction

This chapter considers mixed method research design, informing the current study. The definitions of quantitative, qualitative and mixed method research are briefly considered before examining different designs of mixed method approaches and the range of factors influencing design. Some of the identified disadvantages will be highlighted, followed by illustrations of mixed method studies in various fields of research. Finally the mixed method design for the current study is discussed.

4.2 Quantitative Research Methods

Quantitative research methods are frequently linked with the positivism worldview supporting empirical research based on the premise that "all phenomena can be reduced to empirical indicators that represent truth" (Lazaro & Marcos, 2006, p.758). This research method adopts a deductive approach in testing out objective theories and hypotheses by gathering evidence through a logical process and exploring relationships among variables (Creswell, 2009; Glogowska, 2011). In other words, this form of research seeks to explain 'what' is actually happening and identify the 'why' based on quantifiable evidence from the data (Burnard, Gill, Stewart, Treasure, & Chadwick, 2008).

This research method usually involves collecting numerical data through instruments such as questionnaires, surveys, and assessment or intervention scores (Creswell, 2009; Lazaro & Marcos, 2006). It is objective data that can be observed and measured by different researchers at different times or contexts (Virginia Department of Education, 2011). With regard to analysis, quantitative data can be transformed to discrete units and compared to others through statistical analysis procedures in exploring relationships, differences and patterns (Bergman, 2008; Lacey & Luff, 2007). Quantitative data analysis usually occurs at the end once most or all of the data has been collected (Burnard et al., 2008; Lazaro & Marcos, 2006).

The use of quantitative methods in educational research generally revolves around studies to determine the effectiveness of educational provision and to identify factors that impact on teaching practice (Parsons et al., 2011). Examples include research into criteria for specialist support (Dunn et al., 2009), factors impacting on teachers' attitude and perceptions (Marshall et al., 2002), and the use of classroom observations (Connor et al., 2014; Garrett & Steinberg, 2015; McLean et al., 2016). Additionally, many studies evaluating speech and language therapy intervention in educational contexts have involved

quantitative research (Clifford et al., 2010; Crosskey & Vance, 2011; Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012; Sigafoos et al., 1994).

4.3 Qualitative Research Methods

Qualitative research is often associated with an interpretivist and constructivist worldview, which tends to be inductive, and generates theories and hypotheses based on observations of the constantly changing social reality (Glogowska, 2011; Lazaro & Marcos, 2006). It can involve data from interviews, focus groups, observations, field notes, discussions, audio and video recordings (Burnard et al., 2008; Noble & Smith, 2014; Ritchie & Spencer, 1994; Srivastava & Thomson, 2009). These non-numeric data (either textual or visual) is sometimes obtained from naturalistic settings, and involves understanding a particular phenomenon and making interpretations based on research participants' perspectives (Bazeley, 2007; Lazaro & Marcos, 2006).

Data analysis involves managing and making sense of unstructured or semi-structured data, using descriptive or explanatory techniques, and moving between levels of analysis and the data (Bazeley, 2007). There are a number of approaches to analysing qualitative data, each influenced by particular theories, philosophies or schools of thoughts, and on the purpose of the research itself (Bazeley, 2007; Gale, Heath, Cameron, Rashid, & Redwood, 2013; Lacey & Luff, 2007). Despite the differences in the foundational principles of the different approaches, analysis generally begins from the early stages of data collection and is an ongoing, iterative process where the researcher's involvement is an essential part throughout (Bradley, Curry, & Devers, 2007; Burnard et al., 2008). Ormston, Spencer, Barnard and Snape (2014) stated that due to the broad spectrum in approaches and disciplines, a more comprehensive definition of qualitative research method might not be feasible. However the general overview is this research method is mainly concerned with the 'why' and 'how' of a particular phenomenon (Lacey & Luff, 2007; Ormston et al., 2014).

Qualitative research methods have been increasingly used in the field of speech and language therapy (Clegg, Ansorge, Stackhouse, & Donlan, 2012; Glogowska & Campbell, 2004; Markham, van Laar, Gibbard, & Dean, 2009; Skeat & Perry, 2008; S. Spencer, Clegg, & Stackhouse, 2010). Significantly in recent years, this form of research has also been applied to explore collaborative efforts of educators and speech therapists in supporting children's communication skills within classrooms, and has proven to be informative (Bain et al., 2015; Feiler & Watson, 2011; Leyden et al., 2011).

4.4 Mixed Methods Research

An overview of quantitative and qualitative research suggests quantitative methods examine causality, while qualitative methods explore meanings behind a particular phenomenon (Sukamolson, 2007). However, Creswell, Fetters and Ivankova (2004) argued that these two research methods in isolation, are insufficient to fully capture the whole picture, and result in certain aspects that are unexplainable by the data. This led to a third research method involving a combination of both quantitative and qualitative methods, a term that has come to be known as mixed methods research (Creswell, PlanoClark, & Garrett, 2008; Creswell, 2009; Johnson, Onwuegbuzie, & Turner, 2007; O'Cathain, Murphy, & Nicholl, 2007, 2010; Östlund, Kidd, Wengström, & Rowa-Dewar, 2011).

The mixed method approach to research is largely associated with a pragmatist perspective, incorporating elements of both quantitative and qualitative research (Brown, Elliott, Leatherdale, & Robertson-Wilson, 2015; Johnson et al., 2007; McCusker & Gunaydin, 2015; Sukamolson, 2007). Recognising the limits of a purely quantitative or qualitative approach, studies employing mixed methods aim to draw on the strengths of both approaches (Creswell, 2009; Östlund et al., 2011). Therefore there are three co-existing approaches to research; quantitative, qualitative and mixed methods (Bryman, 2006; Johnson et al., 2007).

4.4.1 Definition of mixed methods research

Various definitions of mixed methods have been put forward in the literature (Creswell, 2009; Greene, Caracelli, & Graham, 1989; O'Cathain et al., 2007, 2010). However, Johnson et al. (2007) examined 19 existing definitions of mixed methods, and observed descriptions included the 'what is mixed', 'when', the 'breadth', the 'why' it is being mixed and the 'orientation'. As a result, Johnson et al. (2007) offered the following definition that attempts to encompass all of the identified characteristics:

> Mixed methods research is the type of research in which a researcher or team of researchers combines elements of qualitative and quantitative research approaches (e.g., use of qualitative and quantitative viewpoints, data collection, analysis, inference techniques) for the broad purposes of breadth and depth of understanding and corroboration. (Johnson et al., 2007, p. 123)

4.4.2 Design of mixed methods research

In an effort to further examine how mixed method studies are characterised, O'Cathain et al. (2007) carried out an analysis of 75 studies in the field of health research that implemented mixed method approaches. The study detailed the purpose for combining quantitative and qualitative methods, the priority given to the methods (either quantitative or qualitative dominance), and the sequence of method used (concurrent or sequential use of both methods) (O'Cathain et al., 2007). This resulted in different mixed method designs, which vary according to the literature (Creswell, 2009; Creswell et al., 2008; Greene et al., 1989; O'Cathain et al., 2007; Wisdom & Creswell, 2013). In spite of this Creswell et al. (2008) identified two common features that appear to encompass the range of different design classifications, related to how the two types of data will be synthesised. This includes either to combine quantitative and qualitative data (concurrently or sequentially), or to have one form of data extend or develop from the other data type (Creswell et al., 2008). Examples of mixed methods design classifications include: concurrent embedded, convergent design, multiphase, sequential explanatory and exploratory (Creswell, 2009; Creswell et al., 2008; Wisdom & Creswell, 2013). In mixed methods research, one method may predominate, or both approaches have equal weight in the research process (Creswell et al., 2004; Östlund et al., 2011; Sukamolson, 2007). This will impact on how the data will be combined and analysed in addressing the research questions.

A conceptual framework of the range of mixed method purposes was proposed by Greene et al. (1989) who conducted an analytical review of the theoretical and empirical literature on mixed methods research. This resulted in five justifications for mixed methods research based on intent including: 1) triangulation, which aims to converge data from the different methods, 2) complementarity, where different approaches assess different aspects of a phenomena resulting in a deeper understanding, 3) development, where the data from one method is used to inform or develop the other, 4) initiation, which seeks to explore contradictions, or new framework perspectives, and lastly 5) expansion, which aims to broaden the frame of inquiry through the use of different methods for each research component (Greene et al., 1989). Evidence for this conceptual framework, specifically for the purposes of confirmation (convergence), complementarity, expansion and development, was supported by O'Cathain et al.'s (2007), analysis of 75 mixed methods research on health services in the United Kingdom (UK). The analysis also indicated especially in health services research, the mixed method approach was largely for complementarity purposes.

Although the purpose of mixed method studies contributes to the design, Brown et al. (2015) emphasised the essential factor distinguishing this approach from studies that simply combine quantitative and qualitative methods, is data integration. This is the process where quantitative and qualitative methods are purposefully combined at various stages of the overall research process (Brown et al., 2015; Creswell et al., 2004; O'Cathain et al., 2010). This means the mixing between the two methods can occur at any point during the research, throughout the initial stage right to the interpretation or reporting of the results. The basic concept of integration is data collected from both methods would result in producing a complete and fuller understanding of a particular phenomenon (Glogowska, 2011; Wisdom & Creswell, 2013).

However, there are issues surrounding the data integration process, particularly the use of the term 'triangulation' as a method to combine data. Creswell et al. (2004, 2008) defined it as the process where data is collected and analysed in parallel, then merged (usually at the final stages of the research process) either to form a comprehensive understanding or for comparison purposes. It is also referred to a process of checking the results against different methods in exploring a particular phenomenon (Glogowska, 2011). Conversely, O'Cathain et al. (2010) and Morgan (1998) argued that triangulation has been interpreted differently in research. It is used to either corroborate findings from the quantitative and qualitative components, or to gain a complete picture of a phenomenon by using different approaches (O'Cathain et al., 2010). As such, Morgan (1998) suggested triangulation be replaced with 'convergence' or 'confirmation' for the process of checking and comparing findings from different approaches.

Morgan (1998) further suggests alternatives to studies with 'triangulation', 'convergence' or 'confirmation' intent are explored, and one alternative is 'complementarity'. Greene et al. (1989) defined this as the process where different and overlapping aspects of a phenomenon is approached through quantitative and qualitative methods to obtain a much deeper and detailed understanding. The essential feature of complementarity studies is therefore to draw upon the strengths of one method to enhance the other for a more enriched understanding (Glogowska, 2011; Morgan, 1998; Östlund et al., 2011).

4.4.3 Some disadvantages of mixed methods research

Methodological issues in combining or integrating data in mixed methods studies may result from the lack of pragmatic guidance available (Creswell et al., 2008; McCusker & Gunaydin, 2015; Östlund et al., 2011). Many mixed methods studies unsuccessfully bring together the findings, and tend to treat the qualitative and quantitative components as

separate (Bryman, 2007). Leeuw and JoopHox (2008) also highlighted that data integrity is often questioned in mixed methods studies especially with regard to the extent the data collected from the different approaches can be compared and combined. The danger of data redundancy was another identified disadvantage, which is a result of a misalignment of the rationale and the uses of mixed methods research (Bryman, 2006). This suggests if mixed methods research is not implemented appropriately, there is potential for data collected to not be fully utilised.

Lastly, issues relating to the amount of effort and resources (time and money) required in the analytic process may lead to researchers imposing restrictions on sample sizes or data collection time (McCusker & Gunaydin, 2015). Therefore, although the mixed methods approach may present a pragmatic choice due to it drawing on the strengths from qualitative and quantitative components, it may not always be the best choice. Ultimately, it is the research question that guides the researcher in the choice of the methodology, rather than the other way round (Glogowska, 2011).

4.4.4 The use of mixed methods research

As the mixed methods approach is increasingly recognised as a more comprehensive form of research, it is therefore gaining popularity in a range of fields particularly research focusing on outcomes (McCusker & Gunaydin, 2015). The practice of mixed methods research was believed to have originated in the field of social sciences and is currently employed in health and educational research (Glogowska, 2011; O'Cathain et al., 2010; Wisdom & Creswell, 2013). It is also currently practised in studies relating to human communication (Glogowska, 2011).

An example of mixed methods research in education was presented by Jesse (2001) in the context of classroom observation studies. He discussed information collected from these observations can take two forms, one that can be quantified and categorised numerically, and the other adopts a more subjective approach in understanding the complexities of the classroom. As a result, a combination of both quantitative and qualitative approaches can provide information that may not be obtained by a single approach, resulting in data rich information. School-based intervention studies also utilises the mixed methods approach, such as the study by Parsons et al. (2011). This study examined existing empirical research (92 research papers) and expert evidence (based on policy documents, government initiatives or reports from research conducted in the UK and Ireland) from 2002 to 2008, on the educational best practices for children on the autism spectrum. An interesting outcome of this review was research measuring the effectiveness of an intervention or provision was largely quantitative, such as changes in

standardised assessment scores. Parsons et al. (2011) identified the significant lack of the qualitative component. This indicated existing studies tended not to include certain aspects of schools, such as teacher and environment related factors. As a result, many of the studies examined did not take into account the potential relationship between qualitative and quantitative aspects that may impact on the outcome of educational intervention and provisions.

In speech and language therapy (SLT), an example of a mixed methods study was conducted by Glogowska, Roulstone, Enderby, and Peters (2000). The design of this study was a randomised controlled trial, with the qualitative component nested within this approach. The aim was to evaluate the effectiveness of SLT services based in 16 community clinics in the UK. Children (aged 3 and a half years or under) were randomly assigned to two groups, one that received immediate SLT, and the other group would only receive therapy after a 12-month waiting period. The outcomes showed although both groups of children made progress over the year of their involvement in the study, many of them experienced continued difficulties in the initial school years. In an effort to explain this, the researchers also conducted a parallel investigation of parental views on their children's difficulties and the effectiveness of the intervention through a quantitative questionnaire survey, and qualitative individual interviews. Parents were found to recognise that their children required ongoing therapy, and also shared their perceptions regarding the intervention. Overall, using the mixed methods approach was beneficial in this study as data from both approaches provided a more detailed picture of the effectiveness of the intervention from different perspectives. The randomised controlled trial provided information on child-centred outcome data, while the questionnaire and interview results contributed in explaining the findings (Glogowska, 2011; Glogowska & Campbell, 2004; Glogowska, Campbell, Peters, Roulstone, & Enderby, 2002). More recent studies have also utilised the mixed methods approach in SLT, (Dockrell & Lindsay, 2001; Glover et al., 2015; Gràcia et al., 2015; McDonald et al., 2015) as discussed in chapter two.

4.5 The Use of Mixed Methods Research in the Current Study

The design of the current study is discussed in more detail in the methods chapters. The mixed methods approach is employed by this study in the form of classroom observations (quantitative) and focus groups (qualitative). Although there are two phases to the study (profiling and intervention phase), both seeks to collect and analyse data from the two methods, and attempt to integrate the findings at the results and interpretation stage. Different research questions are examined by each approach but the aim is to

combine the findings to gain a complete and detailed understanding through the process of complementarity.

4.6 Summary

This chapter has defined the concept of three main research approaches, quantitative, qualitative and mixed methods. Various justifications for using mixed method approaches has been presented influencing the different mixed methods design discussed in the existing literature. This chapter has also highlighted issues surrounding mixed methods research, such as confusion and overlapping uses of the term triangulation, and data redundancy as a result of inefficient combination of both research approaches. The use of mixed methods studies in various research fields has also been presented, illustrated with examples of studies from the area of education and human communication. Finally, an overview of the mixed methods design for the current study was described, aimed to achieve complementarity in the findings to address the research questions.

Chapter 5: Classroom Observations

5.1 Introduction

An aim of this study was to investigate and evaluate how children's communication was supported in participating Brunei primary school classrooms. This chapter details the methods used in the classroom observations. Ethical approval for the study is first described followed by an overview of the pilot study. As there were two phases to the observations (the 'Profiling phase' and 'Intervention phase'), this forms the structure of the chapter. The research questions addressed in each phase, the design, and details of participants including recruitment, approval and consent are presented. A description of the research instruments, administration procedure, scoring and analysis of results for both phases is then provided.

5.2 Ethical Approval for the Current Study

Prior to the main data collection of the profiling and intervention phases, application for ethics approval was reviewed and accepted by the 'Ethics Committee of the Department of Human Communication Sciences', University of Sheffield (see Appendix B).

5.3 The Pilot Study Prior to the Profiling and Intervention Phases

The pilot study was the initial process in the implementation of the research protocol, and it was aimed to trial the Communication Supporting Classroom (CsC) Observation Tool (Dockrell, Bakopoulou, et al., 2012) in the Brunei context. As this was the inaugural use of the CsC Observation Tool in Brunei, experimenting in local schools was considered an essential process to this study's research design. This was to ascertain the appropriateness of the CsC Observation Tool in the local context and if any adaptations were needed for the main study. The importance of pilot testing any instrument for use in research is emphasised by Rudestam and Newton (2007) irrespective of whether it is a standard research tool or one devised and designed by the researcher. This will inform on design or procedural deficiencies and allow the researcher to address these issues prior to the main study.

Four year two classrooms from four different schools were involved. The rationale for the selection of these classrooms was the similarity to the target sample in the main study, which Persaud (2010) viewed as an important aspect in conducting pilot studies. These similarities were based on the school categories of the classrooms used in the main study. Results and analysis for the pilot study are not included in the main body of this

thesis as the aim was to examine issues on procedure and suitability of the CsC Observation Tool in Brunei context. However, the findings are presented in Appendix C. The pilot study also addressed several procedural and technical issues for the main data collection, including issues on inter-rater reliability and scoring.

5.4 The Research Questions Addressed in the Profiling Phase

This part of the study aimed to gather information from the participating schools on how children's communication was supported in classrooms in Brunei primary schools. It also explored any differences in how classrooms in Model Inclusive Schools (MIS) and non-Model Inclusive Schools (non-MIS), and across pre-school and year one supported children's communication. The following questions were addressed:

1. Is children's communication supported in Brunei primary school classrooms?
2. Are there differences between classrooms in MIS and non-MIS in supporting children's communication?

5.5 The Research Question Addressed in the Intervention Phase

This phase explored changes in how teachers supported children's communication before and after an intervention aimed to facilitate children's communication in classrooms, over a period of four months using a repeated measures design. Classroom teachers and Special Educational Needs Assistance (SENA) teachers worked towards specific goals identified using the CsC Observation Tool. Changes in teachers' classroom practice were observed through changes in observation scores across three time points. This phase addressed the following question:

1. Is an intervention programme based around the CsC Observation Tool successful in increasing teachers' use of communication supporting behaviours?

The intervention phase was not a continuation of the profiling phase, hence it involved a different participant sample and inclusion criteria. This is described in more detail in section 5.7.2 (page 77).

5.6 The Design of the Profiling and Intervention Phases

The overall time line and details for all the classrooms observations is presented in Table 5.1. Figure 5.1 illustrates the classrooms observations for the profiling phase, and Figure 5.2 summarises the intervention phase.

Table 5.1: *Table of Overall Timeline and Details of Classroom Observations*

Phase	Participating Schools	Time Line
Pilot study	4 primary schools (4 year two classrooms)	April 2014
Profiling	3 MIS and 3 non-MIS primary schools (6 pre-school and 6 year one classrooms)	August - September 2014
Intervention	5 primary schools (5 Intervention and 5 Control classrooms) (4 pre-school, 4 year one and 2 year two classrooms)	
	• SENA training	January 2015
	• T1	April - May 2015
	• T2	May - June 2015
	• Feedback (IC teachers)	
	• Setting targets	June 2015
	• Monitoring phase	August 2015
	• T3	October 2015
	• Final review/feedback (IC and CC)	

Note. T = Time point; MIS = Model Inclusive School; non-MIS = non-Model Inclusive School; IC = Intervention Classrooms; CC = Control Classrooms.

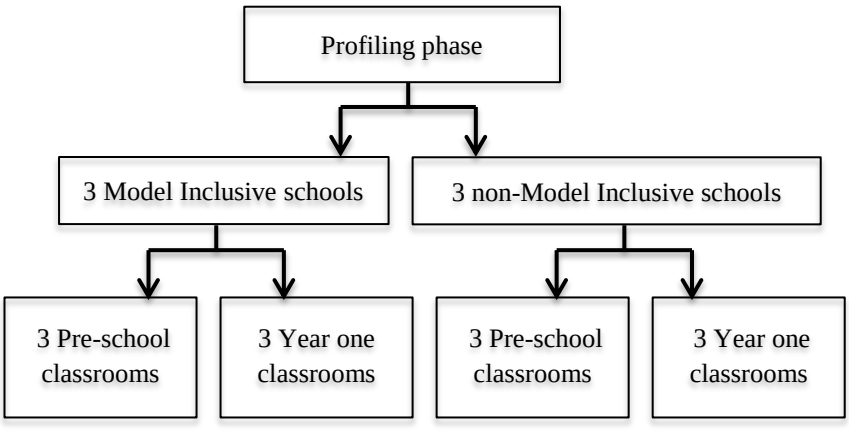


Figure 5.1: Summary of the classroom observations for the profiling phase.

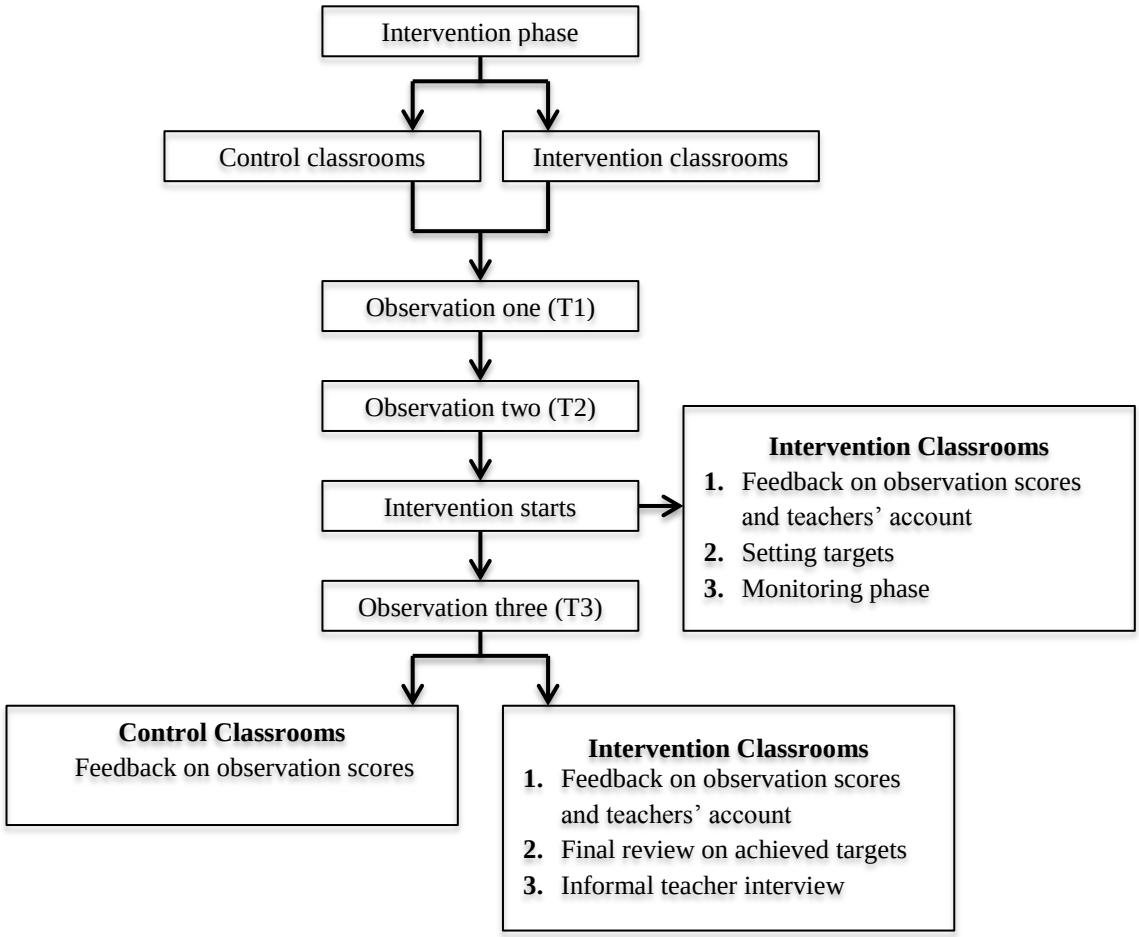


Figure 5.2: Summary of the classroom observations for the intervention phase.

5.7 Participants

The details of the participants are presented separately for the profiling and intervention phases. As each phase was not linked to one another and addressed distinctive research questions, the participant sample involved different groups. A description of the recruitment process including approval and consent is provided in section 5.8 (page 78).

5.7.1 Participants in the profiling phase

A total of twelve classrooms were involved: six pre-school and six year one classrooms. These two year levels were selected based on the CsC Observation Tool design aimed to be used in reception, year one and year two classrooms (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012). The sample was purposeful as the classrooms were recruited from three primary schools categorised as MIS, and three from non-MIS. This was to examine the differences, if any, between classrooms from these two school

categories in supporting children's communication. As described in 3.7 (page 53), MIS are a number of selected primary and secondary schools in Brunei allocated with extra funding and specialist support to facilitate the placement and education of children with special needs (Ministry of Education, 2008b; UNESCO, 2009). This project was one of the initiatives set up by the Ministry of Education, through the Special Education Unit (SEU) to implement inclusion (Ministry of Education, 2008b).

From each school, one pre-school and one year one class was selected at random. The age ranges for the children in pre-school classes were between 4 years 9 months to 5 years 9 months, and for the year one classes between 5 years 9 months to 6 years 9 months. Details of the individual schools are presented in Table 5.2. As discussed in chapter 3, Malay is the national language of Brunei but children learn and use both Malay and English in primary and secondary schools. The primary inclusion criteria for the schools and classrooms were:

- Schools: primary schools categorised as a MIS or a non-MIS;
- Classrooms: pre-school and year one; and
- Not implemented any communication initiatives.

Table 5.2: *Table of the Demographics across Schools for the Profiling Phase*

School	Category	Year level	Classroom population	Subject	District
1	Non-MIS	Pre-school	11	Malay	Tutong
		Year 1	18	Maths	
2	Non-MIS	Pre-school	15	English	Brunei-Muara
		Year 1	20	Malay	
3	MIS	Pre-school	13	Integration	Brunei-Muara
		Year 1	20	Malay	
4	Non-MIS	Pre-school	13(1) [b]	Malay	Brunei-Muara
		Year 1	17(1) [b]	English	
5	MIS	Pre-school	11	Phonics	Brunei-Muara
		Year 1	17(1) [b]	Maths	
6	MIS	Pre-school	21[a]	Malay	Tutong
		Year 1	15	Malay	

Note. Brunei has four districts; Brunei-Muara (most populated area and where the capital city is located), Tutong, Kuala Belait and Temburong (Oxford Business Group, 2013).
[a]This school only had one pre-school level class, where the other schools had more than one pre-school classes.
[b]The number enclosed in brackets is the number of students categorised with special needs in the class.

5.7.2 Participants in the intervention phase

Pre-school, year one and year two classes were recruited from five primary schools that agreed to participate in this intervention part of the study. Two classrooms from each school were included, one 'Control Classroom' and one 'Intervention Classroom', resulting in ten classrooms altogether. As there were three time points, the total number of classroom observations was 30. The inclusion criteria for the classrooms were:

- Pre-school, year one or year two classes not involved in the classroom observations of the profiling phase (this was to ensure teachers were not familiar with items in the CsC Observation Tool);
- Taught by a teacher not involved in the observations of the profiling phase (similar reasons as above); and
- Included children identified by the schools as having a speech, language and/or communication difficulty. The reason for this inclusion in this study was because the researcher was a speech and language therapist at the SEU. The basis of the study was to explore ways children's communication could be supported in classrooms across schools in Brunei. Although this study did not focus on this group of children in isolation, it provided an insight on how they were currently being helped in the classrooms.

In addition to the classrooms, the SENA teachers from these schools were also invited to participate and play a major role. This was conducted because the current model of practice in Brunei is that SENA teachers are based in schools to assist classroom teachers in working with children with special needs. Therefore, it was viewed crucial to include them, and to examine their roles in developing classrooms that support children's communication. Moreover, the SENA teachers' observations using the CsC Observation Tool, was used to measure inter-rater reliability during the classroom observations. This meant for all thirty classroom observations, the SENA teacher was the secondary researcher in each of the five schools (a different SENA teacher for each school). Five SENA teachers were invited to take part, from both MIS and non-MIS. The primary inclusion criteria for these SENAs included those:

- Based in Brunei primary school settings; and
- From schools that was either involved or not involved in the classroom observations, and / or in the focus groups of the profiling phase.

Initially, it was sought to include a good range from both MIS and non-MIS primary schools, as was conducted previously in the profiling phase where there was an equal number of schools from both categories. However, due to other commitments and

responsibilities, only five SENA teachers from five different schools volunteered to take part. These schools comprised of only one MIS and the rest were non-MIS. This MIS was involved in the classroom observations during the profiling phase, and the SENA teacher from this school was also involved in the focus group of this phase. The remaining four schools were not involved in the classroom observations of the profiling phase, however two of the SENA teachers took part in the focus groups. Two classrooms from each school were included (one Intervention Classroom and one Control Classroom) resulting in a total of ten classrooms. The age ranges of the children were between 4 years 9 months to 5 years 9 months (pre-school), 5 years 9 months to 6 years 9 months (year one), and between 6 years 9 months to 7 years 9 months (year two). The demographics of the schools are presented in Table 5.3.

Table 5.3: *Table of the Demographics across Schools for the Intervention Phase*

School	Category	Year level	Class	Classroom population	Subject	District
1	Non-MIS	Pre-school	IC	18(2) [a]	Literacy	Brunei-Muara
			CC	20(1) [a]	Integration	
2	MIS	Year 1	IC	18(1) [a]	English	Brunei-Muara
			CC	24(3) [a]	Malay	
3	Non-MIS	Pre-school	IC	17(2) [a]	Phonics	Brunei-Muara
			CC	14(1) [a]	Maths	
4	Non-MIS	Year 2	IC	20(1) [a]	English	Brunei-Muara
			CC	19(1) [a]	Science	
5	Non-MIS	Year 1	IC	17(1) [a]	English	Brunei-Muara
			CC	13	English	

Note. [a]The number enclosed in brackets is the number of students categorised with special needs in the class. IC = Intervention Classroom; CC = Control Classroom.

5.8 Recruitment Process for the Profiling and Intervention Phases

This section describes how participants were contacted and recruited for the study. As the recruitment process was similar for the profiling and intervention phases, this is presented together.

5.8.1 Approval from the Ministry of Education

Prior to contacting and recruiting the schools and teachers, permission to carry out the study was first obtained from the Department of Schools, Ministry of Education (MoE) in Brunei. This department is responsible for all ministerial related policies and regulations in government schools across the country (Ministry of Education, 2014a, 2014b). Consequently, any research involving government schools should first acquire permission from this department. As the researcher was an employee at the SEU, the procedure required for any correspondence to the Ministry was made through the SEU. Therefore the permission letter was written and addressed to the Department of Schools by the researcher, and sent to the head of the SEU, which was then forwarded to the department. An approval letter granting permission to conduct the study was then obtained and this was presented to the participating schools (see Appendix D). This approval letter covered the entire study.

5.8.2 Consent from participants

Upon receiving approval from the Ministry the researcher then met with the schools' head teachers to explain the study and to distribute invitation letters, information sheets and consent forms. For the profiling phase, all six head teachers approached gave consent for the school to take part. A time was scheduled with the school to meet up with the teachers responsible for teaching both pre-school and year one classes in the school. A detailed explanation of the purpose of the study together with a letter of invitation, information sheet and consent form was presented (see Appendix E for examples). The teachers then decided whether to participate in both parts of the study (classroom observations and focus groups), or if they only wanted to be included in the observations. Once written consent was obtained, a schedule was set up with the participating teachers for the classroom observations. Figure 5.3 summarises the recruitment procedure.

For the intervention phase, all five head teachers also consented for their school to take part. SENA teachers were involved in recruitment to the study within their school. Once written consent was obtained, they then identified and invited teachers from two classrooms of the same level (either pre-school, year one or year two classes), one as an Intervention Classroom, and the other as a Control Classroom including a student(s) with speech and/or language difficulties as identified by that particular school (see Figure 5.4). Following this, the researcher and the SENA teacher met with the classroom teachers, to invite them to participate, explain the details of the study, give the information sheet, and to obtain written consent. Written consent was also obtained to collect the required

information about the schools, classrooms and the teachers, and this was also explained in the information sheets.

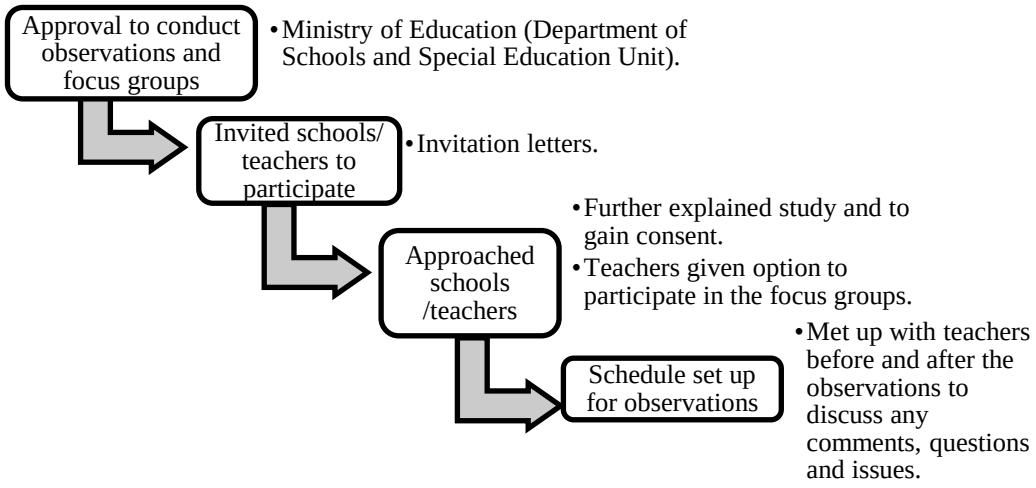


Figure 5.3. Summary of the recruitment process for the profiling phase.

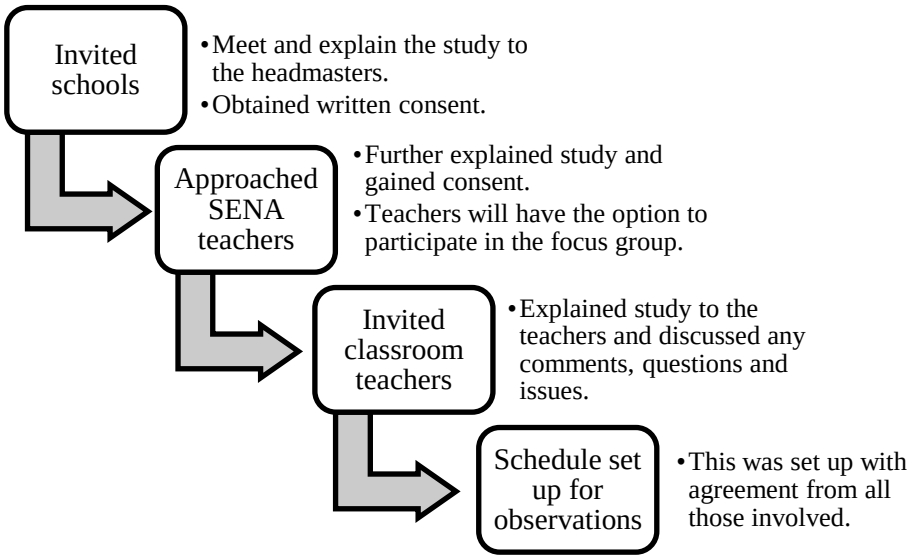


Figure 5.4. Summary of the recruitment process for the intervention phase.

5.9 Materials

This section describes the measures used to collect the data and the types of information obtained. The instrument used for the classroom observations, and information collected was similar for both phases of the study. However the intervention phase employed additional instruments and this is detailed in section 5.9.4 (page 82).

5.9.1 The Instrument used for classroom observations

The Communication Supporting Classroom (CsC) Observation Tool (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012) was used (see Appendix F). The background on the development of this tool was discussed in chapter two. The CsC Observation Tool was designed to be used in an observation of a regular teaching session in the classroom or a learning space and can be administered in reception and key stage 1 (years one and two) classrooms. Although the CsC Observation Tool was designed and implemented in schools across the United Kingdom, its use in the Brunei context was an initial attempt to determine the flexibility of the CsC Observational Tool at an international level. This was based on the rationale that the CsC Observation Tool was developed based on a detailed review of research evidence pointing to features of classrooms that support the development of children's communication (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012).

5.9.2 Administration of the CsC Observation Tool

The CsC Observation Tool can be completed by adults other than those working with the children in the classroom or learning space that was being observed. There are three dimensions within the Tool; Language Learning Environment (LLE), Language Learning Opportunities (LLO), and Language Learning Interaction (LLI). The estimated period of time to collect a representative sample of behaviour in the classroom was approximately one hour. Information regarding the layout of the classroom and resources available was conducted prior to the observation.

5.9.3 Reliability of the CsC Observation Tool

The CsC Observation Tool demonstrated high inter-rater reliability across the three dimensions. Dockrell, Bakopoulou, et al. (2012) reported that more than 83% agreement between raters was achieved for the LLE dimension, above 71% agreement for LLO and greater than 84% agreement between raters was achieved for the dimension of LLI. Inter-rater reliability was also high for the frequency of the LLO (71% to 100%) and LLI dimensions (75% to 100%) (Dockrell, Bakopoulou, et al., 2012). This indicates the CsC Observation Tool is able to measure both the occurrences and frequencies of the occurrences during the period of observation.

5.9.4 Additional instruments used in the intervention phase

As the intervention phase had a repeated measures design, supporting forms were also used for the record keeping of the scores at the individual time points, agreed action plan, and feedback during and at the end of the intervention period. This is listed below.

- Form 1 (CsC Observation Tool scores for Intervention and Control Classrooms);
- Form 2 (CsC Observation Tool scores and feedback/discussion for Intervention Classrooms);
- Form 3 (Action plan for intervention phase [Intervention Classrooms]);
- Form 4 (Monitoring phase for Intervention Classrooms);
- Form 5 (Final review phase for Intervention Classrooms), and
- Form 6 (Intervention Classrooms teachers' feedback).

5.9.5 Recorded information of classrooms and teachers

A record of the classroom details was obtained for the profiling and the intervention phases, and was included in the information sheets. For the intervention phase, this also included details on the participating SENA teachers.

5.10 Procedure

The procedure for the classroom observations includes the CsC Observation Tool administration, scoring and analyses of the data. The administration of the CsC Observation Tool is described separately for the profiling and intervention phases.

5.10.1 Administration of the CsC Observation Tool

5.10.1.1 Profiling phase

Observations were carried out solely by the researcher in six classrooms, while inter-rater reliability measures were collected from the remaining six. The secondary researcher was the same person involved in the pilot study, i.e. a colleague of the researcher who was also a speech and language therapist working at the SEU, and was already familiar with the CsC Observation Tool. Following the experience and recommendations from the pilot study, both researchers ensured that prior to the main study, a face-to-face training and discussion session was held to go through every item in the CsC Observation Tool. This was to ensure there was a mutual understanding and agreement on what each item entails, potentially resulting in higher agreement between both researchers.

All of the lessons were observed in the morning, for a minimum of 60 minutes. During the observation, both primary and secondary researchers were sat at the back or the corner of the classroom. Scoring for the LLI and LLO dimensions was carried out during

the observation of the lesson. The scoring of the LLE was conducted either before or after the observation and took approximately twenty minutes. All of the observations were carried out when school reopened after being closed for the Eid celebrations, which is the celebration to mark the end of the Muslim fasting month.

5.10.1.2 Intervention phase

The researcher and the SENA teacher of each of the five schools carried out the classroom observations for the duration of the intervention period. This meant in each school, observations involved the researcher and a different secondary researcher. In addition, a repeated measures design of three time points (T) was used for the observations in this phase (initial observation at T1, pre-intervention at T2, and post-intervention at T3).

Prior to this, as the SENA teachers were not familiar with the CsC Observation Tool, the primary researcher conducted a face-to-face group training session with all five SENA teachers to explain and go through each item. Any issues and enquiries raised by the SENA teachers were addressed at this stage and the primary researcher also suggested for the teachers to practise implementing the CsC Observation Tool where possible. The primary researcher also went through the CsC Observation Tool again with each of the SENA teachers before the observation at each of the three time points.

From each school, observations were carried out in two classrooms, the Intervention Classrooms and Control Classrooms. Each observation took place in the morning during one whole lesson, lasting a minimum of 60 minutes. In carrying out the observations, the researcher and the SENA teacher completed the CsC Observation Tool separately and discussed the findings at the end of the lesson. The procedure and the order of events are detailed as follows:

1. Baseline measures: These were the classroom observations at T1 and T2 for both Intervention and Control classrooms. This was to determine stability in the scores between these two time points. Four schools had a gap of one month between observations at these time points, and the remaining school had a space of three weeks. This was due to time restrictions on both the part of the school and the researcher.
2. Setting up targets: A meeting was held between the Intervention Classroom teachers, the SENA teachers and the researcher. For all five schools, this meeting was conducted on the same day as the second observation, at T2. Feedback on the findings of the observation was shared with the teachers including highlighting the areas of strengths and weaknesses in each dimension of the CsC Observation Tool. These teachers were given an opportunity to discuss the scores obtained, and

to present their views on whether it was a fair representation of their typical lesson. A discussion on what the Intervention Classrooms and SENA teachers wanted to focus on based on the findings from the observations was carried out. This was the start of the intervention phase. This required them to identify and agree on areas that needed improvement, as highlighted in the individual dimensions. In most cases this meant the item(s) that resulted in the lowest score. A maximum of three specific targets were listed, and an action plan of how these targets would be achieved, the responsibilities of both Intervention Classroom teachers and SENA teachers, the training and resources needed, and the time frame to achieve them. The specified target items and the action plan to achieve them was then documented and signed by the researcher, the Intervention Classroom and SENA teacher, and also the headmaster of the schools. A copy of this was distributed to all involved as a working document.

3. Monitoring phase: To ensure progress was made to achieve the specified targets, a follow up meeting with the SENA and Intervention Classroom teachers was held approximately two months after the initial meeting. In this face-to-face meeting a brief report on the progress towards reaching the targets and any issues that has arisen since the last meeting was discussed and documented. This document was made formal by obtaining signatures from all involved including the headmasters. This meeting also provided the teachers with the opportunity to discuss any issues they had in working towards the target items or anything else related to the study.
4. Final observation: After the intervention phase, the researcher and the SENA teachers conducted the final observations in all of the participating classrooms (Intervention and Control classrooms) at T3. This took place approximately four months from the start of the intervention period and once again involved the same primary and secondary researchers for each school as in the earlier observations. The lessons observed during the observations at T3 were similar to those observed during T1 and T2. For three of the schools, the third and final observations for the Intervention and Control classrooms took place on consecutive days, one school had the observations on the same day and the remaining school had a gap of eight days between the observations.
5. Final review: After observations at T3, the researcher held a face-to-face meeting with the Intervention Classroom teachers. The purpose of this was to share the scores and also get feedback from the teachers on whether they agreed or disagreed with the scores. This was also to measure if there were any changes in the scores obtained at the different time points. For three of the schools this was conducted

on the same day the observations were held, one school held it the following day and the final school had the meeting ten days after the observation. In this meeting, feedback on the findings of the final observation and whether the targets were achieved in the four-month period was discussed and documented.

For the Control Classroom teachers, a meeting to discuss the scores obtained during the whole intervention period was only held after the final observations. This meeting was held on the same day for one school, three had it the following day, and the remaining school had a space of ten days in between. This meant that other than the initial meeting with the teachers to invite them to participate and explain the purpose of the study, there was no contact with the researcher until the end of the intervention period. This was to ensure the scores obtained by the Control Classrooms were not affected by feedback of the scores during the whole period. As this was the first feedback meeting to inform and discuss with the teachers their scores from the classroom observations, a brief overview of the study's aims was provided. Although this group of teachers were not given any form of intervention in the period of the study, this was to provide them with the information and to enable them to reflect on their classroom practice.

Upon completion, of the intervention phase, the results were shared with all participants of the involved schools i.e. head masters, SENA teachers, and classroom teachers.

5.10.2 Scoring of the CsC Observation Tool and additional instruments used in the intervention phase

5.10.2.1 The CsC Observation Tool

Each dimension yielded a different total number of scores. The LLE dimension was measured by 19 items and scored as 'not seen' or 'observed' (range 0 to 1). The LLO and LLI dimension had 5 and 20 items respectively. Furthermore, both of these dimensions were recorded up to a maximum of five times during the observation, resulting in a range of scores between 0 to 25 for the LLO, and 0 to 100 for the LLI dimension. Scoring for the classrooms' scores on the CsC Observation Tool were based on proportion scores (P.S.), to account for the different number of items across the three dimensions. This was achieved by dividing the actual number of observations by the total number of possible observations in each dimension. This resulted in P.S. that ranged from '0' (no occurrence) to '1' (maximum number of occurrences) for all three dimensions. Scoring of the dimensions needed careful consideration of other factors, particularly if no occurrences

of a particular item were recorded during the observation period. For example in the LLO dimension, if an absence of a particular behaviour/item was recorded, this needed to be verified with the school on whether it occurred during other times. It was not expected for classrooms to demonstrate all the items in the CsC Observation Tool at all times. However if absences of certain items were recorded, it was important to discuss this with the schools for further information.

The scoring procedure for the inter-rater reliability was conducted based on the number of agreements between the raters, i.e. 'present' or 'absent' of the occurrence of the behaviour, and was conducted for the number of items in each of the three dimensions.

5.10.2.2 Additional instruments used in the intervention phase

The procedure for scoring using the supporting forms in the intervention phase is provided below:

1. Form 1: The scores obtained by the researcher and the SENA teacher in each dimension was recorded at the different time points. This was completed for both the Intervention Classrooms and the Control Classrooms. The scores were recorded according to the number of observations obtained out of the maximum number of possible scores in each dimension.
2. Form 2: The scores at T2 and T3, and the Intervention Classrooms teachers' account on their views of the scores and whether it was a fair representation of their lesson were recorded in detail on this form. The teachers' feedback was scored as either 'Agree' or 'Disagree'. This was completed on separate sheets for each observation.
3. Form 3: Based on the discussion between the researcher, SENA and Intervention Classroom teachers after the second observation, a list of the agreed specified targets and the action plan was documented using this form. A list of all the required resources, time frame, and the responsibilities of each person were also specified. Signatures from all relevant parties were obtained and copies were distributed.
4. Forms 4 and 5: The progress made by the Intervention Classroom teachers in achieving the specified targets listed out in Form 3, was scored according to three measures, 'Achieved' (A), 'Partially achieved' (PA), and 'Not achieved' (NA). This progress was based on the report and opinions of the Intervention Classroom teachers themselves with the input from their SENA teacher. Feedback from the teachers on the status of what had or had not been achieved, and the reasons were

also documented. Form 4 was used to document the progress at the monitoring phase while Form 5 was used during the final review.

5. Form 6: Feedback from individual Intervention Classroom teachers was obtained upon completion of all three observations. This was to explore and make a record of the teacher's perception of any changes to their classroom practice as well as their experience during the whole process.

5.10.3 Analysis procedure of the profiling and intervention phases

The next two sections describe the procedure used to examine the data for reliability measures and statistical significance.

5.10.3.1 Reliability measures of the CsC Observation Tool

Inter-rater reliability measures for both phases were calculated to examine the reliability of the CsC Observation Tool in the Brunei context. This involved the CsC Observation Tool being used by two different observers in the same setting at the same time. The purpose was to ensure the items in the CsC Observation Tool would obtain a degree of agreement between two different observers to generate useful results. For the profiling phase, data for inter-rater reliability was collected from six out of twelve classroom observations. The intervention phase involved all ten classrooms, at the three time points. This meant that inter-reliability was collected from a total of 30 classroom observations. The findings are discussed in chapter 6.

Inter-rater reliability scores were also calculated both manually and using a statistical software to determine the consistency of agreement in the scores obtained by the primary and secondary researchers. Percentage agreement values were manually calculated by dividing the number of agreements (both absent and present) with the total number of items, and multiplied by 100. This was based on the similar method employed in Dockrell, Bakopoulou, et al.'s (2012) study. However, in order to ensure that reliability was statistically reliable, the Cohen's kappa (k) statistic was also calculated. This test was usually used to determine whether two raters agreed on measuring a variable on a categorical scale (Cohen, 1960; Hallgren, 2012; Landis & Koch, 1977; Mabmud, 2010; Viera & Garrett, 2005). For the purposes of this study, the measure was to see how consistently both raters agreed on whether the occurrence of each item across the three dimensions was present or absent. The calculated k value was a measure of the proportion of agreement over and above the agreement expected by chance, or in other words chance agreement. Interpretation of the k value was based on the scale by Viera and Garrett (2005) and Landis

and Koch (1977). 95% confidence interval was calculated using the generic formula 'Estimate +/- 1.96 x SE', where SE is standard error.

Furthermore, in order to determine how both raters agreed in terms of the number of times a particular behaviour occurred, the intra-class correlation coefficient (ICC) statistic was used and calculated. This is a frequently used analysis to assess data which are of ordinal, interval and ratio scale in nature, unlike k, which is mainly used to assess categorical scale (Hallgren, 2012; McGraw & Wong, 1996). This was of particular importance especially for the LLI and LLO dimension as it is recorded up to a maximum of five times during the observation. The interpretation of the ICC value was based on the scale by Cicchetti (1994).

5.10.3.2 Analysis of classroom observation data

Data collected from the classroom observations were analysed using the Statistical Package for the Social Sciences (SPSS) version 22 (IBM Corp., 2013), which is a software used for conducting statistical analysis (Field, 2013). Classroom observation data from the profiling and intervention phases were found not to be normally distributed due to the presence of outliers and significant values for Shapiro-Wilk tests (see Appendix G). As a result, non-parametric tests were conducted to analyse the data for both the profiling and intervention phases. For the profiling phase the data was analysed to examine the patterns of performance in the LLE, LLO and LLI dimensions, and the overall performance across school categories (MIS and non-MIS), and year group (pre-school and year one). The differences found across dimensions, categories and year group were further analysed using a series of Mann-Whitney tests.

For the intervention phase, the patterns of performance in the individual dimensions were also examined but this time to explore if there were any changes across time points. This was conducted for the Intervention Classrooms and Control Classrooms. The Friedman's ANOVA tests were run to compare the scores, and any significant differences found were followed up with a series of Wilcoxon signed-rank tests. This was to determine between which time points the changes in the scores were significant. Additionally, the overall performance for the Intervention Classrooms and Control Classrooms was explored to determine if there were any significant changes in the observation scores as a result of intervention. This was conducted by comparing the scores between different time points using the Wilcoxon signed-rank tests.

5.11 Summary

This chapter detailed the methods used for the classroom observations. A description of the measures, participants and the procedure for scoring and analyses in the profiling and intervention phases was discussed. The findings of these observations are presented in chapter 6.

Chapter 6: Communication Supporting Classrooms

6.1 Introduction

This chapter describes the findings from the classroom observations. There were two phases of the study, the profiling and the intervention phase, and this forms the structure of this chapter.

6.2 Classroom observations in the Profiling Phase

The data obtained from the profiling phase elicited two different levels of measurement, namely scale data from the scores produced by the Communication Supporting Classroom (CsC) Observation Tool (Dockrell, Bakopoulou, et al., 2012), and nominal data for school category (Model Inclusive Schools and non-Model Inclusive Schools), and year level (pre-school and year one). This phase addressed the following research questions:

1. Is children's communication supported in Brunei primary school classrooms?
2. Are there differences between classrooms in Model Inclusive Schools (MIS) and non-Model Inclusive Schools (non-MIS) in supporting children's communication?

An overview of the findings from the reliability measures is first presented. This is followed by the results of the classroom observations in terms of supporting children's communication in Brunei primary schools (question one), and the results from the analysis across the different school categories, and year group (question two).

6.2.1 Reliability measures of the CsC Observation Tool: Profiling phase

Inter-rater reliability was conducted for six of the twelve classroom observations for each dimension of the CsC Observation Tool: the Language Learning Environment (LLE), Language Learning Opportunities (LLO) and Language Learning Interaction (LLI). Similar to the study by Dockrell, Bakopoulou, et al. (2012) percentage agreement values were calculated. In this study, statistical tests (Cohen's kappa and Intra-class coefficient) were also carried out to determine the strength of these agreements (see Appendix H).

Percentage agreement values ranged from 84.21% to 100% (LLE), 40% to 100% (LLO), and 75% to 100% (LLI). Cohen's kappa results showed agreement ranged between 'substantial' to 'almost perfect' for the LLE, mostly 'poor' for the LLO dimension, and between 'moderate' to 'almost perfect' for the LLI. Intra-class coefficient values were calculated to examine the degree of agreement among raters in the frequencies of the occurrence of the behaviour. This was completed for the LLO and LLI dimensions where

the items were rated a maximum of five times. Findings showed agreement ranged between 'poor' to 'excellent' for the LLO dimension, and 'good' to 'excellent' for the LLI.

Overall the results indicated agreement between both raters was consistently high especially for the LLE and LLI dimensions. It also indicated there was wide variability in the raters' agreement in the LLO dimension, which warrants further investigation.

6.2.2 Patterns of performance in classroom observation scores; across the CsC Observation Tool dimensions, school categories and year levels

Analyses of the data first examined the patterns of performance for all the participating schools, across the individual dimensions: LLE, LLO and LLI. This involved comparing the proportion scores (P.S.), ranging from 0 to 1 that were calculated to account for the different number of scores in the CsC Observation Tool (LLE = 19, LLO = 25 and LLI = 100). These findings were to answer research question one.

Next, analyses explored the differences across school categories (MIS and non-MIS), and year level (pre-school and year one). This involved examining both the P.S. for each dimension, and the combined scores (C.S.) across the different categories and year group. C.S. were derived from the sum of the P.S. at each observation (P.S. LLE + P.S. LLO + P.S. LLI). This was to answer the second research question. Although the research question did not include examining the differences across year levels, as this was not the focus of the current study, it was considered an interesting find and a potential for further research. The following sections present the patterns of performance separately for individual dimensions and across categories and year group in addressing the research questions.

6.2.2.1 Research question 1: Is children's communication supported in Brunei primary school classrooms?

Table 6.1 displays the descriptive statistics of the observations across all settings (MIS and non-MIS, and pre-school and year one) in the LLE, LLO and LLI dimension. It was found all the classrooms (MIS and non-MIS, and pre-school and year one, n = 12) achieved a higher mean P.S. in the LLE dimension (M = .50, SD = .17), followed by the LLI dimension (M = .31, SD = .13) and lastly by the LLO dimension (M = .12, SD = .09). This is illustrated in Figure 6.1.

Table 6.1: *Table showing the Descriptive Statistics of Proportion Scores for the Three Dimensions across all Settings.*

	Mean	Median	SD	Minimum	Maximum	n
P.S. LLE	.50	.47	.17	.21	.79	12
P.S. LLO	.12	.12	.09	.00	.28	12
P.S LLI	.31	.31	.13	.14	.50	12

Note. P.S. = Proportion scores; SD = Standard Deviation; n = Number of observations.

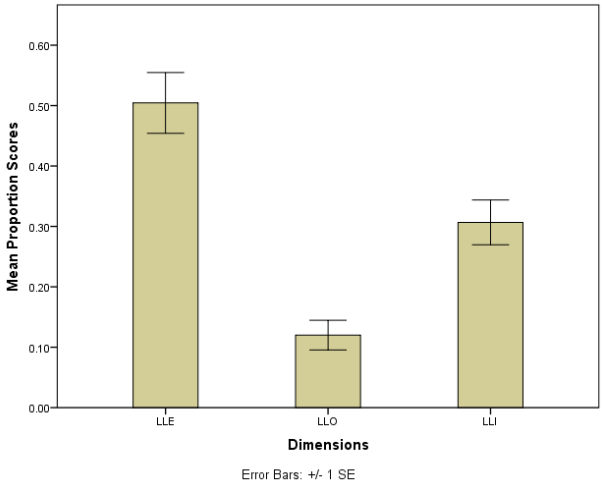


Figure 6.1. Graph showing the mean (+/- SE) proportion scores for the three dimensions across all settings.

Each bar represents the mean P.S. and their standard errors (SE) for the dimension of LLE, LLO and LLI. Overall, all the classrooms were shown to score highest in the LLE dimension, followed by the LLI and lastly the LLO dimension. However, it can be seen the value for the standard deviation in the LLO dimension was much smaller than the other two dimensions, also shown by the error bar. This could be because from the 12 classroom observations, where the maximum score measured was out of 25, all of the scores were less than 10 with the minimum score of 0 and the maximum was a score of 7.

To answer the research question, these findings indicated the participating schools were shown to support children's communication skills in the classrooms across all three dimensions. However, it was also found overall the schools did best in providing children with a classroom environment to enhance children's communication, followed by the interaction among teachers and children. It also pointed to a need for teachers to improve on the type and frequency of opportunities to develop children's communication in these

classrooms. The next section examines if there were statistically significant differences in the scores across these dimensions according to the school category and the year group.

6.2.2.2 Research question 2: Are there differences between classrooms in MIS and non-MIS in supporting children's communication?

Descriptive statistics of differences in classroom observation scores across dimensions for classrooms in MIS and Non-MIS

Table 6.2 and Figure 6.2 show the patterns of performance for all the classrooms in MIS and non-MIS. In terms of the scores in the individual dimensions, it was found for both school categories (across year levels, n = 12), all the classrooms achieved the highest mean P.S. for the LLE dimension (MIS, M = .46, SD = .18; non-MIS, M = .55, SD = .17), followed by the LLI dimension (MIS, M = .26, SD = .13; non-MIS, M = .36, SD = .11). Both school categories achieved the lowest score in the LLO dimension (MIS, M = .11, SD = .09; non-MIS, M = .13, SD = .09). Overall, it can be seen classrooms in non-MIS achieved a higher mean P.S. in all three dimensions compared to MIS. A comparison of the C.S. for the classrooms in these two categories also show overall, classrooms in non-MIS (M = 1.03, SD = .27) obtained a much higher score than classrooms in MIS (non-MIS = .83, SD = .34). This is illustrated in Figure 6.3.

Statistical analysis results of differences in classroom observation scores across dimensions for classrooms in MIS and non-MIS

A series of Mann-Whitney tests were run to determine if the differences found were statistically significant. This was completed for both the individual dimensions and the overall performance (combined proportion scores of all three dimensions). In the LLE dimension, all the classrooms in non-MIS scored higher (*Median* = .53) than classrooms in MIS (*Median* = .42), $U = 24.500$, $z = 1.05$, but this was not statistically significant, $p = .310$, and only represented a medium-sized effect, $r = .30$. Similarly for the LLO dimension, the non-MIS (*Median* = .16), did better than the MIS (*Median* = .08), $U = 20.00$, $z = .33$, $p = .818$, $r = .10$, but not statistically significant and only showed a very small-sized effect. The LLI scores also found a non-significant difference and displayed a similar pattern where classrooms in non-MIS (*M*edian = .39), scored higher than classrooms in MIS (*Median* = .23), $U = 26.50$, $z = 1.34$, $p = .180$, $r = .39$. The overall performance (C.S.) of classrooms in non-MIS (*Median* = 1.10) was found to be higher than MIS (*M*edian = .72) but again this difference was not statistically significant, $U = 26.00$, $z = 1.28$, $p = .240$, $r = .37$. Both the LLI scores and C.S. scores represented a medium-sized effect.

These results indicated teachers in classrooms from MIS and non-MIS were better at arranging the classroom layout, followed by the interaction skills, and lastly in providing opportunities to develop children's communication. It also showed teachers in classrooms from non-MIS were better than their MIS counterpart both in the overall performance and in the individual dimensions. However, these differences were not found to be statistically significant.

Table 6.2: *Descriptive Statistics Table of Proportion and Combined Scores for MIS and Non-MIS across Dimensions and Year Levels*

	School Category									
	MIS (n = 6)					Non-MIS (n = 6)				
	Mean	Median	SD	Min	Max	Mean	Median	SD	Min	Max
P.S. LLE	.46	.42	.18	.21	.74	.55	.53	.17	.32	.79
P.S. LLO	.11	.08	.09	.04	.28	.13	.16	.09	.00	.20
P.S. LLI	.26	.23	.13	.14	.50	.36	.39	.11	.15	.45
C.S.	.83	.72	.34	.39	1.24	1.03	1.10	.27	.66	1.32

Note. P.S. = Proportion Scores; C.S. = Combined Scores; M = Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum; n = Number of classrooms.

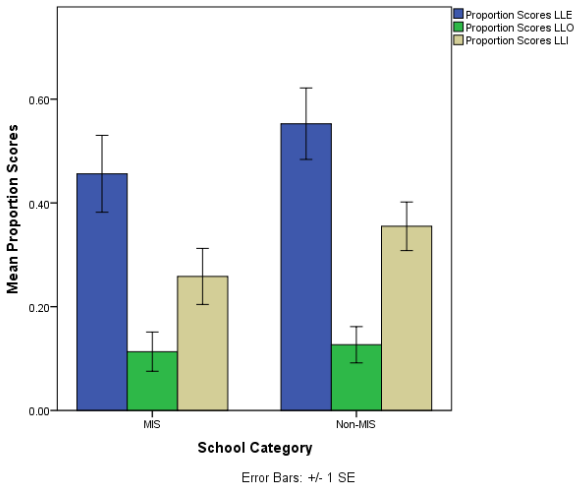


Figure 6.2. Graph showing the mean (+/-SE) proportion scores of MIS and non-MIS across dimensions and year level.

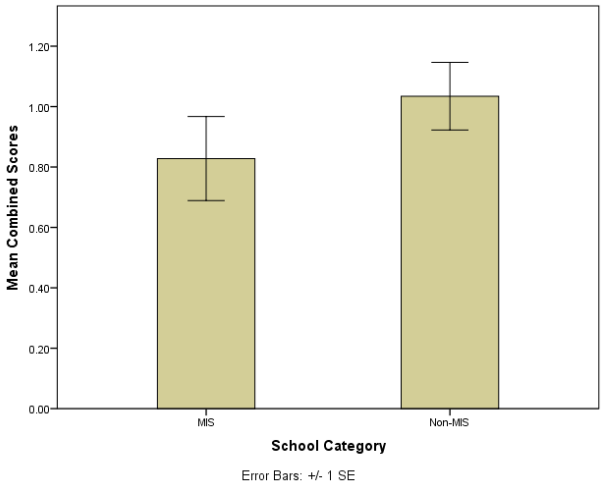


Figure 6.3. Graph showing the mean (+/- SE) combined scores of classrooms in MIS and non-MIS across dimensions and year level.

Differences between pre-school and year one classrooms in supporting children's communication

As there were two different year groups, pre-school and year one classrooms, further analysis to examine if there were any differences between these groups in supporting children's communication in classrooms were conducted. Table 6.3 presents the descriptive statistics for the pre-school and year one classrooms (across school categories, n = 12). Once again a similar pattern was found where classrooms scored highest in the LLE dimension (pre-school, M = .62, SD = .15; year one, M = .39, SD = .10), followed by the LLI dimension (pre-school, M = .37, SD = .11; year one, M = .25, SD = .13), and the lowest scores were obtained in the LLO dimension (pre-school, M = .18, SD = .07; year one, M = .06, SD = .06). The overall performance of pre-school classrooms (M = 1.17, SD = .21) was also better than year one classrooms (M = .69, SD = .19). Figure 6.4 and Figure 6.5 illustrates this clearly.

Results of the Mann-Whitney tests showed all the pre-school classrooms (*Median* = .63) scored statistically better than year one classrooms (*Median* = .42) in the LLE dimension, $U = 4.00$, $z = -2.25$, $p = .026$, $r = -.65$. This was also true for the LLO scores, where pre-schools (*Median* = .18) scored statistically higher than year one (*Median* = .04), $U = 2.50$, $z = -2.53$, $p = .009$, $r = -.73$. Both these dimensions showed a large-sized effect. Although pre-school classrooms (*Median* = .37) scored higher than year one classrooms (*Median* = .20) in the LLI dimension, this was not found to be statistically significant, $U = 9.00$, $z = -1.44$, $p = .180$, and only represented a medium-sized effect, $r = -.42$. Tests on the C.S. revealed that overall pre-school classroom scores were statistically significantly

higher (*Median* = 1.24) than year one classrooms (*Median* = .68), $U = 2.00$, $z = -2.56$, $p = .009$, and this represented a large-sized effect, $r = -.74$.

These results suggested in all the classrooms, children's communication was facilitated better through the physical classroom arrangement than through teachers' interaction with children. It also indicated a need to improve on the opportunities available throughout the lesson to support children's communication. Pre-school classrooms obtained higher scores in each dimension and in the overall performance than year one classrooms. These differences were found to be statistically significant for the overall performance of the classrooms across the year levels, and in the individual dimensions with the exception of the LLI dimension.

Table 6.3: *Descriptive Statistics Table of Proportion and Combined Scores of Pre-school and Year One classrooms across Dimensions and School Category*

	Year Group									
	Pre-school (n = 6)					Year 1 (n = 6)				
	Mean	Median	SD	Min	Max	Mean	Median	SD	Min	Max
P.S. LLE	.62	.63	.15	.37	.79	.39	.42	.10	.21	.47
P.S.LLO	.18	.18	.07	.08	.28	.06	.04	.06	.00	.16
P.S LLI	.37	.37	.11	.22	.50	.25	.20	.13	.14	.45
C.S.	1.17	1.24	.21	.75	1.32	.69	.68	.19	.39	.98

Note. P.S. = Proportion Scores; C.S. = Combined Scores; M = Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum; n = Number of classrooms.

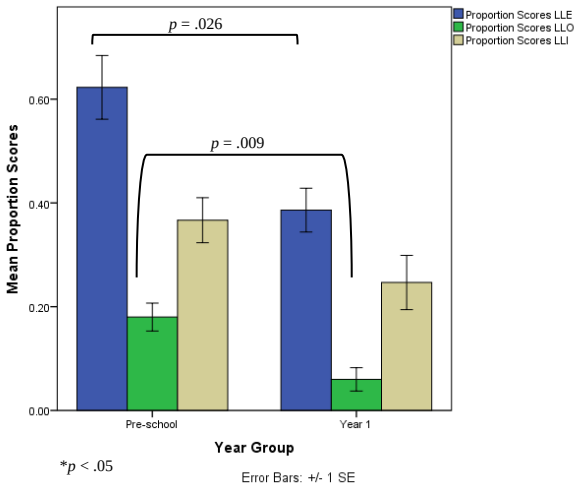


Figure 6.4: Graph showing the mean (+/- SE) proportion scores of pre-school and year one classrooms across dimensions and school category.

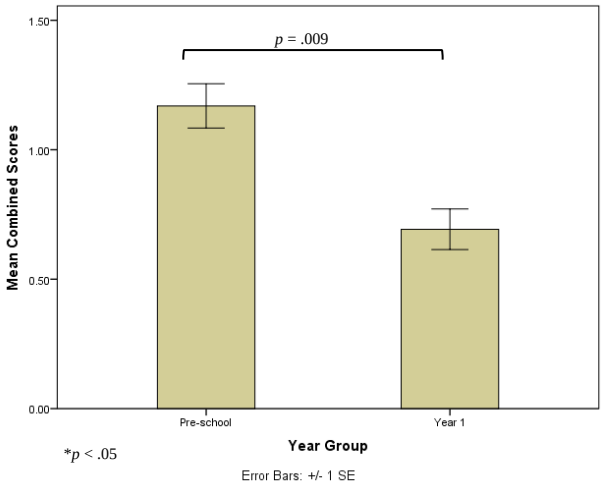


Figure 6.5. Graph showing the mean (+/-) combined scores of pre-school and year one classrooms across dimensions and school category.

In addressing the research question, the findings have shown the presence of differences between classrooms in MIS and non-MIS in supporting children's communication. Classrooms in the non-MIS category were found to score higher across all dimensions than classrooms in MIS. This was also true for their overall performance. However, these differences were not found to be statistically significant, suggesting that both classrooms in MIS and non-MIS support children's communication at a similar level. There were differences observed between pre-school and year one classrooms. Pre-school classrooms scored consistently higher than the year one group. These differences were found to be statistically significant in the LLE and LLO dimensions, and also in the overall scores. Additionally, across categories and year group, the findings showed all the classrooms obtained the highest scores in the LLE dimension, and the lowest score was achieved in the LLO dimension.

6.3 Classroom Observations in the Intervention Phase

This section presents the results of the intervention phase. The findings discuss the classroom observation scores for two classroom categories, Intervention Classrooms and Control Classrooms, across three time points: time point 1 (T1), time point 2 (T2) and time point 3 (T3), and the achieved targets at the final stage. This phase addressed the following research question:

1. Is an intervention programme based around the CsC Observation Tool successful in increasing teachers' use of communication supporting behaviours?

As in the profiling phase section, an overview of the results from the reliability measures is first presented, followed by the findings from the intervention period.

6.3.1 Reliability measures of the CsC Observation Tool: Intervention phase

As there were different raters for each school, tests to assess the consistency of these raters were conducted. Specifically, this was completed for each observation of both Intervention Classrooms and Control Classrooms for the five schools at the individual time points. The analysis followed similar procedures to the profiling phase. A more detailed description of the reliability measures is presented in Appendix I.

Percentage agreement values for the Intervention Classrooms ranged from 63.16% to 89.47% (LLE), 40% to 80% (LLO) and 75% to 100% (LLI). For the Control Classrooms, agreement values ranged from 57.89% to 94.74% (LLE), 60% to 80% (LLO) and 55% to 100% (LLI). Cohen's kappa values resulted in mostly 'moderate' to 'almost perfect' agreement, particularly at T3, suggesting that agreement improved with time. It showed a wide variation in the agreement of the scores among the raters, but it also indicated a majority of the observations were consistently high throughout particularly for the LLE and LLI dimension. This was similar to the percentage agreement values where scores of 60% and above were observed, particularly between T2 and T3 when intervention occurred, indicating the raters' agreement improved with time. Intra-class coefficient scores mostly ranged between the 'fair' to 'excellent' agreement across schools, classrooms and time points, for the LLO and LLI dimensions. This indicated the different raters tended to rate the occurrence of the behaviours similarly, especially for the LLI dimension.

Overall, inter-rater reliability was shown to be quite high particularly for the LLE and LLI dimensions, and that it improved with time. It also indicated there was variability in the raters' agreement especially for the LLO dimension, suggesting a need to further explore the reasons for these differences. An explanation could be that particularly for the Special Educational Needs Assistance (SENA) teachers who were the secondary raters for each respective school, more training and practice was needed to become familiar with the procedure and items of the CsC Observation Tool in order to achieve a higher consistency agreement.

6.3.2 Patterns of performance in classroom observation scores; across the CsC Observation Tool dimensions and time points

The data first examined the patterns of performance in the LLE, LLO and LLI dimension across the three time points. This was to see if there were any changes in the proportion scores (P.S.) in each dimension with time. The combined scores (C.S.) were then analysed between T1 and T2 to examine stability, as these two observations were the baseline measures, and between T2 and T3 to explore any changes as intervention occurred

between these two time points. This was completed for the two classroom categories: Intervention Classrooms and Control Classrooms. The following sections present the findings in relation to the research question.

6.3.2.1 Research question: Is an intervention programme based around the CsC Observation Tool successful in increasing teachers' use of communication supporting behaviours?

Descriptive statistics of differences in proportion scores across dimensions and time points for Intervention and Control classrooms

Table 6.4 displays the descriptive statistics for both the Intervention Classrooms and the Control Classrooms for the individual dimensions, across the different time points. For the LLE dimension, both the Intervention Classrooms (M = .65, SD = .16) and the Control Classrooms (M = .56, SD = .19) had the highest mean P.S. at T3. These scores were found to be higher than at T2 for both the Intervention Classrooms (M = .58, SD = .19) and the Control Classrooms (M = .44, SD = .21). There was also a change in the mean P.S. between the baseline measures. For the Intervention Classrooms the value was slightly higher at T2 than at T1 (M = .54, SD = .16), while for the Control Classrooms, a decrease in the scores was found from T1 (M = .49, SD = .17) to T2. In the LLO dimension the highest mean P.S. was at T3 for the Intervention Classrooms (M = .26, SD = .07), followed by T1 (M = .22, SD = .07), and lastly at T2 (M = .10, SD = .05). The Control Classrooms showed a slightly different pattern where T1 had the highest mean P.S. (M = .15, SD = .05), and the scores at T2 and T3 were found to be similar (M = .10, SD = .07). For the LLI dimension, both the Intervention Classrooms and Control Classrooms obtained the highest mean score at T3 (Intervention, M = .70, SD = .18; Control, M = .51, SD = .18) both these values were higher than at T2 (Intervention, M = .53, SD = .09; Control, M = .45, SD = .23). The scores between T1 and T2 also showed a change for both categories, where the scores showed a slight decrease from T1 (Intervention, M= .61, SD = .17; Control, M = .47, SD = .19).

Overall, analysis of the individual dimensions showed that across the classroom categories, the mean P.S. increased from T2 to T3, with the exception of the Control Classrooms in the LLO dimension. It was also observed the mean P.S. and the change in the scores appeared to be higher for the Intervention Classrooms compared to the Control Classrooms. For the baseline measures, there were also changes in the scores for each dimension for the Intervention Classrooms and the Control Classrooms, but this was not unidirectional, and appeared to be a comparatively smaller change than at T2 and T3.

Table 6.4: *Table Showing the Descriptive Statistics of the Proportion Scores across Dimensions and Classroom Categories at T1, T2 and T3.*

		Classroom Category									
		Intervention (n = 5)					Control (n = 5)				
		M	Median	SD	Min	Max	M	Median	SD	Min	Max
LLE	T1	.54	.47	.16	.37	.74	.49	.37	.17	.37	.68
	T2	.58	.58	.19	.37	.79	.44	.32	.21	.26	.74
	T3	.65	.68	.16	.47	.90	.56	.47	.19	.37	.79
LLO	T1	.22	.20	.07	.16	.32	.15	.16	.05	.08	.20
	T2	.10	.12	.05	.04	.16	.10	.12	.07	.00	.20
	T3	.26	.28	.07	.16	.32	.10	.08	.07	.00	.16
LLI	T1	.61	.66	.17	.30	.73	.47	.55	.19	.16	.63
	T2	.53	.58	.09	.37	.58	.45	.54	.23	.13	.68
	T3	.70	.77	.18	.39	.85	.51	.55	.18	.25	.72

Note. M = Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum; T = Time point; n = Number of classrooms.

Statistical analysis results of differences in proportion scores across dimensions and time points for Intervention and Control classrooms

To determine if these differences were statistically significant, a series of Friedman's ANOVA were run on the P.S. for each dimension. This was completed for the Intervention and Control classrooms. Where significant differences were found, follow-up analyses using Wilcoxon signed-rank tests were conducted to determine where the significant changes in the scores occurred. The *p*-values were corrected using the Bonferroni correction, to account for the three comparisons between T1-T2, T2-T3, and T1-T3. As a result, the significance from these follow up tests was reported at .017 (.05/3) significance level.

For the Intervention Classrooms, it was found in the LLE dimension, the P.S. did not significantly change across the time points, $\chi^2(2) = 5.16$, $p = .076$. However, significant changes in the scores were found in the LLO dimension, $\chi^2(2) = 9.33$, $p = .009$. Follow up tests revealed although there were significant changes in the scores between T1 to T2, *T* =

0.00, p = .042, r = -.64 and T2 to T3, T = 15.00, p = .039, r = .65, these were not significant at the corrected p-value. In the LLI dimension, once again it was found the scores changed significantly with time, $\chi^2(2) = 8.400$, p = .015. Wilcoxon tests showed this significant difference was between T1 to T3, T = 15.00, p = .043, r = .64, and T2 to T3, T = 15.00, p = .043, r = .64, which again was not significant at the .017 level (see Figure 6.6).

The Control Classrooms, on the other hand were found to have a significant change in the P.S. with time in the LLE dimension, $\chi^2(2) = 7.68$, p = .021. Pairwise comparisons showed only the scores between T2 and T3 were significant, T = 15.00, p = .042, r = .64, but again not at the corrected significance level. In the LLO [$\chi^2(2) = 5.20$, p = .074] and LLI dimension [$\chi^2(2) = 2.80$, p = .247], no significant changes in the scores were observed (see Figure 6.7).

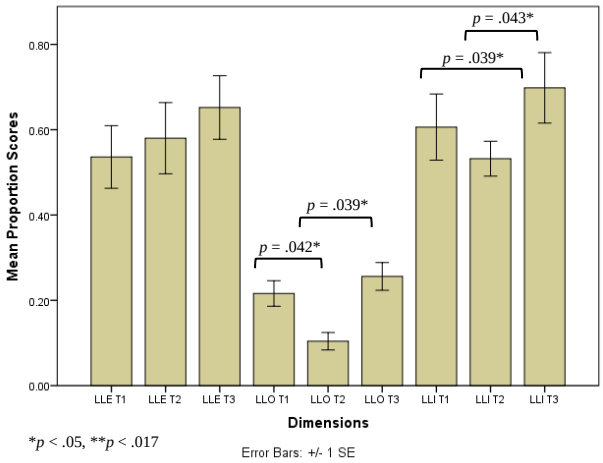


Figure 6.6. Graph showing the mean (+/- SE) proportion scores of intervention classrooms for each dimension and at different time points.

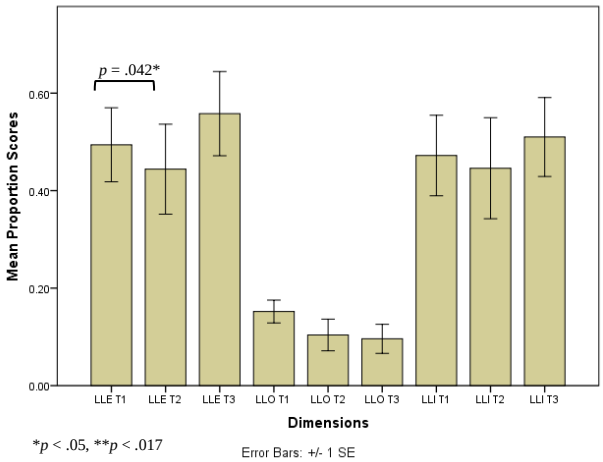


Figure 6.7. Graph showing the mean (+/- SE) proportion scores of control classrooms for each dimension and at different time points.

Examination of the mean P.S. across classroom categories for individual dimensions showed significant changes in the scores in the LLO and LLI dimension for the Intervention Classrooms and only in the LLE dimension for the Control Classrooms. Although follow-up tests revealed changes in the scores at T1 to T2 in the LLO and LLI dimension for both classroom categories, and T2 to T3 for all three dimensions in both categories, these were not significant at the corrected significance level. This suggested intervention did not result in any significant changes in individual dimensions for both the Intervention and Control classrooms. Overall, the findings did not show a consistent significant change in the mean P.S. in individual dimensions during the intervention period (T2 and T3), and there was stability in the scores between T1 and T2.

Descriptive and statistical analysis results of differences in the combined scores across time points for Intervention and Control classrooms

The next step was to examine the changes in the overall scores across time points. This was completed by examining the C.S. for the Intervention Classrooms and the Control Classrooms. Table 6.5 presents the descriptive statistics of these scores. For both the Intervention and the Control classrooms, the highest mean C.S. was obtained at T3 and the lowest was at T2. For the intervention period, the values at T3 (Intervention, M = 1.61, SD = .29; Control, M = 1.16, SD = .41) were higher than at T2 (Intervention, M = 1.22, SD = .29; Control, M = .99, SD = .36) across the classroom categories. However, T2 scores were observed to be lower than at T1 for the Intervention Classrooms (M = 1.36, SD = .31) and the Control Classrooms (M = 1.12, SD = .36).

Wilcoxon signed-rank tests were ran to determine if there were any significant differences between T1 to T2 and T2 to T3 for each classroom category. For the Intervention Classrooms, the mean C.S. were higher at T1 (*Median* = 1.45) than at T2 (*Median* = 1.32, but these differences were not significant, z = -1.83, p = .068, r = -.58. However, the mean scores at T3 (*Median* = 1.67) were found to be significantly higher than at T2 (*Median* = 1.32), z = 2.02, p = .043, r = .64. For the Control Classrooms, the scores at T1 (Median = 1.05) were higher than T2 (*Median* = 1.04), and this difference in the mean C.S. was found to be significant, z = -2.02, p = .043, r = -.64. The opposite was found for the scores between T2 (*Median* = 1.04) and T3 (*Median* = 1.18), where there were no statistically significant differences in the mean C.S., z = 1.75, p = .080, r = .55.

Table 6.5: *Descriptive Statistics of the Combined Scores for Intervention and Control Classrooms at T1, T2 and T3.*

	Classroom Category									
	Intervention (n = 5)					Control (n = 5)				
	M	Median	SD	Min	Max	M	Median	SD	Min	Max
T1	1.36	1.45	.31	.83	1.61	1.12	1.05	.36	.61	1.51
T2	1.22	1.32	0.29	.83	1.49	.99	1.04	0.36	0.45	1.46
T3	1.61	1.67	0.29	1.12	1.83	1.16	1.18	0.41	0.62	1.62

Note. M = Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum; T = Time point; n = Number of classrooms.

These findings provided evidence of the effect of intervention through the significant changes in the scores between T2 and T3 for the Intervention Classrooms, and not in the Control Classrooms (see Figure 6.8). This suggested teachers from classrooms included in the intervention scored higher in the observations than classrooms where no intervention was given. However, the baseline measures at T1 and T2, showed stability for the Intervention Classrooms but was found to be significantly different across these time points for the Control Classrooms (Figure 6.9).

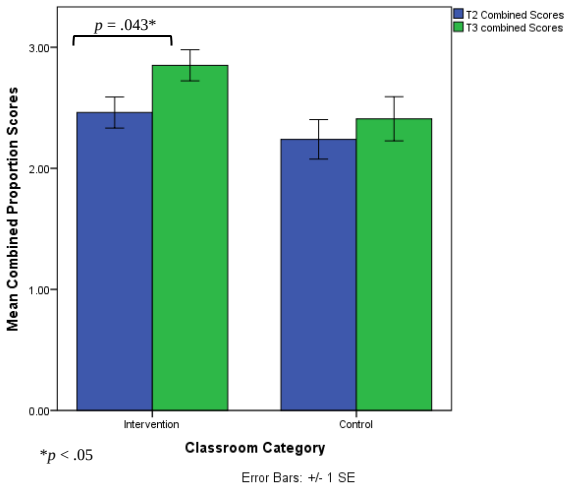


Figure 6.8. Graph showing the mean (+/- SE) proportion scores for the different classroom categories at T2 and T3.

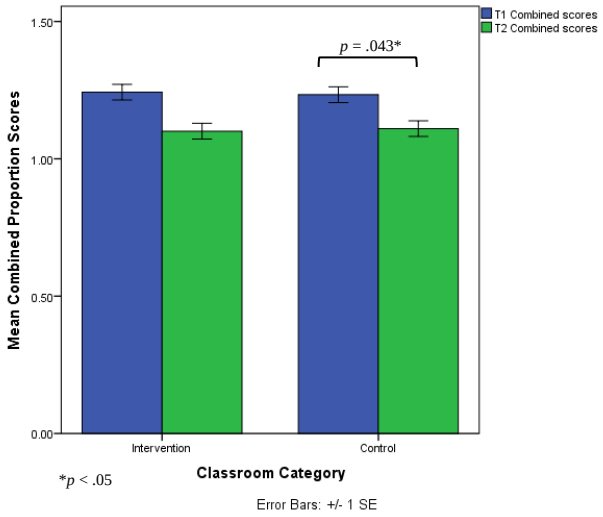


Figure 6.9. Graph showing the mean (+/- SE) proportion scores for the different classroom categories at T1 and T2.

To answer the research question, the findings have shown that there appeared to be a change in how children's communication was supported in Intervention Classrooms after intervention. This was evident from the significant increase in the scores at T3, which was not seen in the control group. This suggested that as a result of the intervention, the teachers in the Intervention Classrooms became better at supporting children's communication in the classrooms.

6.3.3 Intervention targets identified for the intervention phase

In addition to the scores from the classroom observations, the intervention phase also included specific targets agreed by teachers from the Intervention Classrooms. Four teachers identified and listed three target items and one teacher agreed to work on two items for the duration of the study, resulting in an overall total of 14 target items. The most popular dimension chosen by the teachers were from the LLI dimension (nine target items), followed by the LLE (three target items), and lastly the LLO dimension with two target items. Only one teacher chose items from all three dimensions. Table 6.6 presents the details of the target items. Progress was measured as 'Achieved' (A), 'Partially Achieved' (PA), and 'Not Achieved' (NA).

Table 6.6: *Table Showing the Details of the Intervention Target Items*

Dimension	Number [a]	Target item
LLE	3	Learning areas are clearly labelled with pictures/words throughout the classroom
	5	Children's own work is displayed and labelled appropriately
	12	The majority of learning resources and materials are labelled with pictures/words
LLO	1	Small group work facilitated by an adult takes place
LLI	15	Adult provides children with choices
	17	Adult models language that children are not producing yet
	19	Children's listening skills are praised
	20	Children's non-verbal communication is praised

Note: [a]The number/position of the item in each dimension of the CsC Observation Tool.

Table 6.7 presents the results of the achievement for the target items at the monitoring phase and at T3. It shows the progress according to the feedback from the Intervention Classrooms, and also the scores from the observations at the two time points. The feedback was completed face-to-face with the participants and was based on the report and opinions of the Intervention Classroom teachers with input from their SENA teacher. At the monitoring phase, two out of the five schools managed to PA on all three of their set target items (schools 2 and 4), while another two schools PA on two items but NA on one target item (schools 1 and 5).

Table 6.7: *Table of Scores and Progress at T2, the Monitoring Phase and T3 for the Intervention Classrooms in each School*

Sch.	Target	Baseline (T2)	Monitoring phase	Post Intervention (T3)		Change in scores
		O.S.[b]	Feedback IC[a]	Feedback IC[a]	O.S.[b]	
1	LLE 3	Absent	PA	A	Present	Present
	LLI 17	0	NA	PA/A	1 (5)	+5
	LLI 19	0	PA	A	1 (4)	+4
2	LLE 5	Absent	PA	PA	Present	Present
	LLI 15	0	PA	PA/A	1 (1)	+1
	LLO 1	0	PA	A	1 (2)	+2
3	LLI 19	0	PA	A	1 (1)	+1
	LLI 20	0	PA	A	1 (5)	+5
4	LLE 12	Absent	PA	A	Present	Present
	LLI 19	0	PA	A	1 (1)	+1
	LLI 20	0	PA	A	1 (2)	+2
5	LLO 1	0	NA	A	1 (1)	+1
	LLI 15	0	PA	PA	1 (2)	+2
	LLI 19	0	PA	A	1 (5)	+5

Note: Sch. = School; A=Achieved; PA=Partially achieved; NA=Not achieved; IC = Intervention classrooms; O.S. = Obtained scores

[a]Progress was based on the opinions of the intervention class teachers.

[b]The score of '0' means absent and '1' means 'present'. The numbers in brackets denote the actual number of occurrences of behaviour during the observation (LLO and LLI dimension).

The reason for the NA status was a result of the teachers being unsure and needed further clarification on the target item chosen, which was then addressed by the researcher in the meeting. The remaining school managed to PA on both agreed target items, however, the SENA teacher of the school was promoted to become an assistant head teacher in another school a month after the intervention was initiated. The Intervention Classroom teacher reported that she was willing to continue with the intervention and work towards achieving the target items. The SENA teacher volunteered to come back to the school where possible to help the classroom teacher as agreed during the previous initial meeting.

At T3, two of the schools managed to achieve all of their targets (schools 3 and 4), while the other three schools had at least one target item that was PA or ranged between PA and A (schools 1 and 2). For school 1 this was for the LLI 17 item, where the teacher reported she still needed more confidence and practise in using this skill. The teacher from school 5 reported although she was making progress in implementing the LLI 15 skill, she felt that she needed to let the children choose activities more freely as at present it was still more teacher-directed. School 2 in particular had two items that were PA (LLE 5) and ranged from PA to A (LLI 15). For the first target item, the teacher reported more improvement was needed for this area, and for the second item she felt at this stage the children still needed more teacher-directed tasks. It is interesting to note the items considered to be PA at the final review consisted of only the items from the LLI dimension, specifically items 15 and 17.

Analysis of the observation scores shows at T2, all of the Intervention Classrooms did not score on any of the items, but did at the final review. This was marked as 'absent' or 'present' for the LLE dimension. However, as the LLO and LLI dimensions were also scored a maximum of five times during the observation, this was examined in more detail. At T3, the LLO 1 and LLI 15 target items increased between 1 and 2 points (schools 2 and 5); school 1 increased to 5 points for the LLI 17 item; the LLI 19 item obtained scores ranging from 1 to 5 (schools 1, 3, 4 and 5), and schools 3 and 4 obtained scores of 5 and 2 for the LLI 20 item respectively.

Overall the findings from the feedback and the observation scores have shown an increase in the scores of the Intervention Classrooms based on the progress of the target items. However, the SENA and Intervention Classroom teachers from all five schools reported difficulty in finding time to meet up to discuss and work towards achieving the target items due to time pressures such as exams, compulsory workshops and school holidays. Interestingly, although teachers from the Control Classrooms did not receive any feedback until after the intervention phase ended at T3, in general, they were all keen to know their scores from the CsC Observation Tool. Two teachers in particular wanted to know the areas that needed improvement according to the CsC Observation Tool, as they were interested in developing them further.

6.4 Summary

This chapter presented and discussed the findings from the classroom observations. The profiling phase addressed the question that children's communication is supported in the Brunei primary schools involved in the study, and that it spans all three dimensions of the CsC Observation Tool. It also showed no significant differences

between classrooms in MIS and non-MIS in supporting children's communication. However, an additional finding was teachers in pre-school classrooms were significantly better in facilitating children's communication compared to the year one group. Subsequently, the intervention phase revealed that as a result of intervention, support for children's communication significantly improved in Intervention Classrooms both in terms of overall performance through observations, and also in individual target items.

Chapter 7: Focus Groups

7.1 Introduction

This chapter presents the methods used to obtain data from the qualitative part of the study. The perception of different groups of teachers was explored through the use of semi-structured focus groups. Similar to the classroom observations, this was conducted during the profiling and the intervention phases. A description of the research questions, information on participants and the recruitment process, materials and procedure of the focus groups and data analysis is presented.

7.2 The Research Questions Addressed in the Profiling and Intervention Phases

The following research questions were addressed through the use of the focus groups in both the profiling and intervention phase:

1. What factors facilitate a 'communication supporting classroom' in all, i.e. Model Inclusive Schools (MIS) and non-Model Inclusive Schools (non-MIS), Brunei primary schools?
2. What are the challenges in creating such a classroom environment in Brunei schools?

7.3 The Design of the Profiling and Intervention Phases

The design and details of the focus groups for the overall study is presented in Table 7.1. There were four different focus groups in the profiling phase for three sub-groups of teachers. The intervention phase only had one group.

Table 7.1: *Table of Overall Timeline and Details of Focus Groups*

Phase	Group	Time line	No. of participants
Profiling	SENCO	July 2014[a]	6
	SENA MIS	August 2014	6
	SENA non-MIS		4
	RCT	September 2014[b]	4
Intervention	SENA	November 2015	4

Note: RCT = Regular classroom teachers.
[a]Conducted during Ramadhan which is the month for fasting in Islam. Schools have shorter hours and are also on break a week before the fasting month ends.
[b]Conducted during Eid which is the celebration that marks the end of the fasting month. Schools are given another week off before resuming back to normal hours.

7.4 Participants

This is presented separately for the profiling and intervention phase, as each phase involved different groups for specific purposes. This is explained in more detail in the next sections. Details on the recruitment process of both phases are provided in section 7.5 (page 111).

7.4.1 Participants in the profiling phase

This phase explored the opinions of different sub-groups of teachers on how children's communication was supported in participating Brunei primary schools. It also examined the teachers' perception on the importance of developing these skills within the classrooms. These teachers were a representative sample of teachers in primary schools, some of whom were responsible for special education programmes in the schools. A total of 20 participants were recruited and were then divided into groups matched for their specific titles: Special Educational Needs Coordinators (SENCO), Special Educational Needs Assistance (SENA) teachers, and regular classroom teachers (RCT). Four focus groups were conducted, where the SENA group were sub-divided into the SENA MIS and SENA non-MIS groups (see Table 7.1). The inclusion criteria for the groups are detailed below:

- SENCOs responsible for primary schools. They were teachers qualified in special education (ranging from a certificate level to a masters level) and based in the Special Education Unit (SEU). Their role was to support and oversee the implementation of programmes in schools for children with special needs and to collaborate with SENA teachers in schools.
- SENA teachers in the primary school settings. These teachers had similar background and qualification to the SENCOs but were based in schools. Their role was to assist regular classroom teachers in working with special needs children in the classrooms and in schools. This group involved SENAs who were either based in schools that were either involved or not involved in the classroom observations in the profiling phase.
- RCTs teaching pre-school and year one. This group included teachers from several schools whose classrooms were either involved or not involved in the classroom observations of the profiling phase.

7.4.2 Participants in the intervention phase

This part of the study aimed to explore the SENA and Intervention Classroom teacher's perceptions of their experience in implementing strategies from the

Communication Supporting Classroom (CsC) Observation Tool (Dockrell, Bakopoulou, et al., 2012). For the Intervention Classrooms teachers, this was conducted through feedback sessions, and the SENA teachers were involved in a focus group session. In particular, data from the focus group investigated the SENA teachers' views on using the CsC Observation Tool as a basis for developing teacher's skills in supporting children's communication within the classroom. The inclusion criteria for the focus group were SENA teachers who were:

- Working in the primary school settings, and
- From schools involved in the classroom observations part of the study.

7.5 Recruitment Process for the Profiling and Intervention Phases

A description on how participants were recruited for the focus groups is described separately for the profiling and intervention phases. A summary of the process used in both phases is illustrated in Figure 7.1. The approval letter from the Department of Schools as previously stated in 5.8.1 (page 79) already covered permission for this.

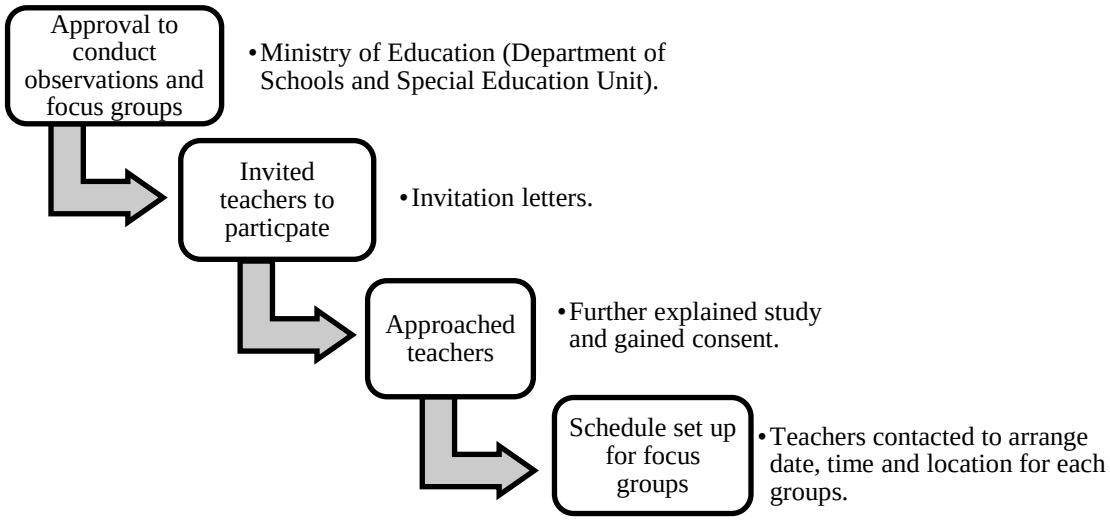


Figure 7.1. Summary of the process of the focus groups for the profiling and intervention phase.

7.5.1 Profiling phase

Recruitment was conducted for teachers according to three groups: SENCOs, SENAs and RCT. For the present study, only RCTs teaching pre-school or year one classes were included. Furthermore, it was considered advantageous to include teachers whose classroom was involved in the classroom observation. This would contribute to the bigger picture in terms of exploring the teacher's perception of supporting communication

development in the classrooms. However, as the teachers involved in the classroom observations were given a choice if they also wanted to be included in the focus groups, only four classroom teachers agreed. The other two teachers declined due to personal and transportation issues.

In the SENCO group, six participants were recruited through the SEU where they were based. Verbal permission was first sought from the Head of the SEU and the coordinator of the SENCO section, through a meeting to explain the purpose of the study. Once this was completed, another meeting was arranged with the SENCOs to distribute the information sheet and the consent forms. After gaining approval, a meeting was set up with the 10 primary school SENAs (6 MIS and 4 non-MIS). It was during this meeting that the purpose of the study was presented and consent was obtained.

7.5.2 Intervention phase

For this part of the study, only SENA teachers involved in the classroom observations of the intervention phase were included. These teachers were given a choice if they consented to take part in the focus group, where all five agreed. The focus group took place after all the observations had been completed, which is after Time point 3. This was because the aim of the focus group was to find out about the participants' experience and any changes in their perception, after completion of the observations using the CsC Observation Tool. Although several attempts were made to ensure all five SENA teachers could come on the agreed day, due to work commitments, only four was able to attend.

7.6 Materials

This section describes the development of the pre-determined questions used during the focus group sessions for both phases of the study. This is presented separately for the profiling and intervention phases.

7.6.1 The focus group questions in the profiling phase

For the profiling phase, the researcher formulated twelve questions designed to elicit the necessary information from the participants as a group (see Appendix J). These questions aimed to explore the participants existing knowledge on children's communication skills, and how they relate to educational attainment (questions one and three); their perception on the significance of these skills (questions two, four and six); the use for teachers and children within the school setting (questions five and seven); and, how these skills can be supported in schools (questions eight to nine). Questions ten to twelve were formulated based on the three dimensions of the CsC Observation Tool. To test the clarity of the questions, the researcher initially piloted them on three PhD students from

the Department of Human Communication Sciences, University of Sheffield. This was to ensure the questions were valid in obtaining the required information. This resulted in some rewording of the questions. Additionally, as there was a high possibility of the researcher also using the local Malay language during the focus groups, the questions were also tested on two PhD students whose first language was Malay (one from the department and another a colleague of the researcher studying in the United States of America). Feedback was obtained on the translation and clarity of the questions in the Malay language.

7.6.2 The focus group questions in the intervention phase

For the intervention phase, thirteen questions were developed to assist the participants in providing the required information. These questions also served as a guide for the researcher to prompt the participants for more information if necessary (see Appendix K). The questions were designed to examine the SENA teacher's personal experience in implementing the CsC Observation Tool (questions one to six); any changes in their expectations and knowledge in terms of creating a communication friendly classroom after using the CsC observation Tool (questions seven to nine); and, their awareness on what is currently being practised in classrooms and what needs to be improved in terms of creating an environment that supports communication in children (questions 10 to 12). The final question was formulated as a precautionary measure in the event the researcher felt more information was needed (question 13). These questions were trialled on two PhD students (one native speaker of English and the other was a proficient English speaker) from the Department of Human Communication Sciences. As a result, some grammatical errors and rewording of the sentences were suggested. These questions were also trialled on Malay native speakers, who comprised of two colleagues of the researcher working as an educational psychologist and a trainee educational psychologist at the SEU, and the other was a lecturer at a local university in Brunei. Feedback was obtained on the translation and clarity of the questions in the Malay language. During the focus group, the researcher added impromptu questions based on the information provided by the participants. These questions were used to draw out more information and build on participants' initial responses.

7.6.3 Recorded information of participants in the profiling and intervention phases

Consent was obtained to collect information about the participants involved in the focus groups for both phases of the study. This was explained in detail in the information sheets.

7.7 Procedure of the focus groups in the profiling and intervention phases

All of the focus groups were administered by the researcher and the information obtained was audio recorded for ease of transcriptions. For the profiling phase, there were four focus groups catering to three sub-groups of teachers, and were scheduled on separate days. This was to encourage the different sub-groups to feel able to share experiences and opinions with their peers, without the feeling of being judged by others who are in a different position from them in the field of special education. The importance of this homogeneity in groups was stressed by Flores and Alonso (1995) and Kitzinger (1995). The intervention phase only involved one group. The focus groups lasted between 50 and 70 minutes (profiling phase) and around 80 minutes (intervention phase). All of these sessions were conducted at the SEU. This was due to all of the participants being familiar with the venue (through previous trainings that they have attended) and due to its convenient location.

Prior to the focus groups, the participants were given a copy of the information sheet to read explaining why the sessions were audio recorded, and how it will be kept anonymous and confidential. Throughout the sessions, the researcher consistently initiated the discussion by asking the questions first in English, followed by the Malay version. The feedback from the participants was a constant mixture of both languages. The format of the group was as follows:

- The researcher introduced herself and welcomed the participants and thanked them for consenting to participate in the study.
- Brief self-introduction of the group members (where necessary). This was conducted where the participants in the groups were not familiar with each other, in particular the regular classroom teachers group.
- Explained the purpose of the focus groups and re-iterated the points covered in the information sheet.
- Informed participants again that the focus group was audio-recorded for transcription purposes and all responses were anonymous and kept confidential to be accessed by the researcher and her supervisors only.

- Explained how the focus group will operate: beginning with an open discussion, focusing in on the main questions and finishing with suggestions for action/improvement.
- Asked the questions / facilitated discussion.
- Ended with asking participants if there were any questions or issues that needed clarification.

7.8 Analysis procedure of the profiling and intervention phases

The data collected from the focus groups was analysed using a Computer Assisted Qualitative Data Analysis Software (CAQDAS), NVivo 10 (Bazeley, 2007; QSR International Pty Ltd., 2012). This was the main computer software used for storing, managing and analysis for all the qualitative data gathered in this study. The framework method of analysis was used to sort and manage the data (Ritchie & Spencer, 1994). This particular method was selected for analysis of the focus group data as it is considered appropriate for research that takes a deductive approach, with pre-determined specific questions, and has a limited time frame as well as a pre-designed participant sample (Gale et al., 2013; Srivastava & Thomson, 2009). A more detailed description of the analysis process is described in the next section.

7.8.1 The framework method of analysis

The framework method of analysis was developed by two qualitative researchers, Jane Ritchie and Liz Spencer at an independent specialist research institute in the United Kingdom in the 1980s, that is now known as the National Centre for Social Research (Furber, 2010; Gale et al., 2013; Ritchie & Spencer, 1994; Spencer, Ritchie, Ormston, O'Connor, & Barnard, 2014; Srivastava & Thomson, 2009). It provides a systematic method of categorising and sorting the data into manageable portions, and allows for a clearer understanding and description of the data. This is made possible through five distinct, yet highly interlinked key stages, involving familiarisation with the data (data analysis), identifying the thematic/theoretical framework, indexing, charting, and mapping and interpretation (synthesising the data) (Furber, 2010; Gale et al., 2013; Lacey & Luff, 2007; Ritchie & Spencer, 1994; Spencer, Ritchie, et al., 2014; Srivastava & Thomson, 2009).

The defining feature of the framework method is the use of a chart or matrix to present the data for the following stages of analysis (Gale et al., 2013; Spencer, Ritchie, et al., 2014). Essentially, the matrix constitutes of rows representing cases (either individual or a group of participants), and columns representing each theme/sub-theme. The resultant 'cells' in the matrix then displays a summarised account of the key points for each

case and each theme/sub-theme, as obtained by the researcher. This systematically reduces the amount of data facilitating the analysis process, and allows the researcher to move between the raw data and the summarised account for each individual case and theme/sub-theme (Gale et al., 2013; Spencer, O'Connor, Morrell, & Ormston, 2014; Spencer, Ritchie, et al., 2014). Although generally the framework method adopts an inductive approach, it is flexible enough in that it permits the inclusion of pre-determined issues as derived from the research aims or in semi-structured interviews, in addition to factors such as in answering specific questions, a pre-designed sample, and a limited time frame (Gale et al., 2013; Lacey & Luff, 2007; Spencer, Ritchie, et al., 2014).

The framework method is an established and frequently used approach for analysing qualitative data in multi-disciplinary health and applied policy research (Furber, 2010; Gale et al., 2013; Srivastava & Thomson, 2009). Within the field of speech and language therapy, the framework method is progressively being applied to analyse qualitative data of studies to explore communication related issues (Clegg et al., 2012; Glogowska, Roulstone, Peters, & Enderby, 2006; Parr, 2001; Spencer et al., 2010).

7.8.2 Transcription of focus group data

All the focus group interviews were recorded using a digital recorder. The data from the profiling phase were imported and transcribed using a program in NVivo 10. The NVivo 10 software is designed to enable data in various forms to be stored for easy access during the whole analysis process. The software also allows for procedures such as transcribing interview data to be conducted within the program itself. This meant transcription of the focus group data was completed in such a way that particular sections of the focus group interviews were allocated specific times according to the audio file. This facilitated the process of transcription as it enabled the researcher to highlight particular sections and play it back for clarity, or to go back to certain sections when needed. This was especially useful as there was a lot of data from the four different focus groups, which lasted an average of 60 minutes each. The language used in all of the groups was a constant mixture of both the Malay and English language, and together with the additional factor of participants talking over each other, increased the complexity of the transcription process. Transcription for the focus group in the intervention phase was slightly different as it was conducted in Word and not in NVivo 10. This was because the researcher was able to complete the transcription soon after the group session, and it was comparatively easier as it only involved one group.

The information from the focus groups was transcribed verbatim orthographically, exactly as they were heard in the audio recording. The aim of the focus group was not to

conduct a conversation analysis of the data, rather to explore the content and issues recorded during the group sessions. Therefore, for the purpose of this study, the transcript recorded the sessions without interactional factors such as pauses, intonation or non-verbal behaviour. For the profiling phase, there were four separate transcripts for the different groups, and this was exported as a Word file to be used in the later stages of the analysis process. The transcripts were divided into four columns; the first column was the number that related to the passage being transcribed; second column was the timespan for that particular section of the interview; next column was the content, which was the orthographic representation of that specific section, and the last column was the speaker/ participant. The transcript for the intervention phase was slightly different as it was transcribed in Word and not in NVivo. This resulted in a transcript with three columns, the first corresponded to the line number of each sentence, the second was the content, and the final column represented the speaker.

7.8.2.1 Code switching during the focus groups

As mentioned earlier, there was constant flow of code switching between the Malay and English languages in all of the focus groups. In 3.10 (page 58) it was described that the majority of government and private schools in Brunei use the Malay and English language for teaching and learning. In the context of this study, this also meant both the researcher and the participants tended to insert both English and Malay words in the same sentence. A clear example of this is seen in the extract below. The three dots in the example refer to a section of the full transcript being omitted and words in bold are in the Malay language.

> Example extract (SENCO group):
>
> Researcher (Line 5): The both the English and the Malay version **ah**. It's very **informal cikgu ah so kalau boleh** your everyone has their own input **ah**…
>
> Participant (Line 7): **Kalau kemahiran komunikasi** to me uhm I think it's um the way that people is able to express their feelings and they are able to perceive comm **anulah** information from other people.

During the transcription process no translation was conducted as it was important to keep the original language, as used during the session in order to communicate the "nuance of the text" (Bazeley, 2007, p.46).

7.8.3 Analysis of focus group data

Once transcription for all five focus groups was completed, analysis followed the procedure of the framework method (Ritchie & Spencer, 1994; Spencer, O'Connor, et al., 2014; Spencer, Ritchie, et al., 2014). Each transcript was read through several times so that the researcher was familiar with the overall content and flow of the discussions (familiarisation). The focus groups were designed to be in a semi-structured format. This meant the researcher used pre-determined questions in order to elicit the information from the participants according to specific areas or topics. This set the context in developing an initial draft of the thematic framework, based around the interview questions. This framework was refined further to include recurring themes identified from each and across the focus group transcripts. This resulted in main themes and sub-themes. Relevant sections from the transcript were then coded to the theme that matched it best, or that were deemed to belong together (indexing). In NVivo 10, this was conducted by highlighting the relevant sections of the transcript and dragging it into the corresponding theme/sub-theme folder. This was an iterative process where the researcher repeated this several times until indexing of transcripts reached saturation point and no further themes and sub-themes emerged.

Five framework matrices or charts were created for the five separate groups from both phases of the study. This was conducted so the transcript from each group can be analysed separately. In each matrix, the rows represented each focus group and the columns represented the themes/sub-themes, and this was the same for all the groups. A summary of the key points from the data was then written in each column of the corresponding theme/sub-theme (charting). This was conducted to aid the researcher in terms of clarity as the data contained sentences in both English and Malay. However to ensure no data was overlooked or lost due to translation, these summaries were then linked to the raw data, which is the original sentences and language used as recorded in the transcript to support these themes/sub-themes. This was conducted in the program itself and categorised as 'summary links'. This was an advantage of the framework method of analysis (facilitated further by doing it in NVivo 10), as it allowed the researcher to move between the transcripts and the raw data. This was important in ensuring that during analysis, the researcher takes into account all of the information contained in the original data (Spencer, O'Connor, et al., 2014; Spencer, Ritchie, et al., 2014).

Once completed, the five framework matrices were exported to Excel file and printed out as the researcher preferred to do the next stages of analysis manually and not in NVivo 10. For each theme/sub-theme, the researcher listed out the key points brought up

by the five focus groups. To ensure that no important perceptions were missed, the researcher also printed out and constantly referred to the summary links. The common key points across the groups were then identified and grouped together around that particular theme/sub-theme. The findings are discussed in chapter 8.

7.8.4 Reliability and validity of the focus group data analysis

In ensuring the reliability of the qualitative data, two recommended strategies suggested by Creswell (2009) conducted on the focus group data included: 1) ensuring no obvious mistakes were made during the transcription process, and 2) by sharing the analysis procedure with both of the researcher's supervisors on a regular basis. Validity or credibility was ensured through: 1) member checking, where accuracy of information was checked by the researcher reiterating on information provided immediately after the focus group session with all participants, and 2) frequent debriefing sessions between the researcher and both supervisors to discuss the approaches, and test ideas and interpretations of the focus group data (Creswell, 2009; Shenton, 2004). These strategies resulted in an iterative process where the coding and themes were examined several times by the researcher and both supervisors to strengthen reliability and validity of the data.

7.9 Summary

This chapter described the procedure involved in conducting the focus group sessions for the profiling and intervention phase. Details of participants including the recruitment process and development of questions for both phases of the study were presented. An explanation on how the data obtained through these semi-structured focus groups was transcribed, analysed, checked for reliability and validity was presented. The findings of the focus groups in the profiling and intervention phase are discussed in chapter 8.

Chapter 8: Teachers' Perspectives

8.1 Introduction

This chapter presents the findings from the focus group interviews conducted in the profiling and intervention phases. Each phase had specific aims for its participant sample: 1) to identify and explore current classroom practices and perceptions on supporting children's communication in Brunei primary schools (profiling) and 2) to explore teachers experience in implementing the Communication Supporting Classroom (CsC) Observation Tool, and any resulting changes in their perception (intervention). Both phases addressed the following research questions:

1. What factors facilitate a 'communication supporting classroom' in all i.e. Model Inclusive (MIS) and non-Model Inclusive (non-MIS) Brunei primary schools?
2. What are the challenges in creating such a classroom environment in Brunei schools?

The findings from each phase, including how it addresses these questions are presented separately. A section that collectively presents the overall results specifically answering both research questions will follow this, forming the structure of this chapter.

8.2 Themes from the Focus Groups of the Profiling Phase

This phase analysed data from four focus group interviews with Special Educational Needs Coordinators (SENCOs), Special Educational Needs Assistance (SENA) MIS, SENA non-MIS, and regular classroom teachers (RCT). The aims were to identify current and possible classroom practices in Brunei primary classrooms to support children's communication. It also explored the participants' view of the importance of these skills within the primary school setting.

All four focus groups were asked a set of pre-determined questions. The framework method, described in 7.8.1 (page 115), was used to analyse the focus group data, and this resulted in six key themes, and their corresponding sub-themes (see Table 8.1). Examples of extracts from the data are included to illustrate the participants' views. Extracts in italics are translated from the Malay language, whereas non-italicised quotations indicate the participant spoke in English. Ellipses represent sections where the full extract has been omitted for this thesis.

Table 8.1: *Key Themes and the Corresponding Sub-themes across the Four Focus Groups of the Profiling Phase.*

Themes	Sub-themes
1. The different forms of communication used by children and teachers in school.	• Communication as being verbal and taking other forms. • Different ways children communicate with each other and teachers. • Different ways teachers communicate with children and parents. • Reciprocity of communication involving more than one person.
2. Purposes of communication for children and teachers in schools.	For teachers to communicate with: • Parents/guardians. • Colleagues. • Children. • For children to communicate their personal, social and educational needs.
3. Cultural aspects of communication in Brunei classrooms.	• The current education initiative. • Teachers as communication role models in Brunei classrooms.
4. The impact of limited communication skills on children's development.	The impact of children's limited communication skills on their: • Self-esteem/confidence, social skills and behaviour. • Literacy skills and overall educational achievement.
5. Strategies used by teachers to develop children's communication skills in schools.	• Identifying children's communication strengths and weaknesses, and learning style in relation to special needs. • Using non-verbal resources and assistive devices. • Modifying and modelling language. • Involving all children regardless of their communication abilities. • Involving parents in class/school activities. • Physical factors/classroom environment.
6. Activities used by teachers to develop children's communication in schools.	• Individual and group activities. • Class and school activities or visits.

8.2.1 Theme 1: The different forms of communication used by children and teachers in school

This theme describes how participants view communication for children and teachers in school. The sub-themes of communication as verbal and taking other forms, the different ways children communicate with each other and teachers, the different ways teachers communicate with children and parents, and the reciprocity of communication involving more than one person illustrates this in more detail.

8.2.1.1 Communication as verbal and taking other forms

Across the groups, communication was mainly viewed as verbal. Only the SENCO and the two SENA groups discussed further that communication could also take the form of body language, gestures, sign language, facial expressions, written, pictures, technology, communication book, and through assistive devices for those who require them.

8.2.1.2 Different ways children communicate with each other and teachers

The SENCO and the two SENA groups highlighted children mainly communicate through playing with friends and interacting with teachers. These groups also distinguished between the modes of communication for typically developing children, and those with special needs. The use of basic strategies and resources to facilitate communication, such as using pictures and gestures, were associated with typically developing children. Children with special needs were described as requiring specialised devices and techniques to assist their communication. Examples identified included using a structured communication program such as the 'Picture Exchange Communication System' and battery powered communication devices such as 'Go Talk'.

8.2.1.3 Different ways teachers communicate with children and parents

Teachers communicated verbally with children through questioning, discussing, giving feedback, providing clear instructions, and non-verbally through facial expression and intonation. Additionally, teachers communicate with parents either face-to-face or over the phone, and use a communication book with children with special needs. The SENCO group discussed using technology to communicate with children, such as email or texting on the phone, which was an initiative some teachers used for children with communication difficulties. This group of children were described as those with difficulties in forming sentences, unclear speech and being reluctant to talk in class. Although communicating through technology was mainly used with older children, it was identified

as one of the current practices in some schools for teachers to include all children in class/school activities and tasks.

8.2.1.4 Reciprocity of communication involving more than one individual

This sub-theme was highlighted across the groups, where the context was communication among children, between teachers and children, and among teachers. This includes the importance of understanding and to be understood by others, where problems in this area may lead to a communication breakdown. Extract 8.1 illustrates a participant's view capturing most of the issues discussed in this theme. This extract highlights the participant's awareness of the communication process involving the exchange of information by more than one individual, the importance of being understood, and the different communication modes.

Extract 8.1 (SENA non-MIS group):

"Interaction between two or more people. Ah, orally, ah I mean yeah verbally or but mostly verbally. But can be in written form. It must be reciprocal. The messages conveyed are understood by both parties." (Reference 4)

Theme 1 described the various forms and ways of communication used by children and teachers in schools. It illustrates the participants' understanding of communication, and the importance of addressing children's specific communication needs. The use of different methods of communication by the teacher to include all children was a practice that facilitates schools to create communication supporting classrooms.

8.2.2 Theme 2: Purposes of communication for children and teachers in schools

This theme discusses the reasons for communicating by children and teachers in schools. The participants also distinguished the different purposes between these two groups. The four sub-themes within this theme are presented below.

8.2.2.1 For teachers to communicate with parents/guardians

Teachers communicate to share with parents and guardians information on children's progress in school, pending work, and school activities. The use of a 'communication book' to convey this information particularly for children with special needs, was also discussed by the SENCO and the SENA non-MIS group. The RCT group explicitly referred to meetings with the parents to discuss the children's educational progress. This reflected the classroom teachers' main responsibility, which oriented towards the educational focus of children.

8.2.2.2 For teachers to communicate with their colleagues

Teachers also communicate with each other to discuss administrative and professional issues, as highlighted by the RCT and SENCO group. Examples include sharing of information on curriculum content, children's abilities and progress, team teaching, and for support among colleagues.

8.2.2.3 Teachers communicating with children

The SENCO and the SENA MIS groups identified teachers communicate with children to establish rapport through discussions, questioning, and exchanging ideas. The SENA MIS and the RCT groups highlighted teachers communicated with children to determine their level of understanding as a measure of their overall abilities. Teachers also communicate to establish classroom routines and for teaching.

8.2.2.4 For children to communicate their personal, social and educational needs

All four groups identified the purpose of communication for children included socialising with one another, making friends, asking questions, expressing their needs, wants, feelings, develop team work, and to share information. However, a participant (SENA non-MIS group) stressed the importance of children communicating for educational reasons. This was explained in the context of the current education initiative where teachers were required to assess children's communication skills as a measure of their overall success in schools. If communication skills were limited, it was believed to also have an impact on children's educational achievement (Extract 8.2).

Extract 8.2 (SENA non-MIS group):

"[*For me in answering this question, I will answer from two perspectives…One for us personally for special Ed. we want to see them succeed socially, in communication right? More to their life in the future. But we cannot deny, as teachers we also want the success to be on paper. Now that everything under SBA (School Based Assessment), communication is graded. So if communication is poor, that means their results will also be low.*]" (Reference 32)

Theme 2 discussed the purpose of communication for teachers and children. It highlights that participants recognise teachers and children communicate to a different target audience for different reasons, as illustrated in the sub-themes.

8.2.3 Theme 3: Cultural aspects of communication in Brunei classrooms

8.2.3.1 The current education initiative

The SENA non-MIS group viewed the current education initiative as a factor facilitating schools to support children's communication. This group perceived that due to the currently recommended teaching strategy, teachers were now encouraged to talk less during teaching, and discover resourceful ways to initiate children to communicate more, as illustrated in Extract 8.3.

Extract 8.3 (SENA non-MIS):

"I would say like, actually [*what has moved us to get the students to talk, I think is the government*] the MoE because with introduction of the *National Education System for the 21st century we have changed from* 'teacher-centred' to 'student-centred'…[*If according to our normal norms, us from Universiti Brunei Darussalam those who do not talk a lot and who only use Power point, is doing the wrong thing.*] Now with the new ah technique [*that MoE wants us to use, that teacher is doing the wrong thing, the teacher who is talking ah giving instructions. That is what is happening at the moment.*]" (Reference 81)

This extracts indicates that in an effort to promote children's communication, teachers now have to move away from traditional methods of teaching. However, this education initiative was also viewed as negatively impacting on children's cultural and social values, as discussed by the SENA non-MIS group. It was observed by promoting children's communication skills, values considered to be important in the Brunei culture, were less emphasised. Extract 8.4 illustrates a participant's reservation on the current education initiative, particularly on culturally related social values.

Extract 8.4 (SENA non-MIS):

"We, we promote communication. [*We are told to do so but*] we doesn't really promote [*our identity. Ah the feelings of 'hawar galat' (cultural values) as a Bruneian right. That's the problem.*] (Reference 103)

The group referred to values of etiquette such as showing respect, and the appropriate ways to talk or greet elders, which in this context were the teachers. According to this group these values appeared to be currently lacking in children, particularly in light of current education initiatives that encouraged children to be more forthcoming in their communication. Although improvement in children's communication and educational skills were acknowledged, children were perceived as losing their 'Bruneian identity'.

Examples include the informal ways children greeted teachers, do not listen when told to stop talking in class, and lack of respect shown to teachers. This information signifies how the participants in this group regarded the importance of such values, and this to some extent may potentially affect the attitudes, and mind set of teachers in creating an environment that supports children's communication.

Another challenge highlighted by the RCT group was the change in instructional language from pre-school to year one. A participant from this group reported the change from the Malay to the English language across levels resulted in issues particularly for the Maths and Phonics subjects. During pre-school, children are taught subject related words, and sounds in Malay but the following year they would have to re-learn these words, and certain sounds in English. This was considered to cause confusion for both children and teachers. This implied especially for teachers in pre-school and year one classes, the change in the medium of instruction was a challenge for creating a communication friendly classroom. A participant (RCT group) also shared this view with representatives from the ministry, but still considered the reasons provided did not justify for such practice (Extract 8.5).

Extract 8.5 (RCT):

"[*I asked why Maths is taught in the Malay language during pre-school but in year one they use the English language. If*] one, two, three, yes they manage to [*understand*]…[*But in pre-school they already have the concept of addition and subtraction set in their minds…They said establish their Malay language. I said if you want to establish their Malay language, it can be done indirectly…At home they are exposed to the Malay language right? That's why it is such a pity. I have raised this issue.*]" (Reference 204)

This participant had some insight into how children's language development was influenced by their learning environment both at home and at school, and the impact of a change in the instructional language on children's educational achievement.

8.2.3.2 Teachers as communication role models in Brunei classrooms

Teachers also contribute to developing children's communication by being a communication role model, and this was shared across the groups. This involved how teachers interacted with others in various contexts according to the Brunei culture. Examples included how to address and talk to older people, and those in a higher administrative position (Extract 8.6).

Extract 8.6 (SENA non-MIS group):

"[*Tell them…Do you say 'Hi' or 'Assalammualaikum? So you tell them…correct them*]. Yes, model." (Reference 159)

The RCT group also believed teachers were responsible for instilling moral values in children. This was specifically in relation to how children within the classroom supported and helped one another, particularly those with special needs. An example of this was shared by a participant on her classroom practice of encouraging children to respect and support their classmate with a visual impairment.

Theme 3 described the cultural aspects of communication in Brunei primary school classrooms. Participants identified the current education initiative as a facilitator for schools to support children's communication. However, this was also considered a challenge as it negatively impacted on children's cultural and social values. Another identified challenge was a change in the instructional language across pre-school and year one. The role of teachers in modelling culturally appropriate communication was also presented.

8.2.4 Theme 4: The impact of limited communication skills on children's development

This next theme discusses the impact of limited communication skills on children as illustrated by the sub-themes of: 1) self-esteem/confidence, social skills, and behaviour, and 2) literacy and overall educational achievement.

8.2.4.1 The impact on self-esteem/confidence, social skills and behaviour

This sub-theme describes how a child's communication ability potentially impacts on their self-esteem and confidence, which in turn impacts on their social skills and behaviour. The SENCO, SENA MIS and non-MIS groups raised these issues particularly in relation to children with special needs. This could be due to their current work context, and pre-existing knowledge from past experience and training in special needs. The view was that a child's limited communication skills might result in feelings of embarrassment and low self-confidence. As a consequence, the child may be reluctant or unable to interact with others and ask questions in class, hence leading to poor socialisation and educational achievement. Additionally, a participant (SENCO group) discussed the fear of talking in the absence of any communication issues as another reason why children are afraid to

speak up in class. However, another participant (SENCO group) reported some children still did well educationally despite having limited communication skills.

8.2.4.2 The impact on literacy skills and overall educational achievement

Another sub-theme shared across the groups was the impact on children's educational achievement, specifically on literacy skills. Having good communication skills was believed to facilitate children's vocabulary, writing and reading skills. Moreover, the SENA non-MIS group, particularly basing this on experience with children having limited communication skills, raised the importance of literacy as an indicator for success. The RCT, on the other hand, stressed the importance of communication skills for literacy and numeracy, especially as a measure to determine children's overall ability. This reflects this groups' focus on children's educational achievement, as shown in Extract 8.7. This extract indicates the participants' understanding of the different aspects of language skills and its educational and social use for children, also raised in Theme 2 (Extract 8.2).

Extract 8.7 (SENCO group):

"And maybe good communication skills means they're…able to uh [*they have um*] improve in…in terms of using vocabulary…in terms of [*you know*] which can help in [*their*] writing, academics and so on." (Reference 46)

Theme 4 discussed the impact of limited communication skills on children's functional abilities including their social, psychological and behavioural wellbeing. Children's fear of talking was identified as a challenging factor in creating communication supporting classrooms.

8.2.5 Theme 5: Strategies used by teachers to develop children's communication skills in schools

This theme identified the participants' views of the various types of teaching and classroom based strategies used by teachers to support children's communication. The sub-themes highlighted: 1) teaching strategies including identifying children's communication strengths and weaknesses, individual learning styles, using non-verbal resources, using assistive devices especially to support children with special needs, modifying levels of language, and teachers as children's communication role model, and 2) classroom based strategies, which was to involve parents and all children regardless of their communication abilities, and environmental factors. This is described in detail.

8.2.5.1 Identifying children's communication strengths and weakness, and learning style in relation to special needs

This sub-theme was identified by the SENCO and both SENA groups, and mainly referred to children with special needs. This was not surprising, given that participants in these groups were trained to work with this group of children. The practices teachers were currently expected to implement in schools, such as identifying the children's communicative abilities, knowing the interest of the children and using this knowledge to motivate and build on their communication skills, were discussed. A participant (SENA non-MIS group) shared her perception on the importance of working with children with special needs, as illustrated in Extract 8.8.

Extract 8.8 (SENA non-MIS group):

"Take note of the progress as well. For me [*like*] if you want to teach them something about language as well. [*Like*] you check [*where their language level is at. Not necessarily*] like in written form right but you know when you assess them by observation [*or whatever*] umm you know their level, and then if you want to teach them something else, [*like*] at least be progressive with the special kids as well, not just [*like teaching them the same thing*], you know they won't be progressing…"(Reference 209)

This participant believed in order to ensure children's communication is developed to their fullest potential, teachers have to know what will and will not work. Especially for children with special needs, teachers need to be progressive in their teaching to enable children to make any headway in their overall progress.

8.2.5.2 Using non-verbal resources and assistive devices

The SENCO and both SENA groups shared these strategies. The use of non-verbal resources to develop children's communication included using pictures, gestures, body language, facial expression, signing, and using real objects such as toys and books. Assistive devices were specifically used to support children with communication problems or those with special needs. Some schools used technology to support children's communication including the use of videos, and portable microphones, which they believe encouraged the children to communicate more. Alternatively, some participants reported using email and text messages as modes of communication to convey information to children. A participant (SENA non-MIS group) reflected on his practice of communicating with children through a text messaging system on the phone. The reason for this was based on the participant's observation that some children have communication problems in schools. This included the children not asking questions when in class or face

to face, but were more interactive when this was done through the phone. Specialised assistive devices were also highlighted, particularly for those who require them.

In contrast, the SENCO and SENA non-MIS group highlighted the negative impact of using technology to communicate for both children and teachers including issues with the form of language used.

8.2.5.3 Modifying and modelling language

Modifying the language level according to children's communication abilities was raised by the SENCO and SENA groups. The participants stated teachers should aim to develop children's communication by using language that is not too complex, but yet not too low level so as to build on their existing skills (Extract 8.9). Teachers should also ensure they model the correct form of words and sentences for children to follow. This also included ensuring the language used is easily understood, which one participant pointed out would be especially beneficial for children with special needs.

Extract 8.9 (SENCO group):

"[…*sometimes the teacher has to lower down their way of talking using simple sentences… if the teacher does not adjust their language to the appropriate age level, then the meaning will be lost right?*]. (Reference 175)

8.2.5.4 Involving all children regardless of their communication abilities

Two groups (SENA MIS and non-MIS) highlighted the importance of involving all children in class/school activities in developing their communication. This was viewed as advantageous as children would potentially learn from their peers, and become motivated to interact.

8.2.5.5 Involving parents in class/school activities

The SENA MIS and RCT group reported on the tendency for parents to rely on teachers for their children's overall learning. These two groups viewed parental involvement was essential in continuing children's progress at home, and suggested for this to be an additional strategy to further facilitate children's learning.

8.2.5.6 Physical factors/classroom environment

The arrangement of the environment, particularly the classroom to facilitate children's communication was another sub-theme highlighted by all four groups. This included classroom sizes, specific learning areas where children can work together and

interact amongst their peers, classroom displays that interest and motivate children to talk, and the seating arrangement of the children and the teachers were viewed to be important in encouraging children to communicate with each other and with the teacher.

The SENA MIS group identified classrooms in MIS buildings (specialised special educational needs [SEN] classrooms) have an advantage over regular classrooms in the main school block in providing children with an environment that promotes communication. Specifically, this referred to the availability of more resources and facilities. This includes having a number of rooms and areas within the MIS building equipped with toys, books, picture cards, televisions, and computers. This group acknowledged they were currently working in such an environment, and were able to see the comparison with regular classrooms (Extract 8.10).

Extract 8.10 (SENA MIS group):

"[*No for us we have a special area which we must have. For classrooms it's quite difficult*]". (Reference 147)

Therefore, a challenge for schools in creating communication supporting classrooms was the physical limitations. Regular classrooms in the main school building were restricted to how teachers were able to organise the layout. Compared to MIS buildings where the specialised SEN classrooms were spacious with fewer children, these classrooms had less space with a high classroom population, resulting in difficulties to arrange seating, learning areas and classroom displays.

Theme 5 reported on the various strategies teachers used in schools to develop children's communication. These were illustrated by the different sub-themes indicating the participants' insight on the different methods needed to facilitate children's communication. The participants recognise the range of procedures involved in gathering information on children's communicative abilities, and determining ways to support them in the classrooms. Facilitating factors for a communication supporting environment were identified as involving all children through different methods, such as using technology reinforcing Theme 1, and the classroom sizes especially in MIS buildings. The factors perceived to be challenges in creating such an environment included the negative impact of technology on children and teachers' communication, the physical limitations of classrooms, teaching resources, and storage facilities.

8.2.6 Theme 6: Activities used by teachers to develop children's communication in schools

This final theme of the profiling phase describes the range of activities children were involved in. This is illustrated by the sub-themes of individual and group activities, and visits within and outside of school.

8.2.6.1 Individual and group activities

The participants highlighted individual and group activities that encouraged interaction among children and teachers, and those that reinforce communication skills through real life experiences and interests. Examples of activities currently practised and should be used in schools included playing games, being involved in drama or other similar tasks that encourage movement, ice breaking sessions, role play, projects, presentations, storytelling, singing, and other similar forms of tasks that promote communication among children and teachers. Additionally, activities that make use of reinforcers which interest and motivate children to communicate were also highlighted. Examples included activities that use objects of interest for children, real life experience, and most importantly maintain children's interest and enjoyment.

8.2.6.2 Class and school activities or visits

This sub-theme highlights class and school activities or visits within or outside of schools. The participants also discussed the importance of ensuring these activities were conducted regularly as this was viewed to contribute to children's communication development. The frequency of these activities were perceived as important as this ensures children are continuously exposed to a variety of activities on a weekly or monthly basis, depending on the school administration. An example of a participant's view of the forms of activities is presented in Extract 8.11.

Extract 8.11 (SENA non-MIS group):

"[*If we observe*…] I would say [*that physical activities will promote my students to talk more.*] For example [*like*] they will more communicate with each other when [*we do dramas. Ah activities like that instead of questions and answers and just sitting down.*] I think some of them [*the moving around*] give them more confident… [*talking, more comfortable. Ah so their*] comfort zone [*is more wider, that's why.*] Mostly [*those siting down*…] I can see the student [*sitting and feeling awkward when questioned.*] Especially [*when we question them and everyone else is looking…When we do dramas*] everyone is doing their part…and they are moving so even they're nervous they can shake it off…[*that's why*] so they tend to communicate [*more.*]" (Reference 187)

This extract illustrates the participant's insight on how the type of activity impacts on children, and highlights questioning as an issue. It also reflects the participants' awareness of the different range of emotions that children potentially go through when engaging in a particular activity. Conversely, the classroom teachers group reported the challenges faced by some schools in conducting class or school activities. This involved the current restrictions for external class or school activities due to mandatory regulations imposed by the Ministry of Education. These were issues around insurance and written documents, which involved additional costs for parents and extra workload for teachers.

Theme 6 described the various forms of activities used by schools to promote children's communication. These were detailed by the sub-themes of the type and frequency of activities children were involved in. This theme reflects the participants' awareness of the impact of such activities on children's communication, and recognises the importance of frequent exposure to such activities. However, a factor identified to be a challenge was the restrictions on the flexibility for schools to conduct these activities in different environments.

8.3 Themes from the Focus Group of the Intervention Phase

The second part of the intervention phase analysed qualitative data from a focus group involving four SENA teachers. These teachers were involved in the classroom observations with the researcher across three time points. The aims of this focus group were to examine their experience in implementing the CsC Observation Tool, and investigate any changes in their perception as a result of using the CsC Observation Tool and taking part in the intervention.

The focus group was based on a question schedule related to the research aim and follow-up prompts. These questions resulted in four key themes, and their corresponding sub-themes, detailed in Table 8.2. These themes are presented with illustrations of extracts from the participants where relevant. The layout of the extracts is similar to the profiling phase.

Table 8.2: Key Themes and the Corresponding Sub-themes from the Focus Group of the Intervention Phase.

Themes	Sub-themes
1. The challenges faced by teachers during the intervention phase.	• Time constraints for the SENA and the Intervention Classroom teachers. • Teacher's motivation in improving classroom practice. • Collaboration between participants, other teachers and children.
2. Challenges faced by schools in creating a communication supporting classroom environment.	• Classroom sharing across different year groups, sessions, and schools. • Budget issues for school resources and facilities. • Classroom sizes in primary schools.
3. The impact of local and cultural factors in Brunei primary schools.	• The use of praising by teachers. • Music as a curriculum subject.
4. Factors relating to the CsC Observation Tool.	• Administration and scoring procedures of the CsC Observation Tool. • Outcomes for current practices and areas for improvement. • The positive impact of intervention on children with speech, language and communication needs.

8.3.1 Theme 1: The challenges faced by teachers during the intervention phase

A number of external and internal teacher-related factors were identified by the participants to have impacted on the setting up of the communication supportive environment within the intervention phase. These included sub-themes of teachers' time, motivation, and the importance of collaboration.

8.3.1.1 Time constraints for the SENA and Intervention Classroom teachers

This sub-theme was described by the participants as prioritising time to: 1) practise using the CsC Observation Tool prior to the intervention phase, and 2) to meet up and work with the Intervention Classroom teachers on the chosen intervention targets. This included practicing the chosen skills, preparing resources and arranging the classroom (raised by three out of the four participants). These time constraints were due to both prior and unexpected attendance at workshops, trainings, and meetings.

8.3.1.2 Teachers' motivation in improving classroom practice

Two participants argued although time constraints were generally an issue, motivation also played a part, as illustrated in Extract 8.12.

Extract 8.12:

"The challenge would be [*that's right*] the teacher, and the time. (Line 787)
"So time wouldn't, yeah it's a challenge but for me motivation… [*Like*] if you don't want to [*set up*] your class, or if you like ignore it then, yeah." (Lines 795-798)

This participant acknowledges although time is usually a challenge for teachers, it is not viewed as the most important factor affecting teacher's practice. Rather it is the motivation of the teacher that influences how they set up their classrooms, and in the preparation of the required resources. The participants also described although teachers were encouraged to create a classroom environment to facilitate children's communication skills, motivation had to come from the teachers themselves. Some schools were reported to motivate teachers to organise their classrooms through competitions within the school. The winning classrooms would be awarded with teaching resources to encourage teachers to maintain the classroom organisation.

8.3.1.3 Collaboration between participants, other teachers and children

The sub-theme of collaboration was another issue highlighted under this theme. Alongside time constraints and motivation, collaboration impacted on practicing the CsC Observation Tool, working towards intervention targets, maintaining the organisation of classroom layout and preparing resources. Practicing and familiarising themselves with the CsC Observation Tool was recommended by the researcher prior to intervention, but one participant reported this was not possible due to time constraints. In spite of this, positive outcomes were perceived by the participants in working together to achieve the intervention targets. The participants also highlighted the advantages of collaboration among teachers through sharing in the preparation of resources. This included sharing the knowledge and responsibility with other teachers in the school.

Factors relating to teachers were discussed under Theme 1. Time was identified as an important factor that challenged teachers to practise skills and prepare resources. The importance of teachers' motivation on their overall practice was also discussed as a sub-theme, where some schools facilitate communication supporting classrooms by providing additional incentives. Additionally, the impact of collaboration among teachers and

children was highlighted as a facilitating factor for schools to support children's communication.

8.3.2 Theme 2: The challenges faced by schools in creating a communication supporting classroom environment

This theme describes the challenges schools faced in creating communication supporting classrooms. The sub-themes of sharing of classrooms, schools' budget for available resources and facilities, and the classroom sizes illustrate this in more detail.

8.3.2.1 Classroom sharing across different year groups, sessions, and schools

This sub-theme was highlighted across all four participants. Classroom sharing is a common practice in Brunei schools, where classrooms are shared across different groups of children and teachers. These could be groups from the same or different year levels. Additionally, some schools are also used as 'religious schools'. According to the Compulsory Education Order 2012, it is mandatory for all Muslim children in primary school to attend religious schools (Ministry of Education, 2015; Oxford Business Group, 2013). These schools usually take place after or before 'mainstream/regular' classes. Although there are specialised religious schools buildings belonging to the Ministry of Religious Affairs, these classes are also conducted in buildings under different ministries on a temporary or shared basis (Kementerian Hal Ehwal Ugama, 2009; Ministry of Education, 2015). This includes existing school buildings under the Ministry of Education, such as reported by the participants. Furthermore, adult classes were held in some schools at night or during the weekends. These range from academic teaching classes to life skills such as sewing and cooking. Due to the sharing of classrooms, class teachers found it difficult to arrange, organise and to store their teaching resources. Setting up and labelling specific learning areas, and keeping resources in classrooms was found to be challenging with resources being lost and classroom layout disrupted. Difficulties were also apparent in displaying children's work and other teaching displays due to limited storage and display areas.

Although the impact of classroom sharing has been discussed as a challenge for schools to create communication supporting classrooms, the participants also recognise the importance of collaboration to overcome this problem. A suggestion highlighted was cooperation among all teachers and children involved in the sharing of the classrooms, such as in maintaining the classroom layout and care of classroom facilities, reinforcing the importance of collaboration in Theme 1.

8.3.2.2 Budget issues for school resources and facilities

The sub-theme of school budget on classroom practice was also reported by the participants. Three participants considered that as a result of budget cuts, schools have a limited supply of resources and facilities, such as teaching aids and storage available for all classrooms. In some circumstances, teachers also spent their own money in supplying these resources either individually, or as a group. Examples include books, pictures for display, storage items, curtains and toys. The practice of some schools involved providing incentives for class teachers to organise and maintain their classroom layout that facilitates children's communication. This includes through reimbursing the money spent, and a competition where the winning classroom is given a prize in the form of money for these resources, or the actual resources. Although participants recognised the impact of budget restrictions, this was not an obstacle, and are finding ways to get around the problem such as illustrated in Extract 8.13.

Extract 8.13:

"…in most cases I know, [*like*] teachers they don't mind spending." (Lines 812-813)
"… so I think budget wise… sometimes it can be helped…Sometimes [*like*] you, your own effort…most teachers [*enjoy it. For those who like doing so.*] So sometimes it's a matter of you wanting to do it or you don't. Yeah you do it or you don't." (Lines 815-819)

Here, teachers' motivation is emphasised as a way of overcoming the challenges posed by the budget restrictions. This links back to the motivation factor in Extract 8.12 in Theme 1. This also illustrates the positive outcomes of collaboration as a factor that facilitates teachers to support children's communication in schools.

8.3.2.3 Classroom sizes in primary schools

The sub-theme of classroom size was identified as another school factor. This was for both the physical area of the classroom, and the number of children in the class. Due to these issues, teachers were unable to set up the class with specific learning areas to facilitate children's communication. Teachers had to 'make do' with the space available, as illustrated by Extract 8.14. An example of this was classrooms having only one learning area, such as for reading, or for play.

Extract 8.14

"…but we all know that the classroom [*here*] in Brunei is you know you do what you can with the space that you have." (Lines 119-121)

Theme 2 has described the school-related factors that impact on schools' ability to support children's communication, as illustrated by the sub-themes of classroom sharing, classroom size and budget issues. The challenges schools faced mainly centred around the school's budget, which impacted on the availability of physical space of schools and classrooms, resources and facilities. However, factors that facilitate schools to create a communication supporting environment were identified as the importance of collaboration among all those involved in the sharing of classrooms, and on the classrooms' organisation and maintenance. Collaboration among teachers was also recognised to contribute to teachers' motivation, and a solution in overcoming school's budget issues, particularly with regard to teaching resources and storage facilities.

8.3.3 Theme 3: The impact of local and cultural factors in Brunei primary schools

This theme discusses participants' perceptions of factors specific to the Brunei culture as illustrated by the sub-themes of praising listening skills, and music as a subject.

8.3.3.1 The use of praising by teachers

This sub-theme discusses the common practice of praising used by teachers in primary schools. This includes teachers only praising when children are quiet or when they answer correctly in class. The participants also highlighted teachers were not used to the concept of explicitly praising children's listening, and tend to assume that by being quiet children were automatically listening to the teacher, as illustrated by Extract 8.15.

Extract 8.15

"[*For example*] let's say inside the classroom, [*we are used to*] the students [*when they are quiet, oh good they are listening to the teacher*] but we don't know whether [*they understand or not*], yeah." (Lines 141-143)

This participant agreed teachers in Brunei tend to only praise children for being quiet. However she also acknowledged that it did not mean children were listening and have understood the teacher. This reflects the participant's awareness of the need to explore this issue further, particularly in developing more effective ways of interacting with children.

8.3.3.2 Music as a curriculum subject

All four participants explained why most of the classrooms observed did not have musical instruments available (an item in the environment dimension of the CsC

Observation Tool). In government schools, music is not listed as a subject due to a recent change to the curriculum. Another reason for this was the focus placed on other subjects viewed to be more culturally, and religiously appropriate such as the subjects of Malay Islam Monarchy, and the Islamic Religious Knowledge. However, the participants also reported in lower primary classes English was often taught by an expatriate teacher, and in such cases, music was still part of classroom practice.

Theme 3 discussed the factors specific to the local and cultural context of primary schools in Brunei, as identified by the sub-themes of praising children's listening skills and music as a subject. These factors were recognised to impact on the extent schools are able to create communication supporting classrooms.

8.3.4 Theme 4: Factors relating to the CsC Observation Tool

This theme discusses the participants' experience on implementing the CsC Observation Tool during intervention. The sub-themes of the procedures and the resultant outcomes illustrate this in more detail.

8.3.4.1 Administration and scoring procedures of the CsC Observation Tool

The sub-theme of procedural factors included the administration and scoring of the CsC Observation Tool. The requirement to keep referring back to the guidelines, and struggling to find a balance between simultaneously focusing on the lesson, and scoring were reported by three of the participants. This was especially salient at the start of the intervention phase, and after the gap between the second and the third observation. For the Language Learning Interaction dimension, all participants reported they were unsure as to whether they were scoring the observations correctly. Participants were therefore still unfamiliar with the CsC Observation Tool, and needed further training and practise in implementing it. However, as explained in 5.10.1.2 (page 83), the researcher did suggest participants practised using the CsC Observation Tool prior to the intervention phase, but the challenge faced by the participants was time (see Theme 1).

8.3.4.2 Outcomes for current practices and areas for improvement

This sub-theme described the outcomes from the implementation of the CsC Observation Tool informing on: 1) current practices and 2) identifying areas for improvement. The current practices highlighted by the participants included informing on teacher's current classroom practice in supporting children's communication. An example is presented in Extract 8.16 where a participant reported this was conducted by cross-referencing the observations with items in the CsC Observation Tool.

Extract 8.16:

"Guidelines for you to identify, ok, oh she's doing things that's on the checklist, that so you know that he or she is actually ok he or she is trying to support the communication going on in the classroom." (Lines 547-550)

Moreover, the CsC Observation Tool also informed on the expectations of classroom practice in supporting children's communication, and highlights the importance for teachers to know the different teaching strategies in supporting these skills, as illustrated in Extract 8.17.

Extract 8.17:

Because by looking at this tool, we know what's going on in the classroom. [*Like*], we know what to expect, or not to expect. But especially what to expect. Because um by looking at this tool, [*for example*] if we observe the lesson, we know [*like*], how to [*what do you call it*], sort of label in our head…[*like*] whatever is happening in the classroom we know, this is actually this, this is actually that. Because…if we are not exposed to this, we don't really know…what the teacher is doing, [*like*] oh she's just talking to the student, but we won't know that it is actually um confirming, or imitating, commenting, extending, yeah." (Lines 535-544)

The participants also reported the positive outcomes on children when teachers practised the skills they selected as intervention targets. These skills included praising listening and non-verbal skills, modelling, giving children a choice of activities, and small group activities, which resulted in more interaction and participation among the children and with teachers. Extract 8.18 and Extract 8.19 illustrates the impact of choice and praising on the amount of interaction and behaviour of children.

Extract 8.18:

"Giving choices. [*If*]… the teacher [*says*] "Ok students we do this," [*they will tend to just follow right?*... during the observations…the teacher [*said*] "Ok students which one do you want to do? This one or this one?"…So the students [*would be like… "This one or this one teacher."*] So…there is more interaction because the teacher [*will then ask…"Ok who wants this raise up your hands,"*] and then yeah…more interaction between teachers and students." (Lines 401- 409)

Extract 8.19:

...when the teacher praised the students…"Wah see [*the teacher praised me because I was quiet, because I listened to her."*] So even when she did that in several lessons…the students kept on [*saying, "I need to be quiet so that the teacher will praise me"*]. Even the friends [*did the same, as they also want the attention*]." (Lines 349 – 354)

Additionally, a participant reported the head master of her school was interested in sharing the positive outcomes of the intervention as a part of teacher development.

The CsC Observation Tool also informed on areas for improvement on teachers' practice to support children's communication skills. Examples include class activities, teachers' interaction skills and classroom organisation, such as shown in Extract 8.20 where a participant acknowledges the impact of group activities on children's communication.

Extract 8.20:

"In my case the small group activities was not done...I think if [*there were*] small group work…then it will be better…we will see a difference in the communication bit." (Lines 370-373)

The CsC Observation Tool also informed on the teaching resources required by teachers in the classroom, as shown in Extract 8.21, which reinforces the issues of school budgets in Theme 2. Moreover it highlights the need to educate teachers on the practices to facilitate children's communication. This is illustrated in Extract 8.22 where a participant was unaware of the impact of the classroom layout on children's communication.

Extract 8.21:

"Yeah but it does help them to know what to provide to the classroom…[*like*] books anything like that…[*the*] admin…so they know [*what is lacking and*] they now what they need to give…Because they cannot expect teachers to [*prepare all of that*], then they know… how much teachers need to spend to prepare all this…" (Lines 878 – 884)

Extract 8.22:

"And since it was communication, I thought it would be involving a lot of talks…I didn't expect that environment will also…yeah play a role…" (Lines 314 – 317)

8.3.4.3 The positive impact on children with speech, language and communication needs

This sub-theme discusses the impact of the outcomes of the CsC Observation Tool for children with speech, language and communication needs (SLCN) in the intervention classes. This was shared by three of the participants, and included teachers' interaction and choice of activities during the lesson. Examples are presented in Extract 8.23 and Extract 8.24.

Extract 8.23:

"Now uh in my case…[*there is a*] student with speech um speech difficulties…so [*if it was a whole class activity*] he was left out. [*But*] in the group activity *[he will participate*…] so yeah much better compared to a whole class." (Lines 388-395)

Extract 8.24:

"But for me I think...it does help not only for students [*who are*], you know vocal, but it does also help students [*who are quiet*]. [*The teacher not only focuses on those who are vocal, but also this quiet group*] so that [*they are willing to talk*.]" (Lines 464-469)

Overall, the participants reported children identified with SLCN benefitted and responded well to the changes teachers made to their teaching practice after the intervention period. Three participants described how using more group based activities, which was not a common practice in the classrooms observed, resulted in more interaction and involvement of children who were usually left out due to their additional difficulties.

Theme 4 described factors relating to the CsC Observation Tool, illustrated by the sub-themes of procedural issues, and outcomes on teaching practice and for children with special needs. Time was again identified as a factor that challenged participants in practicing the CsC Observation Tool. Participants also identified the importance of informing teachers on the teaching practices and resources that develop children's communication. This was another challenge faced by schools. However, positive outcomes on all children as a result of informing teachers on these practices were viewed to facilitate schools in supporting children's communication.

8.4 Addressing the Research Questions

This section presents how the overall findings from the profiling and intervention phase address each research question.

8.4.1 What factors facilitate a 'communication supporting classroom' in all i.e. MIS and non-MIS Brunei primary schools?

There were six key factors identified to facilitate a communication supporting classroom environment in Brunei primary schools. These are listed and described below:

1. Class/school activities: These were used to encourage and promote children's communication. Activities using different resources and languages, as well as providing children with real life experience to develop these skills further were viewed as positive. Examples highlighted included children engaging in role-play or drama involving different languages, and visits to places of interests within and outside of school.
2. Communicating through technology: This refers to teachers communicating with children through the use of technology. This was a strategy highlighted, especially for children who were reluctant to interact in the classrooms. This initiative enabled teachers to include all children in class and school activities.
3. Classrooms sizes, resources and facilities in MIS buildings: Specialised SEN classrooms have an advantage over regular classrooms in the main school block, in providing children with a conducive environment for promoting their communication. Specifically, this referred to the availability of more space and teaching resources, with smaller classroom population.
4. Current education initiative: This initiative was viewed as the driving force leading to changes in the way children's communication was supported in schools. Teachers were now pushed to develop and promote children to communicate more as a result of the currently recommended teaching strategy. Positive outcomes were observed in children's communication due to this education initiative.
5. Collaboration: This referred to collaboration among teachers and children in three contexts: a) classroom sharing b) school budget issues and c) teaching practice. The practice of collaboration was identified to facilitate in the organisation and maintenance of the classroom layout, teaching resources and storage facilities. Additionally, collaboration among teachers including the administrative staff impacted on overcoming issues with the school's budget such as in providing classrooms with the required teaching resources and storage facilities. The practice of some schools that provide incentives to teachers also plays a part in encouraging them to organise and maintain their classroom that facilitates children's communication. The positive impact of collaboration on improving teaching practice was also identified as a facilitating factor.
6. Teacher's knowledge of supporting children's communication: This referred to teachers knowing and understanding the factors involved in supporting children's

communication in the classroom. The impact this knowledge has on informing teaching practice and the required resources was discussed. The findings highlighted the positive outcomes on children when teachers implemented the changes in their teaching practice, and the awareness of the role played by other factors such as the environment.

8.4.2 What are the challenges in creating such a classroom environment in Brunei schools?

The findings from the focus groups highlighted 11 factors that challenged schools in creating communication supporting classrooms. These are presented below.

1. The impact of technology: Although this was viewed as facilitating teachers to communicate and involve all children in class activities, it was also identified as a challenge. This was the negative impact of modern technology on communication in general, resulting in words becoming shorter and people talking less to each other face to face.
2. The fear of talking: An interesting issue perceived to be a challenge was the 'fear of talking' due to and in the absence of difficulties in children's communication skills. The participants discussed this may pose as a challenge for teachers in interacting with children and setting up classroom activities to facilitate children's communication.
3. Physical limitations of classrooms: The size of the classrooms in Brunei primary schools restricted teachers in setting up their classrooms to be more communication supportive, such as through the availability of learning areas and classroom displays. This was also as a result of most classrooms having a high number of children resulting in less space available for teachers to organise the classroom layout.
4. Restriction on class/school visits: This was a result of mandatory regulations set by the Ministry of Education. These were issues around insurance and written documents leading to extra costs for parents and workload for teachers.
5. Change in the medium of instruction: This was highlighted especially for the change in the instructional language from Malay to English across pre-school to year one. The change in languages was viewed to be ineffective particularly for subjects such as Maths and Phonics, as it caused confusion for both children and teachers.
6. Impact of the current education initiative on children's cultural/social values: Although the current education initiative has a positive impact on changing teachers' practice in supporting children's communication, it was viewed as negatively impacting on children's cultural values. It was observed that by promoting children's communication skills, values highly regarded in the Brunei culture was neglected resulting in children

showing less respect to teachers. This in turn has the potential to impact on teachers' attitudes and mind set in supporting children's communication in schools.

7. Time constraints: Time was a factor that challenged teachers in setting up their classrooms to support children's communication. Specifically, the teachers' busy schedule resulted in less time for them to practise skills, prepare teaching resources, and setting up classrooms to be more communication friendly.
8. Classroom sharing: Issues with sharing of classrooms with different groups of teachers and children were highlighted. A consequence of this was there was no sense of ownership felt by teachers due to not having the flexibility to organise the classrooms, such as display children's work and storing teaching materials.
9. Issues with school's budget: Restrictions on the school's budget leads to limitations of teaching resources and storage facilities for all classrooms. This was highlighted as a factor that challenged teachers in setting up communication supporting classrooms for children.
10. Praising listening skills: Teachers' interaction skills were considered to impact on how children's communication was supported. Explicitly praising children's listening skills resulted in positive outcomes from children. However, this was not a common practice for teachers indicating the need to address this issue.
11. Parental involvement. Parents were perceived to play a role in developing children's communication skills. This signified parents/guardians were viewed to be an essential factor in developing children's communication and without their involvement this could slow down children's overall development.

8.5 Summary

This chapter detailed the findings from the profiling and intervention phase, and how these findings addressed the research questions. Four focus groups involving SENCO, SENA MIS, SENA non-MIS and classroom teachers were conducted in the profiling phase, while the intervention phase involved a group of four SENA teachers who took part in the intervention. The key themes and sub-themes identified by the groups included factors that involved the different forms, methods, and purpose of communication by teachers and children in school, the various teaching and classroom strategies, class and school activities that encourage children's communication, factors relating to teachers, school and the CsC Observation Tool, and specific to the Brunei context.

Factors highlighted to facilitate schools in creating communication supporting classrooms involved the teaching practices and resources, knowledge and the physical

environment of classrooms in Brunei primary schools. The factors that challenged schools in supporting children's communication ranged from issues that were child, teacher and school related. A discussion on how these findings impact on the overall study is presented in Chapter 9.

Chapter 9: Discussion on Communication Supporting Classrooms in the Brunei Context

9.1 Introduction

The current study examined to what extent children's communication is supported in Brunei primary school classrooms. The design combined classroom observations and semi-structured focus groups in two phases: 1) the profiling phase and, 2) the intervention phase. The profiling phase explored if children's communication was supported against three dimensions of the Communication Supporting Classroom (CsC) Observation Tool (Dockrell, Bakopoulou, et al., 2012): a) Language Learning Environment (LLE), b) Language Learning Opportunities (LLO), and c) Language Learning Interactions (LLI). It also compared how children's communication was supported in classrooms (n = 12) from two school categories, Model Inclusive Schools (MIS) (n = 3) and non-Model Inclusive schools (non-MIS) (n = 3). The aim of the intervention phase was to involve Special Educational Needs Assistance (SENA) teachers (n = 5) in implementing and incorporating items from the CsC Observation Tool as intervention targets. Changes in Intervention Classroom teachers' (n = 5) use of communication supporting strategies were also examined through comparing the scores of the CsC Observation Tool before and after intervention, and in the progress made on selected intervention target items (a period of four months). Focus groups were conducted in both phases (profiling phase, n = 4 groups; intervention phase, n = 1 group) to identify what teachers perceived as facilitating or challenging factors for schools to create communication supporting classrooms. Information on teachers' attitudes towards children with special needs and multidisciplinary collaboration was also obtained from these groups.

The current study examined the use of the CsC Observation Tool, which was developed and piloted in the United Kingdom (UK), in Brunei. The CsC Observation Tool was used as a training and intervention tool. Although it has been recommended for use in this way, it had previously only been used in the UK to profile school practice rather than to inform target setting and measure change as an outcome measure (Dockrell et al., 2015; Dockrell, Bakopoulou, et al., 2012).

9.2 Research Question 1: Is children's communication supported in Brunei primary school classrooms?

The results from the classroom observations in the profiling phase indicated children's communication was supported in all participating classrooms (n = 12). This support was mostly provided through the physical classroom environment such as labelling

learning areas, teaching resources and displaying children's work. There was less evidence of supporting communication via opportunities like shared reading and peer talk, or through features of interactions with teachers.

9.2.1 Supporting Children's Communication in participating Brunei Primary School classrooms

This study showed children's communication was supported in all twelve Brunei primary classrooms across all settings. In these classrooms, more emphasis was placed on structuring the children's learning environment (such as defining and labelling specific learning areas, displaying children's work, managing background noise, availability of books and toys, and effective transition times) to develop their communication. In comparison, structured language learning interactions and opportunities were observed less frequently. In particular, limited structured language learning opportunities (such as small group work) were provided to children in these classrooms. All classrooms (MIS, non-MIS and pre-school, year one) scored highest in the LLE dimension. This was followed by the LLI dimension, and scores for the LLO dimension were the lowest.

This pattern across the three dimensions of the CSC tool was also found in Dockrell, Bakopoulou, et al.'s (2012) study, where classrooms scored highest in the LLE dimension and lowest in the LLO dimension. Similarly, in Sigafoos et al.'s (1994) study, only a small percentage of classrooms they observed provided children with the opportunities for communication. Although Sigafoos et al.'s (1994) findings were for children with developmental disabilities, it supports the need for teachers to modify their practices to allow for more communication opportunities within classrooms. This challenge of modifying teachers' practice in enhancing interaction and opportunities for developing children's language is also supported by Dickinson and Caswell's (2007) study. Their study suggested teachers were more able to implement physical modifications to enhance children's literacy compared to changing their interaction styles and providing more opportunities after a teacher training programme.

Overall, the results of the above studies with the current study suggest physical modifications for a structured language learning environment, are comparatively easier for teachers to implement. Modifying teacher practices especially in areas of enhancing children's language is more challenging (Dickinson, 2011) and this may potentially impact on initiatives in creating communication friendly classrooms in Brunei primary schools.

9.3 Research Question 2: Are there differences between classrooms in MIS and non-MIS in supporting children's communication?

When observed using the CsC Observation Tool, there were no significant differences found between classrooms in MIS (n = 6) and non-MIS (n = 6) in supporting children's communication. However, results indicated children's communication was supported more in pre-school classrooms (n = 6) than year one classrooms (n = 6).

9.3.1 Differences in pre-school and year one classrooms in supporting children's communication

Although the aim of this study was to examine how classrooms in MIS and non-MIS supported children's communication, analyses was also conducted to explore how participating pre-school and year one classrooms supported children's communication. All pre-school and year one classrooms scored more highly in providing children with structured learning environments than in delivering structured interactions, and lastly the frequency of opportunities to develop children's communication. This indicates teachers attempt to facilitate children's communication mostly through the classroom environment. In these classrooms, there was less evidence of sufficient activities (small group work facilitated by an adult, interactive book reading, and opportunities to engage in structured conversations with teachers and peers) and ways of communicating to further develop children's communication (teachers providing children with choices, modelling language children were not using yet, and praising children's listening and non-verbal communication). This finding again lends support to Dockrell, Bakopoulou, et al.'s (2012) and Sigafoos et al.'s (1994) study of which limited opportunities for children to communicate in classrooms were observed. This result also suggests teachers found modifications to the physical classroom environment comparatively easier to implement than changing their interaction behaviours and teaching practice to facilitate children's language, as indicated by previous studies (Dickinson, 2011; Dickinson & Caswell, 2007).

Pre-school classrooms scored significantly higher than year one classrooms particularly in the LLE and LLO dimensions. This suggests structured learning environments and opportunities to develop children's communication available in pre-school classrooms were not given the same emphasis and were not sustained in year one classrooms. This is similar to Dockrell, Bakopoulou, et al.'s (2012) findings, where classrooms for older children (year two) were found to score significantly lower than the reception classrooms (equivalent to pre-school classrooms in the current study), particularly for the LLE dimension. This finding of reception classrooms providing children with structured learning environments significantly better than year two classrooms suggest

teachers place less emphasis on providing children with structured learning environments as children get older. This is supported by the findings of the current study where classrooms of younger children provide a more structured language learning environment and have more opportunities available to facilitate children's communication.

There are several possible explanations to why pre-school classrooms scored higher in all three dimensions compared to year one classrooms. One reason could be due to the class sizes. With the exception of one pre-school class that had 21 students due to it being the only pre-school class in the school, the number of children in the participating pre-school classrooms ranged from 11 to 15. The year one classrooms in this study had a higher number of children, ranging from 15 to 20 children per class. The classroom teacher was the only adult responsible in all the pre-school and year one classrooms in the sample. As class-sizes of pre-school classrooms were comparatively smaller than year one, this could account for higher scores achieved in the dimensions of the CsC Observation Tool as teachers had fewer children to focus on.

Differences in the higher and lower scores of pre-school and year one classrooms in the LLE dimension may also be accounted for by class sharing. In Brunei primary schools, classrooms from year one upwards tend to be shared across different groups of children and teachers, and for different purposes as described in 8.3.2.1 (page 136). As such, with the exception of pre-school classrooms, most of the classrooms are used for different purposes in the mornings and afternoons. Year one classrooms were observed to share storage space and display areas limiting teachers' flexibility to arrange the classrooms. This to some extent impacts on the obtained scores of year one classrooms in the LLE dimension of the CsC Observational Tool.

Another reason for pre-school classrooms scoring higher than year one classrooms may be due to the organisational structure of the Ministry of Education (MoE). In 3.3.2 (page 46) a description of the MoE's education strategy was provided where eight policy directions were identified as part of several initiatives to develop the Brunei population. This includes investing in early childhood education (Ministry of Education, 2012). The Early Childhood Care and Education Unit (ECCE) within the MoE was set up in 2010 and is responsible for monitoring and guiding early childhood programmes in government and private primary schools across Brunei (Thien & Jalil, 2016). This means pre-school classrooms are under a different administration, have a different curriculum, and allocated a separate budget for teaching aids and resources than the other primary level classrooms (years one to six). This may explain why the pre-school classrooms scored higher than the

year one classrooms, particularly in providing children with structured language learning environments.

9.4 Research Question 3: Is an intervention programme based around the CsC Observation Tool successful in increasing teachers' use of communication supporting behaviours?

To address this research question, changes in how children's communication was supported after intervention was examined in three ways: 1) changes in the proportion scores for individual dimensions (LLE, LLO and LLI) across time points, 2) changes in the combined scores (sum of the proportion scores of individual dimensions) across time points, and 3) achievement of selected intervention targets by teachers.

A repeated measures design of three time points was employed: Time point 1 (T1), Time point 2 (T2) and Time point 3 (T3). Classroom observations for each Intervention (n = 5) and Control (n = 5) classrooms were conducted three times throughout the intervention period (four months). The intervention involved improving Intervention Classroom teachers' scores in a maximum of three selected items from the CsC Observation Tool. These items were identified as absent during the classroom observations at T2, and selected by the teachers to focus for intervention. A discussion to inform the teachers on what each selected target item entailed and an action plan on how to improve their practice of these items was conducted at T2. This action plan involved an agreed schedule between both Intervention Classroom and SENA teachers of each participating school to practise implementing the selected target items over the period of four months. Differences in observation scores between T1 and T2 were to measure stability, and between T2 and T3 reflected the intervention effect. Changes in the overall scores of the CsC Observation Tool, and for each selected target item from T2 to T3 indicated the effect of intervention.

The findings showed as a result of intervention: 1) there was no significant change in how children's communication was supported in individual dimensions as measured by the differences in scores across T2 and T3 using the CsC Observation Tool, 2) classroom practices to facilitate children's communication significantly improved overall, once again measured by the differences in classroom observation scores between T2 and T3, and 3) teachers improved in relation to their identified targets: implementing appropriate signage of learning areas and materials, conducting small group work to facilitate communication with teachers and among peers, and using ways of interacting with children to develop their communication.

9.4.1 Changes in supporting children's communication after intervention

The mean combined scores for Intervention Classrooms increased significantly from T2 (*Median* = 1.32) to T3 (*Median* = 1.67) indicating a positive effect of the intervention. This suggests teachers in these classrooms improved in their classroom practices in providing children with a structured language environment, the different opportunities available, and interaction methods to facilitate children's communication. Results also showed no significant change in the mean combined scores between T1 (*Median* = 1.45) and T2 (*Median* = 1.32) reflecting the stability of the scores during the baseline measures for the Intervention Classrooms. The Control Classrooms only showed a significant change between T1 (*Median* = 1.05) and T2 (*Median* = 1.04) and not between T2 (*Median* = 1.04) and T3 (*Median* = 1.18). This indicated the scores were not stable between T1 and T2, possibly due to the teachers from these classrooms still adjusting to being observed, and not receiving any feedback between these two time points. There was no significant change in scores between T2 and T3 as predicted due to these classrooms not receiving any form of intervention.

Intervention Classroom teachers selected a maximum of three items from the CsC Observation Tool to focus on. These target items were the lowest scores obtained at T2 across the three dimensions, and also items teachers were willing to address for intervention. At T2, these classrooms did not score in all of the selected intervention targets, indicating the absence of the behaviour in supporting children's communication. The intervention targets selected included three items of the LLE dimension (labelling learning areas, displaying and labelling children's work, and labelling learning resources and materials), one from the LLO dimension (small group work facilitated by an adult), and four from the LLI dimension (providing children with choices, modelling language not yet produced by children, praising children's listening and non-verbal communication). Out of all the target items, praising listening skills was the most frequent LLI item selected by four of the five Intervention Classrooms.

Both the Intervention Classroom teachers and the SENA teachers of each school collaborated to achieve their specific intervention target and this was recorded through a working document as described in 5.10.1.2 (page 84). This also marked the start of the intervention period. The progress of each school in achieving these targets was monitored approximately two months after. This was also to investigate if schools had any complications in working towards the targets. Three schools managed to partially achieve on all of their target items. One of these schools identified an issue where the SENA teacher was promoted and moved to another school a month after the start of the

intervention. In spite of this, the SENA and the Intervention Classroom teacher managed to work around the problem by setting up a schedule where the SENA teacher returned to the school to assist. Two Intervention Classrooms did not make any progress on one of their intervention targets. These items comprised of small group and modelling language children were not using yet. During the monitoring phase, the teachers reported this was due to them needing more clarification on what each skill entailed. The researcher then addressed this during the monitoring meeting through examples.

The final review took place approximately four months after the start of the intervention at T3, which also marked the end of the intervention. Changes in scores of the selected intervention targets were compared to the scores at T2. This was to measure if the target items were achieved as a result of the intervention. Two schools achieved all of their target items and these comprised of items from all three dimensions. The recorded scores included the appropriate labelling of learning areas, learning resources and materials (LLE dimension), praising children's listening and non-verbal communication (LLI dimension), and small group work facilitated by an adult (LLO dimension). This indicates teachers in these classrooms were now supporting children's communication through the classroom's physical arrangement, activities and improved in interacting with children. The highest increase in scores was observed for the LLI items of praising children's listening and non-verbal communication. The change in scores ranged from 1 to the maximum score of 5 for praising children's listening, and between 2 to 5 for non-verbal communication.

Items recorded as being partially achieved were observed in two Intervention Classrooms and these comprised of displaying and labelling children's work, and teachers providing children with choices. Both of these classrooms were year one classes. With regard to displaying and labelling children's work, the teacher reported this was due to further improvement being needed in this area. The second classroom partially achieved in providing children with choices. The teacher explained this was because she felt children still required tasks selected by adults. Although she gave children a choice of activities twice during the observed lesson, she admitted to already having expectations of which activities she wanted children to select. This could be due to teachers not fully understanding what this skill entails suggesting the importance of knowledge and further training in this area. Two Intervention Classrooms reported target items as both partially achieved and achieved. These items were both from the LLI dimension and once again involved providing children with choices and modelling language children were not yet producing. In providing children with choices, the teacher reasoned this was due to

children still requiring teacher-directed tasks, similar to the opinion of the other teacher who partially achieved this target item. The other Intervention Classroom teacher explained she was still not confident in modelling language children were not yet producing and believed more practise was needed. This indicates teachers recognised the need for further information and training especially in interaction skills to facilitate children's language.

The most frequently selected intervention target items involved teachers' interaction skills. These items were identified at T2 suggesting children were not provided with specific teacher interaction behaviours to develop their communication. Teachers' interaction with children is recognised as an important component of developing children's communication and in creating communication supporting classrooms. Previous studies on modifying teachers' interaction with children aimed to develop these skills. Training teachers in modifying their interaction skills resulted in teachers becoming more responsive to children's interaction, and implemented strategies to stimulate interaction among children (Girolametto et al., 2003). McDonald et al. (2015) also found teachers significantly increased their use of communication-facilitating strategies as a result of intervention on modifying teachers' interaction.

The current study also revealed items partially achieved after the intervention period consisted mostly of items from the LLI dimension. This suggests modifying teachers' interaction behaviours was more challenging compared to the other intervention target items. These findings lend support to Dickinson and Caswell's (2007) study where the outcomes of a teacher intervention programme indicated teachers found physical modifications easier to implement than changing interaction behaviours, particularly in literacy-related practices. Additionally modifying teachers' interaction skills with children particularly in the area of early language growth, was a challenge identified by Dickinson (2011). Pence et al. (2008) also found teachers required more practise in implementing interactional stimulating strategies to enrich pre-school children's language.

Teachers' practice of praising children's listening and non-verbal communication resulted in the highest increase in scores post intervention. This suggests teachers were more aware of this skill and appeared to implement it frequently compared to the other target items. This finding supports Crosskey and Vance's (2011) study where an outcome of training teachers to support children's listening resulted in teachers implementing more focused listening strategies during teaching. Explicitly praising children's listening appeared not to be a common practice by teachers involved in the intervention. This was evident from the classroom observations resulting in four of the five Intervention Classroom

teachers selecting this skill for intervention. Feedback from the teachers also suggested children were praised if they were quiet. Teachers interpret being quiet as children listening and paying attention. This could be accounted for by the traditional perspective of associating silent classrooms with children listening and being productive (Cullinan, 1993).

Another interaction item highlighted for improvement was teachers providing children with choices. Feedback from teachers indicated difficulties on their part to allow children to have control of the classroom activities. This suggests teachers were still not confident in implementing this practice most probably as a result of not fully understanding this skill. To some extent it also reflects the culture of Brunei classrooms where teachers are viewed as being more knowledgeable, and more focused on traditional and exam-oriented methods of teaching, as indicated by Dhindsa's (2008) study. Although Dhindsa (2008) examined a much older group, similar patterns were also observed in the primary classrooms, particularly year one and year two as teachers appeared to be more focused on getting through the curriculum according to schedule. This may also account for the degree of teacher-dependency in classrooms, as teachers appeared to be in control of class activities in the majority of lessons. However, as Dhindsa's (2008) study indicated, this tends to decrease as children progressed further in their education.

In addition to teachers' interaction skills, the CsC Observation Tool also identified physical modifications of the classrooms as missing at T2. This included labelling learning areas, learning resources and materials, and displaying and labelling children's work. In 9.3.1 (page 150) the issue of classroom sharing was described particularly for classrooms from year one and above. Classrooms were used by different groups of children and teachers or for religious schools and adult classes (Kementerian Hal Ehwal Ugama, 2009; Ministry of Education, 2015). This could account for the difficulties some teachers had in arranging their classrooms including signage and displays. However, this was mostly observed in the older classrooms (years one and two), as pre-school classrooms are under a separate management, as discussed in 9.3.1 (page 150), and were not involved in classroom sharing. The physical arrangement of classrooms to support children's communication is an essential aspect in creating communication friendly classrooms (Justice, 2004). This includes children's access to materials and displays that interest children and encourage them to interact with their surroundings (Duncanson et al., 2009; Kalmar, 2008; McCormick, 2003c). In order for classrooms to be communication friendly, visual materials should be readily available to support children's learning (Alper & McGregor, 2015). In the current study, this feature appeared to require further development especially in classrooms of older children. This suggests the emphasis placed on labelling learning

areas, resources and materials, and displaying children's work was not maintained in year one. Once again this supports Dockrell, Bakopoulou, et al.'s (2012) findings where the provision of structured language learning environments reduced significantly in year two classrooms compared to reception.

9.4.2 The CsC Observation Tool as a teacher training and intervention tool

This study explored the potential use of the CsC Observation Tool as part of a training and intervention programme to guide teachers in creating communication friendly classrooms, as recommended by Dockrell, Bakopoulou, et al. (2012). In the current study, the intervention involved teachers selecting a maximum of three target items from the CsC Observation Tool, which were identified as absent at the start of the intervention period. Progress to achieving these target items were conducted based on an agreed action plan between the Intervention Classroom and SENA teachers in each of the primary schools involved (n = 5). Changes in the overall scores obtained using the CsC Observation Tool and the scores for each target items after the intervention period (four months) indicated the effect of intervention on teachers' practice in supporting children's communication.

The findings suggested the CsC Observation Tool was able to measure existing classroom practices and enabled teachers to discover gaps in supporting children's communication in participating Brunei primary classrooms. By identifying specific skills to focus on during intervention, the CsC Observation Tool facilitated teachers to understand and learn more about communication supporting strategies. It also allowed teachers to examine modifications to their classroom practice through changes in the scores in the CsC Observation Tool after the intervention period.

Four advantages of incorporating the CsC Observation Tool as part of teacher training and intervention to facilitate children's communication in Brunei primary schools were identified. These include:

- Identifying classrooms practices not observed at T2. This provided teachers with evidence and allowed them to reflect on why these practices were not implemented during the observation, or in their classroom practice in general.
- Changes in scores obtained after intervention. This reflected teachers' improvement in the specific areas and demonstrated to teachers the modifications to their classroom practice for supporting children's communication.
- Highlighted the need for further knowledge and training in specific areas to facilitate children's communication within classrooms. The importance of teachers being informed and trained especially in areas of children's speech and language development, is essential as it impacts on modifying teachers' practice to facilitate

children's communication (Bain et al., 2015; Letts & Hall, 2003). Ensuring Brunei teachers have the knowledge and are trained to support children's learning was also identified by Hamdan (2006) especially for children with special educational needs (SEN). The findings of this study indicated the need for teachers to be equipped with the knowledge and understanding of communication supporting strategies to facilitate children's communication. These strategies should involve teachers' interaction skills identified in this study, including praising children's listening skills, non-verbal communication, providing children with choices, and teachers modelling language that children are not yet producing.

- Enhanced collaborative practice between classroom and SENA teachers. This was due to the nature of the intervention where both groups of teachers were responsible for achieving the intervention targets. Although changes in classroom practice were measured through classroom teachers' obtained scores on the CsC Observation Tool, an agreed action plan was set up prior to the intervention. This was described in 5.10.1.2 (page 83) and involved a written document listing the responsibilities of both classroom and intervention teachers, and a schedule for practicing and implementing the selected items. This collaboration may have also impacted on the study's outcomes. Collaboration between SENA teachers and regular classroom teachers was investigated by Taha et al. (2004). The outcomes of their study identified both groups of teachers agreed on collaborating to identify children with SEN, but conflicted on collaborating for other purposes. In Taha et al.'s (2004) study, SENA teachers were more in favour of collaborating for assessment modifications and the development and implementation of children's individualised learning programmes than classroom teachers. This suggests classroom teachers perceived the educational needs of children with SEN was mainly the responsibility of the SENA teachers. However, Bradshaw's (2005) study indicated regular classroom teachers were generally positive about collaborating with others, including SENA teachers to support the learning needs of children with SEN in Brunei schools. Collaborating to devise strategies to support children with SLCN was also a finding from Mroz and Letts's (2008) study, especially for early years practitioners. These studies support the importance of collaborative practices between regular classroom teachers and SENA teachers. This practice was facilitated in the current study through the shared responsibility of achieving intervention target items based on items in the CsC Observation Tool.

9.5 Research Question 4: What factors facilitate a 'communication supporting classroom' in all i.e. MIS and non-MIS Brunei primary schools?

The focus groups in the profiling and intervention phases address the same research question, which is to identify facilitating factors in creating communication supporting classrooms in Brunei primary schools. Teachers' perspectives on facilitating and challenging factors were explored through: 1) four focus groups of different sub groups of teachers in the profiling phase (SENA MIS, SENA non-MIS, Special Educational Needs Coordinators, and regular classroom teachers), and 2) a focus group of SENA teachers involved in implementing the intervention during the intervention phase. These findings are combined in answering this research question. Six factors were identified to facilitate communication supporting classrooms in Brunei primary schools including the types of teaching activities and strategies impacting on schools' capacities to develop children's communication, factors specific to the Brunei context involving physical aspects of school environment and facilities, and the education curriculum.

9.5.1 Class and school activities

A key factor perceived to contribute to a communication supporting classroom environment involved arranging class and school activities. These activities involved the use of different resources and language, and provide children with real life experience such as engaging in role play, drama, and visits to places of interest within and outside of schools. Class activities included trips to the library or to other specific rooms within the schools, such as the resource or computer rooms. School activities referred to visits to external sites, or opportunities for invited speakers from a range of professions to present in schools. This finding emphasises the importance of exposing children to a range of activities to enrich their communication experience. Providing children with such opportunities has been shown to benefit children's communicative development (Auten, 1985; Dickinson, Hofer, Barnes, & Grifenhagen, 2014). Children are more likely to learn new words, and are motivated to interact with others on topics based on shared experiences where they are actively involved (Auten, 1985; Bain et al., 2015; Gross, 2013; Justice, 2004). Goswami and Bryant (2010) also emphasised the importance of providing children with diverse experiences to enhance their learning. Activities implemented in Brunei schools suggest children were currently provided with a range of language enriching experiences within and outside of their classrooms. For example role playing was found by Smith and Dickinson (1994) to positively facilitate the classroom language environment. Visits to different places of interests, and allowing children to interact with people from various professional backgrounds, also provide them with a rich and stimulating language

experience resulting in effective communication among children (Gross, 2013; Kalmar, 2008; Roskos & Neuman, 2001). However, to ensure children achieve the desired communication targets as a result of this experience, teachers play an important role in guiding children's language (Auten, 1985; McCormick, 2003c).

9.5.2 Communicating through technology

The second facilitating factor in creating communication supporting classrooms in Brunei schools was the practice of teachers communicating with children through technology, including emails and text messages. This initiative suggested teachers' were aware of the complex nature of communication and attempted to include all children with diverse communicative abilities. This was reported to be a common practice teachers tended to use with older children (secondary schools), or those in primary schools who were able to operate such devices. The strategy of communicating through technology was different to specialist assistive devices used to aid children with special needs in their daily life. Communicating through technology was used in circumstances where teachers were aware children were reluctant to speak in class including asking questions. Shahrill and Clarke's (2014) study observed similar behaviours in their examination of children's behaviour during Mathematics lesson at the secondary level. They found children comparatively asked more questions to teachers individually than during the lesson. In the current study, teachers also informed children about specific tasks and homework through the use of technology. This enabled teachers to include and communicate with all children, and this appeared to result in positive responses. Through the use of technology, children were provided with a purpose and a means to interact not only with their peers but with other relevant individuals (Gross, 2013; National Council for Curriculum and Assessment, 2007). Therefore, in the context of Brunei schools, children were provided with an alternative means of communication with their peers and teachers that served a functional purpose.

9.5.3 Classroom sizes, resources and facilities in MIS buildings

Classrooms in MIS buildings (specialised SEN classrooms) have an advantage in providing children with a communication supporting environment compared to classrooms which are not within the MIS building itself, and also in non-MIS (regular classrooms). This was identified by the group of participants who worked in MIS buildings (SENA teachers from MIS), and based this on their actual experience. Specialised SEN classrooms have the space and necessary resources enabling teachers to arrange the classrooms to be conducive for children's learning, compared to regular classrooms. To recap, MIS are

additional blocks built within the existing school compound. This meant although it is part of the school, it is a separate building connected to the main school usually by a walkway. To date, there are only five primary MIS since its inception in 2008, as a response of the Ministry of Education to provide better services for children with SEN (Ministry of Education, 2008b; Special Education Unit, 2016a; UNESCO, 2009). These MIS buildings comprise of several classrooms specially equipped with facilities and resources to assist in teaching children with SEN. Therefore, specialised SEN classrooms have special funding for teaching resources, have better facilities, and are mainly used for teaching children with SEN.

Various studies have reported the importance of the physical layout of the environment as a factor to support children's communication development. This includes the organisation of the environment, how the furniture is arranged, how much physical space is available, access to resources, as well as the quality of the resources in motivating children to communicate (Adelman & Walker, 1974; Duncanson et al., 2009; Gross, 2013; Jarman, 2008; Justice, 2004; McCormick, 2003c; Sommer, 1977). Having well equipped classrooms and access to teaching resources also contributed to the attractiveness of the teaching profession in the Brunei context, as examined by Yong (1994). This was viewed to provide a more favourable teaching and learning environment for teachers and children, especially in primary schools. Providing children with a structured language learning environment also facilitates children's communication within classrooms as suggested by Dockrell, Bakopoulou, et al. (2012). The findings of the current study suggest specialised SEN classrooms in MIS buildings were better equipped with the necessary facilities and resources for a communication supporting environment. However in this context it appears to be constrained to children with SEN and not accessible to a wider group of children and teachers.

9.5.4 The current education initiative

The fourth facilitating factor is the current education initiative of the Brunei education system. Reforms to the current initiative geared towards being more 'student-centred' (Ministry of Education, 2008b, 2013) and viewed as the driving force in changing how children's communication is supported in schools. As described in 3.11 (page 60), an essential learning domain of this reformed curriculum is the emphasis on children's communication skills, including listening, speaking, reading and writing (Ministry of Education, 2013). This was reflected in the participants' feedback as they reported children were encouraged to communicate more, and provided with opportunities to assume the communication lead role within classrooms. Gross (2013) discussed this in the context of

schools providing children with a 'real reason to use talk, for a range of purposes' (p.53), where some schools in the UK follow the principle of teachers talking less, and children doing more of the talking. This emphasis on children's communication skills in the Brunei education system, suggests positive outcomes for schools to support children's communication. Moreover, children's communication skills were also part of the school assessment procedure including measures of children's literacy. This is similar to the UK context where Alexander (2001, 2008b) described schools as placing emphasis on classroom talk primarily for children to socialise and gain competence in literacy.

9.5.5 Collaboration in the Brunei context

Collaborative practices in Brunei schools were identified as facilitating communication supporting classrooms in three contexts: a) classroom sharing b) issues with school budget, and c) teaching practice. This was mainly for the maintenance of the classroom layout, teaching resources and storage facilities, and positively impacting on teaching practice.

9.5.5.1 Classroom sharing

Classroom sharing involved sharing of physical space, furniture and storage facilities by different groups of children and teachers across a range of year levels and subjects (discussed in 8.3.2.1, page 136). It also includes sharing of classrooms for different educational purposes, such as for religious schools and adult academic or living skills. Issues with classroom sharing are discussed in the following challenges section. The importance of collaboration between teachers and children, and other individuals involved in the sharing of the classrooms was recognised as essential to maintaining the classroom environment and resources. This was especially for the physical arrangement of classrooms, display of children's work, and the storing of teaching resources within the classrooms. However this would only work providing there was cooperation and understanding among all those involved. Therefore collaboration among the teachers and children in the classroom sharing practice is essential to enable Brunei classrooms to become communication friendly.

9.5.5.2 School budget issues

Issues with the school budget included limited supply of teaching resources and storage facilities due to school budget cuts (presented in 8.3.2.2, page 136). However, collaboration among teachers and incentives provided by some schools resulted in overcoming these issues. Teachers spent their own money either individually or collectively towards purchasing teaching and storage resources to facilitate communication

supporting classrooms. Examples included books, toys, display items and storage units. In some schools, a practice to encourage teachers to organise and maintain the physical classroom environment was implemented through incentives. This included reimbursing teachers for the money spent on these resources and through competitions where prizes would involve money towards these resources or actual resources. The collaborative effort involved in these practices appeared to positively impact on teachers' motivation in providing children with structured language learning classroom environments. This finding emphasises the importance of having well-equipped classrooms as providing favourable teaching and learning environments, in addition to attracting Brunei teachers to the teaching profession (Yong, 1994). Hamdan's (2006) study also indicated teachers were aware many of Brunei classrooms required adaptations to the physical layout particularly to support the learning of children with SEN. This suggests teachers generally recognised the importance of collaborating to overcome material limitations in supporting the learning of all children in Brunei primary classrooms. Having limited access to teaching resources was also identified by Marshall et al. (2002) as a barrier to the inclusion of children with speech and language difficulties.

9.5.5.3 Teaching practice

Collaboration among teachers also appeared to impact positively on their teaching practice. This involved collaboration between Intervention Classroom teachers and SENA teachers in working towards the intervention targets. Both groups of teachers were involved in obtaining the knowledge and skills in communication supporting strategies. Additionally there was a shared sense of responsibility in the preparation of resources required for teaching and in classroom organisations to facilitate children's communication. Feedback from teachers indicated encouraging improvements to teachers' classroom practices in supporting children's communication. This may be a result of teachers being clear about the intervention aims and the shared responsibilities between SENA and Intervention Classroom teachers to achieve these targets.

In the current study, collaboration between Intervention Classroom and SENA teachers to achieve the intervention targets enabled knowledge to be obtained, shared and practised according to a schedule. This may have impacted on teachers' increased use of the target behaviours during the final classroom observation suggesting the effectiveness of the intervention method. Teacher-training programmes are more effective if implemented through repetition and practice, resulting in teachers increased application in their teaching (McDonald et al., 2015). This systematic and practical form of training was stressed by Dockrell and Lindsay (2001) as essential to ensuring teachers are equipped with the skills

and are adequately informed to meet children's educational needs. Findings from Wilson et al.'s (2015) and Glover et al.'s (2015) study suggested teachers were aware of the importance of collaboration, particularly with speech and language therapists (SLTs), in acquiring knowledge and teaching strategies to support the learning of children with speech, language and communication needs (SLCN). In the Brunei context, there were also positive views on collaboration between classroom and SENA teachers, especially in the appropriate educational provisions for children with SEN in Brunei classrooms (Bradshaw, 2005; Hamdan, 2006; Taha et al., 2004).

9.5.6 Teachers' knowledge of supporting children's communication

The importance for teachers to be informed about and have knowledge of classroom practices to develop children's communication was another facilitator in creating communication supporting Brunei classrooms. A positive result of constructing intervention targets from the CsC Observation Tool was the identification of teaching behaviours absent during the observations. Teachers were able to isolate these behaviours to focus on for the intervention, and learn how to implement the skills to facilitate children's communication. During this process, the participants acknowledged the CsC Observation Tool informed them of the classroom practices involved in creating communication supporting classrooms. The CsC Observation Tool also emphasised the significance for teachers to be aware of the different teaching strategies and have access to resources to facilitate children's communication. As a result of teachers' increased understanding and knowledge of communication supporting strategies, they were able to modify their teaching practices to develop children's communication within the participating classrooms. This finding lends support to previous studies examining the importance of teachers to know and understand communication supporting strategies, and in addressing the need for teachers to be informed and trained in this area (Bain et al., 2015; Glover et al., 2015; McDonald et al., 2015; Wilson et al., 2015). Moreover Dockrell and Lindsay (2001) emphasised the need for teachers to understand the nature of children's learning difficulties, and be systematically trained to appropriately address their educational needs.

Positive responses from all children were observed as a result of teachers' increased use of praising children's listening and non-verbal behaviour, modelling, providing choices, and opportunities for small group activities. These included increased children's interaction and participation among their peers and with teachers. Teachers also observed encouraging responses from children categorised with SLCN in their classrooms. Children with SLCN were usually left out and had difficulties participating as class activities tended

to be individually based. This suggests teachers may not have the knowledge and skills of strategies to include children with SLCN in class activities. This lack of knowledge and skills may have also negatively impacted on teacher's attitudes and perception towards children with SLCN, such as observed in Marshall et al.'s (2002) and Forlin's (2001) study. Both of these studies indicated insufficient teacher training and knowledge as barriers to providing appropriate educational provisions for children with diverse learning abilities (Forlin, 2001; Marshall et al., 2002). However, a result of teachers conducting more grouped-based activities, children with SLCN became more involved and interacted with other children during these activities. This finding highlights the benefits of small group activities for children as they are more likely to participate and communicate with their peers, as observed in this study (Cullinan, 1993). Dickinson and Porche (2011) also highlighted the significance of group-based activities in fostering children's language learning particularly in pre-school settings. Teachers reported children were more responsive when their listening and non-verbal behaviour were praised. This resulted in a more interactive classroom environment, supporting Crosskey and Vance's (2011) finding of improvements to children's language environment resulting from a teacher training on strategies to support children's listening.

In this study, equipping teachers with the knowledge and skills to develop children's communication during intervention resulted in encouraging outcomes in creating communication supporting classrooms in Brunei schools.

9.6 Research Question 5: What factors are challenges in creating such a classroom environment in Brunei schools?

Information from the focus groups identified 11 factors perceived as challenges in creating communication supporting classrooms in Brunei primary schools. These were: issues with school and classroom practices, teaching strategies, material and human resources, teacher and children related factors, physical environment and issues specific to the Brunei educational system.

9.6.1 The impact of technology

As was previously discussed in 9.5.2 (page 159), the use of technology can be beneficial in supporting children's communication (Gross, 2013; National Council for Curriculum and Assessment, 2007). In the context of Brunei schools, this specifically referred to teachers communicating with children through email or text messages due to some children's reluctance to speak up in class. Additionally, teachers also use this method to inform children regarding school tasks and homework. Two disadvantages to using this

communication practice were highlighted. The first disadvantage was the potential of an inappropriate influx of text messages from children to teachers. This could likely result in overstepping of barriers, where children may not be clear on what constitutes appropriate content and frequency of directing text messages to teachers. Secondly, the negative impact on communicating in person for both children and teachers. This refers to individuals talking face-to-face with each other, and sentences and words (especially in written form) are more likely to become shorter and abbreviated, resulting in 'electronic language'. Several studies have examined the concept of 'electronic language' of which the underlying principle is the emergence of 'new' forms of words and structures due to certain limitations of constructing sentences on a mobile phone (Hassan & Hashim, 2009; Marzuki & Walter, 2013). These include limitations due to screen size and the number of characters allowed in a single text message. Additionally, Hassan and Hashim (2009) also discussed how certain abbreviations or short forms of words serve a social purpose to identify with a particular group albeit electronically.

9.6.2 The fear of talking in classrooms

Another challenge in creating communication supporting Brunei classrooms was the fear of talking experienced by some children. Two reasons were identified as the cause for this fear: 1) due to limited communication skills, and 2) children afraid to speak up in class. For children with communication difficulties, their reluctance to talk may be due to their lack of ability to communicate as a result of their limitations (Martin & Miller, 2003; McCormick & Loeb, 2003; Thompson, 2003). Children who were simply 'afraid to speak up in class' may be due to their individual personal and cultural factors. They may have had a negative previous experience of speaking up in class, and this resulted in their unwillingness or fear to talk during the lesson (Lindsay et al., 2010; Martin, 2000). Another explanation could be due to cultural norms where speaking up is not a common practice (Bunce, 2003). Especially in the Brunei culture, showing respect to elders is a highly regarded value in an individual, according to the local customs (Kwintessential, 2014; The Government of Brunei Darussalam, 2015). Children may be afraid to respond in class because they were not accustomed to it, depending on the upbringing of the individual child. Moreover, children may also be reluctant to express their own opinions due to the educational culture of Brunei classrooms where teachers are traditionally viewed as being more knowledgeable. Evidence to support this comes from Dhindsa's (2008) study indicating children tend to be more vocal the more proficient they are in the English language, and the higher their education level. Factors relating to children's and teachers'

characteristics, support from classmates and classroom sizes may also impact on children's willingness to talk in classrooms as indicated by Abdullah et al.'s (2012) study.

9.6.3 The physical limitations of Brunei classrooms

In 9.5.3 (page 159), advantages of classrooms in MIS buildings (specialised SEN classrooms) were discussed as facilitating communication supporting classrooms. Aspects of regular classrooms (classrooms in the main part of the school within MIS and classrooms in non-MIS) were identified as challenges in creating communication supporting classrooms. Unlike specialised SEN classrooms, regular classrooms tend to be at disadvantage due to higher numbers of these classrooms throughout the school and the population of children in each class. As such, regular classrooms were also limited in the allocation of teaching resources and classroom facilities compared to specialised SEN classrooms. The physical arrangement of regular classrooms was also constrained to the limited amount of space available, challenging teachers in creating communication supporting classrooms. The importance of the physical layout and resources were highlighted by various studies as essential factors in supporting children's communication development (Adelman & Walker, 1974; Duncanson et al., 2009; Gross, 2013; Jarman, 2008; Justice, 2004; McCormick, 2003c; Sommer, 1977). In Brunei schools, the indication of the current study was the challenges faced by regular classrooms in creating a communication supporting environment, due to limited classroom space, teaching resources and facilities available. This resulted in classrooms only providing children with a limited number of specific learning areas to facilitate their communication.

9.6.4 Restrictions on class and school visits

The benefits of class and school activities to children's communication were discussed in 9.5.1 (page 158). This included organising visits to places of interest within and outside of schools. However, feedback from the focus groups highlighted a challenge for schools with regard to restrictions imposed on conducting external school activities. Teachers perceived these restrictions impacting on developing children's communication, as it limits their opportunity for first-hand experience. Restrictions imposed by the Ministry of Education involved mandatory regulations required for Brunei primary schools to conduct external school visits. As a result, external school activities tended not to be carried out, as many of these schools were unable to fulfil these obligations due to various reasons.

9.6.5 Change in the language of instruction

Another challenge in creating communication supporting classrooms in Brunei primary schools, was identified by the participants as the change in the language of instruction from Malay to English between pre-school and year one. Teachers in the current study viewed the language switch, from Malay to English, as ineffective in teaching mathematical concepts and spelling. The change in instructional language was perceived to confuse children (at least initially) and demanded teachers to invest additional time to re-teach already taught concepts.

The bilingual education policy of the Brunei education system (Brunei Darussalam Government Gazette, 2007; Hamid, 2000; Ministry of Education, 2014b; Oxford Business Group, 2013) recognises the importance placed on using both Malay and English in schools due to historical and political reasons. Therefore, both languages are used as mediums of instruction and at the same time, also taught as school subjects in all government primary and secondary schools (Ministry of Education, 2012; Mundia, 2009). The switch of instructional language from Malay to English occurs from year one onwards, particularly for the core subjects of Science and Mathematics (Sammons, Davis, Bakkum, Hessel, & Walter, 2014).

The findings of the current study reflect the impact of the transition in instructional language on teachers' teaching and children's learning especially between pre-school and year one. The success of children learning English as a second language in schools may be affected by personal or cultural factors, which in turn may affect their ability to learn concepts, meanings and linguistic structures (Brice, Miller, & Brice, 2006; Bunce, 2003; Martin & Miller, 2003). Cultural expectations, such as being passive and showing respect to elders and those more knowledgeable, may impact on children's willingness to talk and participate in class activities (Abdullah et al., 2012; Dhindsa, 2008; Kwintessential, 2014; The Government of Brunei Darussalam, 2015). Children therefore may be less willing to talk and offer their own opinions in class, as this may be perceived by teachers as being rude and disrespectful. Teachers may also be limited by cultural expectations (Kwintessential, 2014). For instance, respect of those in senior positions, such as officers in the Ministry of Education (MoE) and expectations to accept the challenges brought on by the bilingual education system.

However, contrary findings were reported in a recent multi-method case study research project commissioned by the Centre for British Education Teachers (CfBT) examining the outcomes of Brunei's bilingual education policy (Sammons et al., 2014). The data was collected from interviews (English language teachers, senior education officers,

school administrative staff, CfBT officers and students), school visits, relevant documents and previous research related to the teaching of English in Brunei schools. Of particular interest were the perspectives of principals and teachers from three primary and six secondary schools on the transitional period in instructional language. Participants perceived the transition from Malay to English in year one as mostly positive, particularly as they believed it would lessen the impact of linguistic discontinuity in Science and Mathematics subjects (Sammons et al., 2014). Furthermore, teachers acknowledged the benefits of the bilingual education policy on the top 50 percent of the Brunei student population (Sammons et al. 2014).

Confusion in children due to learning and using multiple languages, such as in the Bruneian context, is a frequent occurrence but tends to disappear after a few years (Martin and Miller, 2003). The change in instructional language in schools has undeniably resulted in additional demands with regards to supporting children's learning in Brunei classrooms (Martin, 1996; Sammons et al., 2014). There is also a need to ensure appropriate support is in place to assist children most at risk for difficulties due to the instructional language change. Sammons et al. (2014) highlighted the importance of investigating the population of students who were struggling with learning English, particularly those located in remote areas of Brunei.

Several initiatives have therefore been undertaken by the MoE to support children through this whole process. These initiatives include the 'Malay and English Literacy Program for Primary Schools', and the 'Sustainability of the Reading and English Acquisition approach in teaching and learning English Language' (Ministry of Education, 2012, 2013). Additional support programmes include night classes and writing competitions for children, and plans for a nationwide outreach programmes to increase parental support and involvement (Sammons et al., 2014).

The MoE maintains strict guidelines on the use of both Malay and English as the language of instruction at both primary and secondary school levels (Martin, 1998). Despite this policy, the research on the classroom practices in Brunei schools suggests that not all teachers adhere to this rule. Although teachers are expected to only use one language (either Malay or English depending on the lesson) when teaching, examinations of Brunei classrooms indicate that code switching is a frequent occurrence and a common teaching strategy (Jones et al., 1993; Martin, 1996, 1999; Sammons et al., 2014). Teachers rationalise that code switching is an essential approach to help children understand complex concepts and minimise the linguistic stress brought on by the bilingual policy (Jones, Martin, & Ożóg, 1993; Sammons et al., 2014)). Hence code switching, particularly

for primary school teachers, is viewed as a necessary strategy to support children's learning and facilitate teaching. However, due to the lack of official tolerance of code switching, teachers tend to limit mixing English and Malay especially during visits from ministry officials (Martin, 1996).

Exposure to English outside of the school context is also viewed as an important consideration in preparing children for the bilingual education policy (Martin, 1998). It is unsurprising therefore, that interacting in English, especially by the younger generation, was claimed to be the practice in some homes by parents to prepare children for the additional demands of the bilingual education system (Jones et al., 1993). Furthermore, being able to communicate in English was perceived to be beneficial for children to increase education and employment opportunities on a larger scale, in line with Brunei's aim for a nation equipped with 21st century skills (Ministry of Education, 2012; Sammons et al., 2014).

Despite the political will towards implementing a bilingual education system, it is also important that teachers recognise and acknowledge all children's rights to have access to education in the regular curriculum, and in ensuring that their differences are valued and respected (Purdue, 2009). A study conducted by Engelbrecht et al. (2015) examined the understanding of 49 teachers through semi-structured individual and focus group interviews from a representative sample of schools in South Africa. In their findings, teachers were aware of the rights of all children to be included in mainstream education, but are limited due to the lack of knowledge, skills and resources. These factors have also been identified in previous studies (Dockrell & Lindsay, 2001; Marshall, Ralph, & Palmer, 2002) in addition to teachers' attitudes towards children with special needs, which are influenced by the type and degree of support required (Forlin, 2001; Purdue, 2009; Serajul Haq & Mundia, 2012).

In the Brunei context, both the bilingual and inclusive education policy places additional demands on the teaching and learning process for both teachers and children in schools. Brunei's cultural practices, as previously mentioned, may potentially act as barriers in achieving the education aims for all children. Cultural factors, for example teachers as more knowledgeable, expectations for children to be passive in class, and views towards children with special needs, were identified as barriers to successful inclusive education (Abdullah et al., 2012; Timmons & Alur, 2004; Wickremesooriya, 2012, 2015). Wells (1999) also discussed the perceived conflict by teachers in achieving the educational goals of instilling children with cultural knowledge and practices, but at the same time nurturing and enhancing their individual abilities. Therefore, there is a need to critically evaluate

educational practices, cultures and policies, particularly to ensure the diverse needs of all children are met and respected (Miles, 2000; Purdue, 2009; Wickremesooriya, 2012).

9.6.6 Impact of the current education initiative on children's cultural and social values

As previously discussed, Brunei customs have strong roots in the Malay and Islamic values particularly in relation to how the younger generation interacted with individuals who were more senior in age and position (Kwintessential, 2014; The Government of Brunei Darussalam, 2015). Participants in the current study identified that the Brunei education initiative contributed to creating communication supporting classrooms by encouraging new teaching strategies. However, the participants also recognised that this initiative challenged the promotion of children's communication within the boundaries of culturally specific values and etiquette. In particular, children did not display culturally appropriate behaviours such as the use of appropriate salutation titles, using a low tone of voice and bowing the head when greeting and respecting teachers.

Dhindsa (2008) reported that the traditional perspective of teachers viewed as more knowledgeable and superior within Brunei classroom settings, resulted in children's reluctance to express their own opinions. This was attributed to the level of education and proficiency in the English language in that children became more vocal as they progressed further in their studies. In addition, the bilingual education policy implemented in Brunei schools meant that success in school was often associated with increased English proficiency (Jones et al., 1993).

Promoting children's communication, including the introduction of school based assessments (SBA), was one of the essential skills and changes emphasised in the reformed educational system towards achieving the Brunei National Vision 2035 (Ministry of Education, 2012, 2013; Oxford Business Group, 2013). SBA measure children's learning progress over a longer period of time and play a major role in the new curriculum designed to be more learner-centred, focusing on enhancing learning through activities thus reducing 'emphasis on exam-oriented instruction' (Ministry of Education, 2013, p. 76). This implies that children's ability to communicate would impact their overall school progress as their learning outcomes, including their communication skills, were now being assessed on a continuous basis throughout the academic years.

While this initiative was viewed as the driving force for teachers to promote children's communication, the participants in the current study reported a drawback to this. They perceived children as being more competent in their communication skills but lacking in highly regarded cultural values and etiquette, and was seen to be losing their 'Bruneian

identity'. The participants appeared to be in conflict with their desire to keep to Bruneian values (children showing respect to teachers in schools) and recognising the positive impact of the education initiative on promoting children's communication (improvement to children's educational attainment).

Such conflict between implementing the educational initiative and keeping to cultural expectations, has been reported in previous studies examining the Western influence on Brunei's culture (Jones et al., 1993; Martin, 1998). As such, the Malay Islamic Monarchy, or Melayu Islam Beraja (MIB) philosophy in the school curriculum was introduced as an attempt to minimise the 'loss' in 'Bruneian identity'. The MIB philosophy emphasises the teachings of Islam and the Malay culture, and sets out to uphold children's traditional and cultural values in ensuring the Bruneian identity is not lost in the face of modernisation (Hamid, 2000; Ministry of Education, 2008b, 2012, 2013).

Teachers' willingness to be involved in developing communication supporting classrooms in Brunei primary schools could be affected due to the tension in promoting children's communication without compromising the cultural expectations of the MIB philosophy. In other words, teachers may struggle to find the balance between implementing the curricular expectations and their own expectations for children to maintain culturally appropriate behaviours. Factors relating to cultural norms were also identified as challenges in promoting the inclusion of children with speech, language and communication needs in regular classrooms (Wickremesooriya, 2012, 2015). Teachers' conflict in complementing two main educational goals, which include; 1) informing children on cultural knowledge and practices, and 2) to nurture their optimal individual abilities, was also discussed by Wells (1999), and mirrors the perceived conflict reported in the current study.

In an effort to increase parents' awareness of the reformed education system, dialogue sessions were conducted in the initial stages of implementation (Ministry of Education, 2013). These sessions informed parents on the emphasis placed on parental involvement in the organisation and conducting of school programmes and activities. However, little is known about parents' knowledge and views regarding the changes to the education system, particularly on how children's communication is assessed. Information regarding this matter is crucial given the importance placed on parental involvement in the education curriculum, and on children's communication in general. Surveys and interviews could be carried out to investigate parents' level of awareness and perceptions regarding the changes to the education system. This is in light of the fact that previous studies have established the importance of parental role in developing children's communication (Bain

et al., 2015; Buschmann, Multhauf, Hasselhorn, & Pietz, 2015; Iacono, Chan, & Waring, 1998; Ramey, Campbell, & Ramey, 1999). In particular, parenting styles are indicated to have a direct impact on parents' role in developing their children's communication (Keshavarz & Baharudin, 2009; Shahrill, Lim, Poh, & Riah, 2013). Shahrill et al. (2013) conducted a survey to investigate the perception of 1083 Bruneian youths aged between 17 to 20 years old on the type of parenting style of their parents according to three categories (authoritarian, authoritative, and permissive). Parents were viewed as adopting the authoritative parenting style approach, with mothers being comparatively so than fathers. The authoritative parenting style involved a seemingly balanced approach compared to the other two styles, and involved parents being both directive and demanding, yet are willing to listen and respond to their children's needs (Shahrill et al., 2013). Shahrill et al.'s (2013) findings is indicative of the type of adult-child interaction that occurs in Brunei, however it is limited to the perception of the youths involved in the study.

In 2009, Keshavarz and Baharudin conducted a study on the parenting style of Malay parents in Malaysia, which hold similarities to Brunei with respect to religion, language and the Malay culture. Malay parents were reported to implement a more directive approach aimed to teach their children the attitudes and behaviours in line with the teachings of Islam and the Malay culture (Keshavarz & Baharudin, 2009), similar to the situation in Brunei.

In summary, it can be seen that the current education initiative in Brunei has had an impact on children's cultural and social values. Previous studies, including this current study, go some way to indicate the important roles played by both teachers and parents in developing children's communication while ensuring their Bruneian values and etiquette remain intact. This needs to be further explored with specific attention drawn to adult-child interaction not just within schools but also outside the school context.

9.6.7 Time constraints for teachers

Factors relating to time were frequently mentioned by the participants, particularly in the context of the organisation of classrooms, preparation of resources, and to practise skills in working towards the intervention targets. Issues relating to teachers' time constraints were not unique to the current study but were cited as a factor in many studies (Feiler & Watson, 2011; Forlin, 2001; Glover et al., 2015; Marshall et al., 2002; Mohidin et al., 2008; Wickremesooriya, 2012, 2015) The general consensus was teachers were weighed down with the teaching workload, and attending professional development training. Teachers therefore perceived these additional responsibilities as limiting their time for

other matters, including arranging classrooms to become more communication friendly and learning strategies to facilitate children's communication.

Time constraints were a challenge for collaboration between classroom and SENA teachers in implementing individualised education plans for children with SEN in Brunei schools (Taha et al., 2004). Challenges to collaboration between teachers and SLTs in mainstream schools due to time was also identified by Glover et al. (2015) and Feiler and Watson (2011). Teachers' time constraints further impacted on the inclusion of children with speech and language difficulties (Marshall et al., 2002) and in the implementation of a remediation programme in Brunei primary schools (Mohidin et al., 2008). Therefore the issue of teachers' limited time for matters besides completing the educational curriculum may reduce the potential for the development of communication supporting classrooms in Brunei primary schools.

9.6.8 Classroom sharing in Brunei schools

Classroom sharing practice in Brunei primary schools was described in 8.3.2.1 (page 136), and how this impacted on collaboration among those involved was discussed in 9.5.5.1 (page 161). However, a consequence of classroom sharing was the lack of sense of 'ownership' felt by teachers due to them not having flexibility to display relevant materials, and keep teaching resources in these classrooms. This reduces the opportunity for teachers to arrange their classrooms to support children's communication. This highlights the importance of collaboration and support from all those involved in maintaining the classroom arrangement, display of children's work, and the storing of teaching resources in the classrooms. In other words this involves collaboration from the whole school including the head teacher to ensure the success of appropriate classroom sharing. Involvement of the whole school in an intervention programme for children with SLCN produced encouraging results as indicated by Leyden et al.'s (2011) study. However, this was dependent on how committed schools were in implementing the intervention in the first place. Collaborative practices between SENA and classroom teachers in the educational provision of children with SEN in Brunei primary schools was also indicated by previous studies in the Brunei context (Bradshaw, 2005; Hamdan, 2006; Taha et al., 2004). This suggests the challenge of classroom sharing in creating communication supporting Brunei classrooms can be overcome through collaboration among those involved.

9.6.9 Issues with the school budget

In 8.3.2.2 (page 136), the impact of school budget issues on various aspects of classroom practice was presented. School budget cuts resulted in limited access to teaching resources and storage facilities in classrooms. Teachers reported difficulties with utilising a range of teaching materials during teaching, as they had limited access to these materials and were also not able to store them in their classrooms due to a lack of appropriate storage. Issues relating to a lack of funds and resources were identified as barriers to inclusion in Brunei schools as indicated by Sim and Koay (2004). Limited access to specialised teaching materials due to schools' budget cuts also impacted on teachers learning support for children with SEN and SLCN in mainstream schools (Mohidin et al., 2008; Taha et al., 2004). As such, the challenge faced by Brunei primary schools in creating communication supporting classrooms is due to restrictions on the school budget. This finding supports Glover et al.'s (2015) study where funding related issues was identified as challenges to supporting children with SLCN in schools.

9.6.10 Praising of listening skills

Explicitly praising children's listening by teachers was not a common practice in Brunei schools and identified as a challenge in creating communication supporting classrooms. Teachers tended to frequently praise children who were verbal and provided correct answers to questions. Children who were quiet were often explicitly praised by teachers and used as examples for other children who were not displaying the same behaviour. Although it appeared the concept was to encourage children to listen to teachers during the lesson, the way praising was implemented focused on openly praising children for being quiet and not on their listening. When this was highlighted, some Intervention Classroom teachers reported that they assumed praising of children's listening was implicit in the praise for children being quiet. This is in line with the traditional value of associating silent classrooms with children listening and producing work (Cullinan, 1993).

In the current study, the intervention undertaken to modify teachers' communication supporting behaviours in the classroom, took place over a period of four months. At the end of this period, an informal feedback session was conducted with each Intervention Classroom teacher. Although not comprehensive, these sessions served to provide insight into teachers' perception of any changes to their classroom practices, and their understanding of the key concepts in supporting children's communication. Based on the teachers' observations, children were reported to be more interactive and involved in classroom activities when teachers' implemented communication supporting behaviours.

These behaviours included praising children's listening skills and non-verbal communication, modelling language not yet produced, and providing choices. The first-hand experience at modifying classroom practices positively impacted teachers' experience, which in turn led teachers to appreciate the significance and benefit of supporting children's communication.

Changes in teachers' practice was also evident from the positive increase in the classroom observation scores, pre and post intervention. This reflects an increase in teachers' understanding of the value in supporting children's communication through modifying their interaction behaviours. The positive score change also suggest teachers required more information and specific training on praising children's listening and other interaction behaviours to support children's communication. This study's findings indicate that teachers were more likely to engage in communication supporting behaviours following appropriate training and knowledge acquisition. Crosskey and Vance's (2011) findings lend support to this whereby informing and training teachers resulted in improved teaching practices to support children's listening. Teacher training that involved repetition and practice, as indicated by McDonald et al. (2015), and as implemented in the current study, may contribute to teachers' increased use of communication supporting behaviours. The importance for teacher training to be direct and specific was also evident from this study.

However, the current study did not explore in detail teachers' understanding of the key concepts in supporting children's communication. Teachers' observations and reflections during the informal feedback sessions highlight the need to examine this further. It would be useful to conduct the intervention over a longer period of time and to adopt more quantitative methods of measuring teachers' understanding of changes in their classroom practice which support children's communication. For example, teacher-child interactions could be videotaped during the pre and post intervention periods and later viewed during feedback sessions for analysis and teacher reflections. The videotaped sessions would also serve to highlight the positive impact of modifying classroom practices in supporting children's communication.

9.6.11 Parental involvement

A challenging factor in creating communication supporting classrooms in Brunei schools was parental involvement. Teachers reported that parents were not involved in their children's overall development at home, and placed the responsibility of children's learning on teachers. Involving parents in children's learning was an emerging practice in Brunei primary schools. An example was a book reading scheme where schools provided

children with books for them to read at home with their parents. The issue of parents being less involved in their children's overall learning development was also a practice observed in the UK. An example was highlighted by Gardner (2006) particularly in relation to parental involvement in speech and language intervention of their school-aged children.

Parental involvement has been shown to impact positively on children's later language development (Buschmann et al., 2015; Iacono et al., 1998; Ramey et al., 1999). Bain et al.'s (2015) study demonstrated the important role of parents in supporting children's communication development especially in the early years, and also in preparing children for the learning process (Martin & Miller, 2003). The importance of involving parents is recognised as essential especially in supporting inclusive education in schools (Lindsay & Dockrell, 2004; UNESCO, 1994). Teachers have also acknowledged the significance of parental involvement in supporting children with SEN in Brunei schools and view this involvement as positive (Bradshaw, 2005; Hamdan, 2006; Taha et al., 2004). The lack of parental involvement as a challenging factor in creating communication supporting classrooms suggested the need for Brunei schools to involve parents in children's communication development. This is important as teachers and parents may place different values on children's learning outcomes as indicated by Baxendale et al. (2013).

9.7 Evaluation of Study Design

9.7.1 Strengths of study design

The mixed methods approach employed in this study enabled the researcher to quantify the level of support children received in participating classrooms, and understand more about this concept from teachers' perspectives. This allowed for a more comprehensive understanding of communication supporting classrooms than if only either a quantitative or qualitative approach was used in isolation (Creswell, 2009; Creswell et al., 2004; Östlund et al., 2011). This mixed method approach to examine support for children's communication in classrooms was similar to Gràcia et al.'s (2015) study, involving both classroom observations and semi-structured teacher interviews. The current study's mixed method approach to examining communication supporting classrooms in Brunei primary schools therefore drew on the strength of two distinctive research methods. Each approach assessed different and overlapping aspects of communication supporting classrooms in Brunei schools for the purpose of complementarity (Glogowska, 2011; Greene et al., 1989; Morgan, 1998; Östlund et al., 2011). This entailed one approach enhancing the other resulting in enriched understanding of communication supporting classrooms in the Brunei context.

A strength of this study was the use of a standardised observation tool to conduct the classroom observations, i.e. the CsC Observation Tool. As presented in section 2.3.3 (page 23), the development of this tool was based on an extensive literature review of key elements and practices in creating communication supporting classrooms. Therefore, the classroom practices observed in the Brunei classrooms involved in this study, reflects how children's communication was supported against evidence-based practices.

The use of inter-rater reliability measures in the current study is another advantage of the study design. As classroom observations were employed in measuring how children's communication was supported in the participating classrooms, it was important to make sure the scores obtained were not based only on the researcher's judgment. This was to ensure the generality and the consistency of the observation scores (Multon, 2010). The use of a repeated measures design was another strength of the current study. According to Field (2013), studies that employ this type of design are more powerful in detecting the effects of intervention in research compared to independent study designs.

The current study also demonstrated good retention of the participants throughout the whole study. In particular, as presented in section 6.3.3 (page 106), during the intervention phase a SENA teacher was promoted and transferred to another school which was not involved in the study. However, this teacher was willing to continue with the intervention by agreeing on a schedule with the Intervention Classroom teacher. This involved the SENA teacher returning to the previous school involved in the study, and supporting the Intervention Classroom teacher in achieving the intervention target items.

Additionally, the inclusion of Control Classrooms matched for age and year level to the Intervention Classrooms provided evidence for the effect of intervention. This allowed for a comparison of the outcome measures between the control groups and the intervention or experimental groups (Peng & Ziskin, 2008). In the current study, changes in Intervention Classroom teachers' practices in supporting children's communication pre and post intervention were measured through differences in the scores obtained using the CsC Observation Tool. This was then compared to the changes in scores of the Control Classrooms during the intervention period to determine the effect of the intervention.

Another strength of this study was the increased collaborative opportunities between classroom and SENA teachers, which impacted on modifying teachers' classroom practice to facilitate children's communication. This was largely due to the intervention approach involving both groups of teachers working together to achieve the intervention targets. Through collaboration, SENA and classroom teachers collectively gained knowledge, shared information, and practised communication facilitating strategies. This

resulted in increased application of these strategies in classrooms, indicating effectiveness of the intervention. The practice of involving SENA teachers in school based intervention programmes was essential as they are the key person in delivering and supporting class teachers in the educational provisions for children with SEN (Koay, 2012; Lim et al., 2006). Positive impact of collaborative intervention between SLTs and mainstream secondary school teachers on modifying teachers' classroom practice was indicated by Starling, Munro, Togher and Arciuli's (2012) study. In this study, teachers showed significant use of language modification strategies resulting in improvement in students' written and listening outcomes. This was similar to the current study where teachers showed increased use of a number of communication supporting strategies resulting in encouraging responses from children. Although the current study involved collaboration between SENA and classroom teachers, it indicated teachers' need for ongoing support from those more knowledgeable in the area of children's speech and language, such as SENA teachers and SLTs. Benefits of collaboration between classroom and SLTs, has also been shown to positively impact on modifying teachers classroom practices and improve the language environment for children with SLCN (Dockrell & Lindsay, 2001; Glover et al., 2015; Leyden et al., 2011; McDonald et al., 2015; Wilson et al., 2015). Previous Brunei research has also indicated positive views on SENA and classroom teacher collaboration in schools (Bradshaw, 2005; Hamdan, 2006; Taha et al., 2004).

9.7.2 Limitations of study design

A limitation of this study was the small sample size of ten classrooms (five intervention and five control classrooms) involved in the intervention phase. A small cohort was a result of the time needed to assess baseline classroom practice, set targets in collaboration with teachers, monitor progress and evaluate outcomes. There were not enough resources to complete this detailed process with a larger cohort. The number of participating teachers limits the applicability to generalise the findings of this study and also reduces statistical power. Large sample sizes in research studies increases the statistical power to detect effects and are better approximations of the population sample (Field, 2013). Future research should develop this study's findings with a larger number of participating schools.

Another limitation of this study was the potential of teacher sample bias as the five SENA teachers involved in the intervention may be more motivated than other SENA teachers. These teachers were all relatively new in their position (an average of four years of working among them) and were willing to gain experience in research as all of them

planned to pursue further education themselves. As a result, their perspectives may not be representative of the views and experiences of SENA teachers in general.

The low inter-rater reliability scores observed particularly for the Language Learning Opportunities (LLO) dimension in both the profiling and intervention phases was a further limitation to the current study. These scores suggested there was low agreement between the raters in the LLO dimension compared to the Language Learning Environment and Language Learning Interaction dimensions. Further examinations to determine the cause of the low inter-rater agreement for the LLO dimension is important to strengthen the usefulness of the results generated from the classroom observations.

Additionally the findings indicated the need for cultural adaptations to the CsC Observation Tool. Specifically, this was in reference to the practice of praising children's listening, and the use of musical instruments to support children's communication in the classrooms involved. The need for adaptations was only evident after the data was collected from both the profiling and intervention phases of the current study. Although the pilot study conducted in the initial stages suggested the CsC Observation Tool was able to measure how children's communication was supported in Brunei classrooms, this was only based on a very small sample.

A further limitation was the absence of a longitudinal follow-up study to measure if improvements to teachers' classroom practice were maintained over time. This was not possible within the current study due to the timescale of the scholarship. A follow-up study will also inform if collaboration between SENA and classroom teachers to facilitate children's communication continued after intervention.

An important limitation and perhaps the most significant one was the lack of child measures. At the end of the intervention period, the participants perceived positive gains in children's communication behaviour, including those identified with speech, language and communication needs, due to teachers' modifying their interaction skills (praising children's listening skill, non-verbal communication, modelling language not yet produced, and providing children with choices), and providing more opportunities for group based activities. Children were reported to be more involved during the lessons and to have increased interaction with their peers and teachers. However, this information was only obtained from informal feedback sessions with the participants after intervention, and mainly based on their observations rather than on quantitative data or measures of children's communication behaviour. Information on how children's communication changed in response to modifying teachers' behaviour is important as it can provide insight into how teacher intervention and training could impact children's communication through

the use of the CsC Observation Tool. Such information should include examining any changes to children's communication behaviour and skills, before and after teacher intervention. This could be conducted through observations of children in class, pre and post measures of language acquisition and expressive language output, or a simple rating scale for children to rate any perceived changes to their communication resulting from teachers' modified classroom practices. Furthermore, it is important to validate the effectiveness of school-based intervention programmes, as implemented in the current study, to ensure optimum effectiveness and increase potential success of the desired outcomes (Ratner, 2006; Snowling & Hulme, 2011).

9.8 Implications on Supporting Children's Communication in Brunei Primary Schools

This study's findings revealed several important practical and theoretical implications to developing communication supporting classrooms.

9.8.1 Practical applications of CsC Observation Tool

1. This study has demonstrated the use of the CsC Observation Tool in primary schools in Brunei. The findings indicate the CsC Observation Tool measured classroom practices to support children's communication in Brunei classrooms suggesting the generalisability of its use across countries. An adapted version of the CsC Observation Tool can be used in Brunei. If it is to be rolled out, this study indicates that some items should be adapted. This includes guidance notes on the use of musical instruments in schools as described in 8.3.3.2 (page 138). Additionally, teachers' practices to support children's comprehension and vocabulary development in both English and Malay should be recognised and included in this adapted CsC Observation Tool.
2. The CsC Observation Tool has successfully measured teacher outcomes of: a) changes to the overall classroom practice and, b) progress in individual target items. This supports Dockrell, Bakopoulou, et al.'s (2012) suggestion of its use as a training and intervention tool, and to evaluate the effectiveness of an intervention programme.
3. Lower inter-rater reliability scores were observed for the LLO dimension in both the profiling and intervention phases (see sections 6.2.1, page 90 and 6.3.1, page 98). This indicates a need to investigate what aspect of this dimension resulted in this low inter-rater reliability.

9.8.2 Implications for educational practice

1. This study highlighted the need for increased teachers' understanding and knowledge of strategies to support children's communication, and how it impacts on their educational attainment. Moreover, focused training on specific classroom and teacher practices identified in this study as lacking in the classrooms involved, is required. This includes teacher interaction behaviours such as praising children's listening skills and non–verbal communication, modelling language children were not yet producing, and opportunities for small group work. As such the findings of this study supports previous studies in this area (Bain et al., 2015; Dockrell & Lindsay, 2001; Glover et al., 2015; Letts & Hall, 2003; McDonald et al., 2015; Wilson et al., 2015) indicating teachers need to have access to information, knowledge and specific training particularly in developing children's communication within classrooms.
2. An interesting finding of this study was the importance of cultural and local aspects of children's communication viewed by teachers. Although the CsC Observation Tool was developed based on extensive literature of evidence-based practices to develop communication supporting classrooms, culture-specific factors may impact on its use especially in Brunei context. This suggests a need to explore observational measures of classroom supporting classroom practices while simultaneously respecting Brunei cultural and local traditions. The importance of research to investigate the extent of the impact of cultural factors on evidence based classroom practices for children and their learning was also highlighted by Alexander (2001).
3. Importance of collaboration between classroom teachers and SENA teachers, and with SLTs as an effective strategy to modify teachers' practice, as indicated by this study's findings.
4. The intensity of teacher training was another important implication that emerged from the current study. This was evident in situations where classroom teachers were able to modify their communication supporting behaviours with support from the SENA teachers during the intervention period. The importance of the amount and frequency of support provided to teachers during an intervention programme was also demonstrated by McDonald et al.'s (2015) study where it led to increased up-take of new skills by teachers. Further exploration of the intensity of teacher training is therefore warranted to gain more information on the effectiveness of such intervention programmes.

9.8.3 Implications for Brunei context

1. The change in instructional language from Malay to English was reported to cause confusion for children especially in the early primary years. This was supported by Dhindsa's (2008) findings where issues with English proficiency reduced as children progressed further in school. Changes in instructional language resulted in teachers having to spend more time to reteach and ensure children understood concepts previously learnt. This indicated more work for teachers, limiting time to focus on other aspects of classroom practice in creating communication supporting classrooms. Time constraints have been shown to impact on teachers' ability to collaborate with others, acceptance of children with SLCN, and in implementing intervention programmes (Feiler & Watson, 2011; Glover et al., 2015; Marshall et al., 2002; Mohidin et al., 2008).
2. The importance of exposing children to different language experiences through visits within and outside of schools was recognised in this study as an important activity to develop children's communication, based on existing literature (Gross, 2013; Martin, 1999; Miller, 2003). This suggests participants were aware of the benefits of such activities to support children's communication in Brunei context. However, an issue was the regulations imposed by the MoE particularly for conducting external school visits. Participants perceived this impacted on reduced opportunities for providing children with first-hand language experience across different settings, which can stimulate effective communication in children (Jarman, 2008; Roskos & Neuman, 2001). This indicates the need to resolve this issue through increased understanding of the benefits of such activities on children's communication at the school and Ministry level.
3. Teachers also perceived the current education initiative to negatively impact on promoting children's traditional and cultural values as aimed by the Malay Islamic Monarchy (MIB) concept of the school curriculum (Hamid, 2000; Ministry of Education, 2008b, 2012, 2013). This may influence teachers' attitudes and willingness to facilitate children's communication. However this was only the perception of a small sample of teachers implying a need to explore this further with a larger sample.

9.9 Directions for Further Research

A number of recommendations are suggested for further research on developing communication supporting classrooms in Brunei primary schools.

1. A larger randomised control study involving more primary schools and include a wider range of classrooms and children (pre-school, year one and year two). This will allow for a wider examination of how children's communication is supported in classrooms across the country increasing generalisability and validity of the findings. This study should also aim to explore the outcomes on teachers' classroom and teaching practice, and on children's communication. Moreover, classroom teachers' perspectives of being involved in intervention should be included. This is because teachers play a major role in the implementation of any educational reforms and school based interventions (Dockrell & Lindsay, 2001; Flores & Alonso, 1995). Examining teachers' perspectives may also inform on the feasibility of incorporating the CsC Observation Tool as part of an intervention programme in Brunei schools and assist in evaluating the effectiveness of this method of intervention.
2. A longitudinal study to investigate if changes to teachers' classroom and teaching practices as a result of intervention using the CsC Observation Tool is maintained and what factors impact on facilitating or hindering continuous progress. This is important, as this will inform on the effectiveness and success of intervention and training through the use of the CsC Observation Tool (Dockrell, Bakopoulou, et al., 2012).
3. Future studies should include child measures as part of teacher intervention programme particularly those that examine the impact of modifying teachers' communication supporting behaviours on children's communication and learning. This is because information on how children respond to such behaviours will inform on the effectiveness of incorporating the CsC Observation Tool as part of teacher intervention to develop children's communication within classrooms.
4. The teachers' observations and reflections during the informal feedback sessions after the intervention period highlight the need to further explore their understanding of the key concepts in supporting children's communication. Video recordings of teacher-child interaction before and after intervention could be used for teachers to self-reflect and analyse the impact on children's communication behaviour.
5. This study has suggested cultural and local factors contribute to how Brunei primary schools support children's communication. To explore this further, future studies should be conducted on a larger scale to include a wider range of perspectives from school administrators, key people from the Ministry of Education, class teachers from different year levels, parents and children.

9.10 Conclusion

This study examined the support for children's communication in participating Brunei primary classrooms. It explored how children's communication was facilitated in these classrooms based on three dimensions of the CsC Observation Tool: LLE, LLO and LLI. Differences in the level of support for children's communication were investigated between classrooms in MIS and non-MIS, and between pre-school and year one. Incorporating the CsC Observation Tool as part of a teacher training and intervention programme to support children's communication in classrooms was also explored. Furthermore, the feasibility of developing communication supporting classrooms in Brunei primary schools was investigated through teachers' perspectives.

The findings of this study indicated the primary school classrooms involved were supporting children's communication. Provisions for structured language learning environments were frequently observed in all classrooms. This suggested teachers found organising the classroom environment easier to implement than modifying teacher interaction behaviours, and the provision of opportunities. This highlights a need for improved teacher awareness, knowledge and training in the areas of developing children's communication, supporting findings of previous research in this area (Bain et al., 2015; Dockrell & Lindsay, 2001; Glover et al., 2015; Letts & Hall, 2003; McDonald et al., 2015; Wilson et al., 2015). There were no differences between classrooms in MIS and non-MIS involved in this study in supporting children's communication, but this support was better in pre-school classrooms compared to year one classrooms. This suggests participating year one classrooms were not sustaining the same level of support in all three dimensions.

This study also explored the CsC Observation Tool as part of an intervention and training for teachers, and examined any changes in how children's communication is supported as a result. The CsC Observation Tool identified classroom and teaching practices teachers were not implementing or required enrichment. This provided teachers with a focused intervention programme to develop their knowledge and skills in implementing the targeted teaching and classroom practices. Teachers were also able to see modifications to these practices through the comparison of the scores obtained by the CsC Observation Tool pre and post intervention. This method assisted in informing if intervention targets were achieved, and evaluated the effectiveness of this intervention method. Differences in scores obtained through the CsC Observation Tool showed teachers' classroom practices to facilitate children's communication improved significantly. Teachers also achieved all of their intervention targets supporting the effectiveness of the CsC Observation Tool as a teacher training and intervention tool in this study.

Teachers' perspectives on developing communication supporting classrooms in Brunei primary schools were also investigated. This revealed aspects of supporting children's communication in Brunei classrooms not provided through classroom observations, supporting the benefits of a mixed method approach (Creswell, 2009; Creswell et al., 2004; Östlund et al., 2011). The information obtained from the focus groups was rich in data and informed on factors facilitating or challenging schools in creating communication supporting classrooms. A range of factors related to teachers, children, the physical environment, teaching resources and strategies, and factors specific to the Brunei education system were identified. An indication of the overall findings was the perception by teachers of the limited support provided to schools for supporting children's communication.

The current study has presented a preliminary insight into how Brunei primary classrooms support children's communication. To the researcher's knowledge, no previous studies have investigated this in Brunei primary schools. This study has the potential to serve as a guideline for teachers to improve their classroom practices to facilitate children's communication. It also provides some initial support to utilising the CsC Observation Tool as part of teacher training and intervention. For Brunei schools to develop communication supporting classrooms, it is essential for teachers to have access to knowledge, resources and training in supporting children's communication. However further research on a larger and more detailed scale is required to strengthen the evidence for communication supporting classrooms, both internationally and in the Brunei context.

References

Abdul Aziz bin Begawan Pehin Udana Khatib Dato Seri Paduka Haji Awang Umar, P. O. K. L. W. D. S. S. A. (1996). Opening address. In *Conference proceedings of the first national conference on special education* (pp. 1–5). Bandar Seri Begawan: Special Education Unit.

Abdullah, M. Y., Abu Bakar, N. R., & Mahbob, M. H. (2012). Student's participation in classroom: what motivates them to speak up? *Procedia - Social and Behavioral Sciences*, *51*, 516–522. http://doi.org/10.1016/j.sbspro.2012.08.199

Adelman, C., & Walker, R. (1974). Open space—open classroom. *Education 3-13*, *2*(2), 103–107. Retrieved from http://dx.doi.org/10.1080/03004277408558953

Afasic. (2009). *Is your school a communication friendly school? A resource for mainstream schools.* London: Afasic.

Alexander, R. (2001). *Culture and pedagogy*. Oxford: Blackwell Publishing.

Alexander, R. (2008a). Culture, dialogue and learning: notes on an emerging pedagogy. In N. Mercer & S. Hodgkinson (Eds.), *Exploring talk in school* (pp. 91–114). London: SAGE Publications Ltd.

Alexander, R. (2008b). *Towards dialogic teaching: rethinking classroom talk* (4th ed.). UK: Dialogos UK Ltd.

Alexander, R. (2012). Improving oracy and classroom talk in English schools: achievements and challenges. *Primary First*, 22–29. Retrieved from http://eprints.whiterose.ac.uk/76321/1/R_alexander_improving_oracy.pdf

Alper, R. M., & McGregor, K. K. (2015). Agency as a construct for guiding the establishment of communication-friendly classrooms. *Child Language Teaching and Therapy*, 0265659015589120-. http://doi.org/10.1177/0265659015589120

American-Speech-Language-Hearing Association. (2016). Who are speech-language pathologists, and what do they do? Retrieved June 17, 2016, from http://www.asha.org/public/Who-Are-Speech-Language-Pathologists/

Auten, A. (1985). Building a language-rich environment. *Language Arts*, *62*(1), 95–100. Retrieved from http://www.jstor.org/stable/41405251

Bain, J., James, D., & Harrison, M. (2015). Supporting communication development in the early years: a practitioner's perspective. *Child Language Teaching and Therapy*. http://doi.org/10.1177/0265659015596795

Baxendale, J., Lockton, E., Adams, C., & Gaile, J. (2013). Parent and teacher perceptions of participation and outcomes in an intensive communication intervention for children with pragmatic language impairment. *International Journal of Language and Communication Disorders*, *48*(1), 41–53. http://doi.org/10.1111/j.1460-6984.2012.00202.x

Bazeley, P. (2007). *Qualitative data analysis with NVivo*. London: SAGE Publications Ltd.

Bercow, J. (2008). *The Bercow report: a review of services for children and young people (0-19) with speech, language and communication needs*. Retrieved from http://webarchive.nationalarchives.gov.uk/20130401151715/http://education.gov.uk/publications/eorderingdownload/bercow-report.pdf

Bergman, M. M. (2008). The straw men of the qualitative-quantitative divide and their influence on mixed methods research. In M. M. Bergman (Ed.), *Advances in mixed methods research* (pp. 10–22). London: SAGE Publications Ltd. Retrieved from http://dx.doi.org/10.4135/9780857024329

Berninger, V. W., & Abbott, R. D. (2010). Listening comprehension, oral expression, reading comprehension, and written expression: related yet unique language systems in grades 1, 3, 5, and 7. *Journal of Educational Psychology*, *102*(3), 635–651. http://doi.org/10.1037/a0019319

Berry, R. A. W. (2006). Teacher talk during whole-class lessons: Engagement strategies to support the verbal participation of students with learning difficulties. *Learning Disabilities Research & Practice*, *21*(4), 211–232. Retrieved from http://onlinelibrary.wiley.com.eresources.shef.ac.uk/doi/10.1111/j.1540-5826.2006.00219.x/epdf

Bishop, D. V. M. (2014). Ten questions about terminology for children with unexplained language problems. *International Journal of Language and Communication Disorders*, *49*(4), 381–415. http://doi.org/10.1111/1460-6984.12101

Bishop, D. V. M., & Adams, C. (1990). A prospective study of the relationship between specific language impairment, phonological disorders and reading retardation. *Journal of Child Psychology and Psychiatry, and Allied Disciplines*, *31*(7), 1027–50. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/2289942

Bishop, D. V. M., & Snowling, M. J. (2004). Developmental dyslexia and specific language impairment: same or different? *Psychological Bulletin*, *130*(6), 858–86. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15535741

Bradley, E. H., Curry, L. A., & Devers, K. J. (2007). Qualitative data analysis for health services research: developing taxonomy, themes, and theory. *Health Services Research*, *42*(4), 1758–72. http://doi.org/10.1111/j.1475-6773.2006.00684.x

Bradshaw, L. (2005). Collaboration: are Bruneian teachers ready? *Brunei Darussalam Journal of Special Education*, *2*, 29–41.

Brandone, A. C., Salkind, S. J., Golinkoff, R. M., & Hirsh-Pasek, K. (2006). Language development. In G. G. Bear & K. M. Minke (Eds.), *Children's needs III: development,*

prevention, and intervention. (pp. 499–514). Washington DC, U.S.: National Association of School Psychologists. Retrieved from http://udel.edu/~roberta/pdfs/Bear chaptBrandone.pdf

Brice, A. (2001). Children with communication disorders: update 2001. Retrieved from http://www.hoagiesgifted.org/eric/e617.html

Brice, A. E., Miller, K. J., & Brice, R. G. (2006). Language in the English as a second language and general education classrooms: a tutorial. *Communication Disorders Quarterly*, *27*(4), 240–247. http://doi.org/10.1177/15257401060270040701

Brown, K. M., Elliott, S. J., Leatherdale, S. T., & Robertson-Wilson, J. (2015). Searching for rigour in the reporting of mixed methods population health research: a methodological review. *Health Education Research*, *30*(6), 811–839. http://doi.org/10.1093/her/cyv046

Brunei Darussalam Government Gazette. (2007). *Supplement to government gazette: Part II*. Bandar Seri Begawan: Brunei Darussalam.

Bryman, A. (2006). Integrating quantitative and qualitative research: how is it done? *Qualitative Research*, *6*(1), 97–113. http://doi.org/10.1177/1468794106058877

Bryman, A. (2007). Barriers to Integrating Quantitative and Qualitative Research. *Journal of Mixed Methods Research*, *1*(1), 8–22. http://doi.org/10.1177/2345678906290531

Bunce, B. H. (2003). Children with culturally diverse backgrounds. In L. McCormick, D. F. Loeb, & R. L. Schiefelbusch (Eds.), *Supporting children with communication difficulties in inclusive settings: school-based language intervention* (2nd ed., pp. 367–408). Boston: Allyn and Bacon.

Burnard, P., Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Analysing and presenting qualitative data. *British Dental Journal*, *204*(8), 429–432. http://doi.org/10.1038/sj.bdj.2008.292

Buschmann, A., Multhauf, B., Hasselhorn, M., & Pietz, J. (2015). Long-term effects of a parent-based language intervention on language outcomes and working memory for late-talking toddlers. *Journal of Early Intervention*, *37*(3), 175–189. http://doi.org/10.1177/1053815115609384

Catts, H. W., Fey, M. E., Tomblin, J. B., & Zhang, X. (2002). A longitudinal investigation of reading outcomes in children with language impairments. *Journal of Speech, Language, and Hearing Research*, *45*(6), 1142–57. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/12546484

Chapman, R. S. (2000). Children's language learning: an interactionist perspective. *Journal of Child Psychology and Psychiatry*, *41*(1), 33–54.

http://doi.org/10.1017/S0021963099004953

Cicchetti, D. V. (1994). Guidelines, criteria, and rules of thumb. *Psychological Assessment*, *6*(4), 284–290. http://doi.org/10.1037/1040-3590.6.4.284

Clegg, J., Ansorge, L., Stackhouse, J., & Donlan, C. (2012). Developmental communication impairments in adults: outcomes and life experiences of adults and their parents. *Language, Speech, and Hearing Services in Schools*, *43*(October), 521–535. http://doi.org/10.1044/0161-1461(2012/11-0068)

Clegg, J., & Vance, M. (2015). Editorial: providing communication friendly environments for children. *Child Language Teaching and Therapy*, *31*(3), 269–270. http://doi.org/10.1177/0265659015604058

Clifford, S., Hudry, K., Brown, L., Pasco, G., & Charman, T. (2010). The modified-classroom observation schedule to measure intentional communication (M-COSMIC): evaluation of reliability and validity. *Research in Autism Spectrum Disorders*, *4*(3), 509–525. http://doi.org/10.1016/j.rasd.2009.11.008

Cohen, J. (1960). A coefficient of agreement for nominal scales. *Educational and Psychological Measurement*, *20*(1), 37–46. http://doi.org/10.1177/001316446002000104

Connor, C. M., Morrison, F. J., Fishman, B., Giuliani, S., Luck, M., Underwood, P. S., … Schatschneider, C. (2011). Testing the impact of child characteristics x instruction interactions on third graders' reading comprehension by differentiating literacy instruction. *Reading Research Quarterly*, *46*(3), 189–221. http://doi.org/Doi 10.1598/Rrq.46.3.1

Connor, C. M., Spencer, M., Day, S. L., Giuliani, S., Ingebrand, S. W., & Morrison, F. J. (2014). Capturing the complex: content, type, and amount of instruction and quality of the classroom learning environment synergistically predict third graders' vocabulary and reading comprehension outcomes. *Journal of Educational Psychology*, *106*(3), 762–778. http://doi.org/10.1037/a0035921

Cooper, P. J., & Galvin, K. M. (1983). *Improving classroom communication*. Retrieved from http://files.eric.ed.gov/fulltext/ED233388.pdf

Cordingley, P. (2004). Teachers using evidence: using what we know about teaching and learning to reconceptualize evidence-based practice. In G. Thomas & R. Pring (Eds.), *Evidence-based practice in Education* (pp. 77–87). Maidenhead: Open University Press.

Creswell, J. W. (2009). *Research design: qualitative, quantitative, and mixed methods approaches* (3rd. ed.). Thousand Oaks: Sage Publications.

Creswell, J. W., Fetters, M., & Ivankova, N. (2004). Designing a mixed methods study In primary care. *Annals of Family Medicine*, *2*(1), 7–12. http://doi.org/10.1370/afm.104.

Creswell, J. W., PlanoClark, V. L., & Garrett, A. L. (2008). Methodological issues in conducting mixed methods research designs. In M. M. Bergman (Ed.), *Advances in mixed methods research* (pp. 66–84). London: SAGE Publications Ltd. Retrieved from http://dx.doi.org/10.4135/9780857024329

Cross, M. (2011). *Children with severe SLCN: I CAN Talk series-Issue 9*. Retrieved from http://www.ican.org.uk/~/media/Ican2/Whats the Issue/Evidence/ICAN_TalkSeries9.ashx

Crosskey, L., & Vance, M. (2011). Training teachers to support pupils' listening in class: an evaluation using pupil questionnaires. *Child Language Teaching and Therapy*, *27*(2), 165–182. Retrieved from http://clt.sagepub.com/cgi/doi/10.1177/0265659010397249

Cullen, R. (1998). Teaacher talk and the classroom context. *ELT Journal*, *52*(3), 179–187. http://doi.org/doi: 10.1093/elt/52.3.179

Cullinan, B. E. (1993). Introduction. In B. E. Cullinan (Ed.), *Children's voices: talk in the classroom* (pp. 1–5). Newark, USA: International Reading Association.

Department for Education. (2014). *Statutory framework for the early years foundation stage: setting the standards for learning, development and care for children from birth to five*. London: Department for Education. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/335504/EYFS_framework_from_1_September_2014__with_clarification_note.pdf

Dhindsa, H. S. (2008). Cultural dimensions of the learning environment in Brunei. *International Journal of Science and Mathematics Education*, *6*, 251–267. http://doi.org/10.1007/s10763-007-9077-8

Dickinson, D. K. (2011). Teachers' language practices and academic outcomes of preschool children. *Science (New York, N.Y.)*, *333*(6045), 964–7. http://doi.org/10.1126/science.1204526

Dickinson, D. K., & Caswell, L. (2007). Building support for language and early literacy in preschool classrooms through in-service professional development: effects of the Literacy Environment Enrichment Program (LEEP). *Early Childhood Research Quarterly*, *22*(2), 243–260. http://doi.org/10.1016/j.ecresq.2007.03.001

Dickinson, D. K., De Temple, J. M., Hirschler, J. a., & Smith, M. W. (1992). Book reading with preschoolers: coconstruction of text at home and at school. *Early Childhood Research Quarterly*, *7*(3), 323–346. http://doi.org/10.1016/0885-2006(92)90025-T

Dickinson, D. K., Hofer, K. G., Barnes, E. M., & Grifenhagen, J. F. (2014). Examining teachers' language in Head Start classrooms from a Systemic Linguistics Approach. *Early Childhood Research Quarterly*, *29*(3), 231–244.

http://doi.org/10.1016/j.ecresq.2014.02.006

Dickinson, D. K., & Porche, M. V. (2011). Relation between language experiences in preschool classrooms and children's kindergarten and fourth-grade language and reading abilities. *Child Development*, *82*(3), 870–886. http://doi.org/10.1111/j.1467-8624.2011.01576.x

Dickinson, D. K., & Sprague, K. E. (2001). The nature and impact of early childhood care environments on the language and early literacy development of children from low-income families. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook of early literacy research* (pp. 263–280). New York: The Guilford Press.

Dockrell, J. E., Bakopoulou, I., Law, J., Spencer, S., & Lindsay, G. (2012). *Developing a communication supporting classrooms observation tool*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/219634/DFE-RR247-BCRP8.pdf

Dockrell, J. E., Bakopoulou, I., Law, J., Spencer, S., & Lindsay, G. (2015). Capturing communication supporting classrooms: the development of a tool and feasibility study. *Child Language Teaching and Therapy*, *31*(3), 271–286. http://doi.org/10.1177/0265659015572165

Dockrell, J. E., & Connelly, V. (2009). The impact of oral language skills on the production of written text. *British Journal of Educational Psychology*, *2*(6), 45–62. http://doi.org/DOI:10.1348/000709909X421919

Dockrell, J. E., & Lindsay, G. (1998). The ways in which speech and language difficulties impact on children's access to the curriculum. *Child Language Teaching and Therapy*, *14*(2), 117–33. http://doi.org/http://dx.doi.org/10.1191/026565998672704149

Dockrell, J. E., & Lindsay, G. (2001). Children with specific speech and language difficulties - the teachers' perspective. *Oxford Review of Education*, *27*(3), 369–394. http://doi.org/10.1080/03054980120067410

Dockrell, J. E., Lindsay, G., Connelly, V., & Mackie, C. (2007). Constraints in the production of written text in children with specific language impairments. *Council for Exceptional Children*, *73*(2), 147–164.

Dockrell, J. E., Lindsay, G., Letchford, B., & Mackie, C. (2006). Educational provision for children with specific speech and language difficulties: perspectives of speech and language therapy service managers. *International Journal of Language and Communication Disorders*, *41*(4), 423–440. http://doi.org/10.1080/13682820500442073

Dockrell, J. E., Ricketts, J., Charman, T., & Lindsay, G. (2014). Exploring writing products in students with language impairments and autism spectrum disorders. *Learning and*

Instruction, *32*, 81–90. http://doi.org/10.1016/j.learninstruc.2014.01.008

Dockrell, J. E., Ricketts, J., & Lindsay, G. (2012). *Understanding speech, language and communication needs : Profiles of need and provision*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/219630/DFE-RR247-BCRP4.pdf

Dodd, B. (1995). Children with speech disorder. In B. Dodd (Ed.), *Differential diagnosis and treatment of children with speech disorders*. London: Whurr.

Duncanson, E., Volpe, J., & Achilles, C. (2009). A case study: natural outcomes of creating classroom space. *National Forum of Educational Administration and Supervision Journal*, *26*(4), 1–9.

Dunn, M. W., Cole, C. M., & Estrada, A. (2009). Referral criteria for special education: general education teachers' perspectives in Canada and the United States of America. *Rural Special Education Quarterly*, *28*(1), 28–37. Retrieved from http://search.proquest.com/docview/227210756?accountid=13828

e-darussalam. (2016). About Brunei. Retrieved June 16, 2016, from https://brunei.gov.bn/en/SitePages/About-Brunei.aspx

Early Support. (2012). *Information about speech, language and communication needs*. Retrieved from http://www.ncb.org.uk/media/875224/earlysupportslcnfinal.pdf

Economic planning and development. (2015). National statistics. Retrieved June 16, 2016, from http://www.depd.gov.bn/SitePages/National Statistics.aspx

Edelman, G. (2004). Improving provision for children with speech, language and communication difficulties: the role of the voluntary sector. *Current Paediatrics*, *14*(3), 223–228. http://doi.org/10.1016/j.cupe.2004.02.003

Engelbrecht, P., Nel, M., Nel, N., & Tlale, D. (2015). Enacting understanding of inclusion in complex contexts: classroom practices of South African teachers. *South African Journal of Education*, *35*(3), 1–10. http://doi.org/10.15700/saje.v35n3a1074

Estacion, A., McMahon, T., Quint, J., Melamud, B., & Stephens, L. (2004). *Conducting classroom observations in First Things First Schools*. New York.

Farrell, T. S. C. (2011). "Keeping SCORE": Reflective practice through classroom observations. *RELC Journal*, *42*(3), 265–272. http://doi.org/10.1177/0033688211419396

Feiler, A., & Watson, D. (2011). Involving children with learning and communication difficulties: the perspectives of teachers, speech and language therapists and teaching assistants. *British Journal of Learning Disabilities*, *39*(2), 113–120. http://doi.org/http://dx.doi.org/10.1111/j.1468-3156.2010.00626.x

Field, A. (2013). *Discovering statistics using IBM SPSS statistics* (4th ed.). London: SAGE Publications Ltd.

Flores, J. G., & Alonso, C. G. (1995). Using focus groups in educational research: exploring teachers' perspectives on educational change. *Evaluation Review*, *19*(1), 84–101. http://doi.org/10.1177/0193841X9501900104

Forlin, C. (2001). Inclusion: Identifying potential stressors for regular class teachers. *Educational Research*, *43*(May), 235–245. http://doi.org/10.1080/00131880110081017

Freeman, K., & Hartshorne, M. (2009). *Speech, language and communication needs and the early years: I CAN Talk series-Issue 7*. Retrieved from http://www.ican.org.uk/~/media/Ican2/Whats the Issue/Evidence/7 Speech Language and Communication Needs and the Early Years.ashx

Frymier, A. B. (2005). Students' classroom communication effectiveness. *Communication Quarterly*, *53*(2), 197–212. http://doi.org/10.1080/01463370500089896

Furber, C. (2010). Framework analysis: a method for analysing qualitative data. *African Journal of Midwifery and Women's Health*, *4*(2), 97–100.

Gale, N. K., Heath, G., Cameron, E., Rashid, S., & Redwood, S. (2013). Using the framework method for the analysis of qualitative data in multi-disciplinary health research. *BMC Medical Research Methodology*, *13*(1), 117. http://doi.org/10.1186/1471-2288-13-117

Gardner, H. (2006). Training others in the art of therapy for speech sound disorders: an interactional approach. *Child Language Teaching and Therapy*, *22*(1), 27–46. http://doi.org/10.1191/0265659006ct296oa

Garrett, R., & Steinberg, M. P. (2015). Examining teacher effectiveness using classroom observation scores: evidence from the randomization of teachers to students. *Educational Evaluation and Policy Analysis*, *37*(2), 224–242. http://doi.org/10.3102/0162373714537551

Gascoigne, M. (2006). *Supporting children with speech, language and communication needs: implementing Bercow. RCSLT Position Paper* (Vol. 24). London: RCSLT. Retrieved from www.afasic.org.uk/download/51/

Girolametto, L., & Weitzman, E. (2002). Responsiveness of child care providers in interactions with toddlers and preschoolers. *Language, Speech & Hearing Services in Schools*, *33*(4), 268–281. Retrieved from http://search.proquest.com/docview/232583468?accountid=13828

Girolametto, L., Weitzman, E., & Greenberg, J. (2003). Training day care staff to facilitate children' s language. *American Journal of Speech - Language Pathology*, *12*(3), 299–311.

Retrieved from http://search.proquest.com/docview/204264695/fulltextPDF?accountid=13828

Glogowska, M. (2000). Randomised controlled trial of community based speech and language therapy in preschool children. *BMJ*, *321*(7266), 923–923. http://doi.org/10.1136/bmj.321.7266.923

Glogowska, M. (2011). Paradigms, pragmatism and possibilities: mixed-methods research in speech and language therapy. *International Journal of Language and Communication Disorders*, *46*(3), 251–260. http://doi.org/10.3109/13682822.2010.507614

Glogowska, M., & Campbell, R. (2004). Parental views of surveillance for early speech and language difficulties. *Children and Society*, *18*(February), 266–277. http://doi.org/10.1002/CHI.806

Glogowska, M., Campbell, R., Peters, T. J., Roulstone, S., & Enderby, P. (2002). A multimethod approach to the evaluation of community preschool speech and language therapy provision. *Child Care Health And Development*, *28*(6), 513–521. http://doi.org/10.1046/j.1365-2214.2002.00297.x

Glogowska, M., Roulstone, S., Peters, T., & Enderby, P. (2006). Early speech- and language-impaired children: linguistic, literacy, and social outcomes. *Developmental Medicine and Child Neurology.*, *48*(6), 489–494. http://doi.org/10.1017/s0012162206001046

Glover, A., McCormack, J., & Smith-Tamaray, M. (2015). Collaboration between teachers and speech and language therapists: services for primary school children with speech, language and communication needs. *Child Language Teaching and Therapy*, *31*(3), 363–382. http://doi.org/10.1177/0265659015603779

Gonzalez, J. E., Pollard-Durodola, S., Simmons, D. C., Taylor, A. B., Davis, M. J., Fogarty, M., & Simmons, L. (2014). Enhancing preschool children's vocabulary: effects of teacher talk before, during and after shared reading. *Early Childhood Research Quarterly*, *29*(2), 214–226. http://doi.org/10.1016/j.ecresq.2013.11.001

Goswami, U., & Bryant, P. (2010). Children's cognitive development and learning. In R. Alexander (Ed.), *The Cambridge primary review research surveys* (pp. 141–169). Abingdon, Oxon: Routledge.

Gràcia, M., Vega, F., & Galván-Bovaira, M. J. (2015). Developing and testing EVALOE: a tool for assessing spoken language teaching and learning in the classroom. *Child Language Teaching and Therapy*. http://doi.org/10.1177/0265659015593608

Greene, J. C., Caracelli, V. J., & Graham, W. F. (1989). Toward a conceptual framework for mixed-method evaluation designs. *Educational Evaluation and Policy Analysis*, *11*(3), 255–

274. Retrieved from http://www.jstor.org/stable/1163620

Gross, J. (2011). *Two years on: final report of the communication champion for children*. Retrieved from https://www.thecommunicationtrust.org.uk/media/9683/nwm_final_jean_gross_two_years_on_report.pdf

Gross, J. (2013). *Time to talk: implementing outstanding practice in speech, language and communication*. London: Routledge.

Gumperz, J., & Toribio, A. J. (1999). Codeswitching. In *The MIT Encyclopedia of the cognitive sciences* (pp. 118–119). Cambridge: MA: MIT Press. http://doi.org/10.1016/S0004-3702(01)00095-9

Hallgren, K. A. (2012). Computing inter-rater reliability for observational data: an overview and tutorial. *Tutor Quantitative Methids Psychol.*, *8*(1), 23–34. Retrieved from http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3402032/pdf/nihms372951.pdf

Hamdan, H. (2006). An investigation of Brunei regular teachers' perceptions regarding the most important resources and supports for helping them to teach children with special educational needs in ordinary classes. *Brunei Darussalam Journal of Special Education*, *3*, 59–60.

Hamid, R. (2000). Education in Brunei Darussalam. *Journal of Southeast Asian Education*, *1*(1), 21–52. Retrieved from http://seameo-journal.com/journal/index.php/education/article/viewFile/1/64

Hartshorne, M. (2006a). *Speech, language and communication needs and literacy difficulties: I CAN Talk series-Issue 1*. Retrieved from http://www.ican.org.uk/~/media/Ican2/Whats the Issue/Evidence/1 Communication Disability and Literacy Difficulties pdf.ashx

Hartshorne, M. (2006b). *The cost to the nation of children's poor communication: I CAN Talk series-Issue 2*. Retrieved from http://www.ican.org.uk/~/media/Ican2/Whats the Issue/Evidence/2 The Cost to the Nation of Children s Poor Communication pdf.ashx

Hassan, N., & Hashim, A. (2009). Electronic English in Malaysia: features and language in use. *English Today*, *25*(4), 39. http://doi.org/10.1017/S0266078409990435

Hazelkorn, M., Bucholz, J. L., Goodman, J. I., Duffy, M. Lou, & Brady, M. P. (2011). Response to intervention: general or special education? Who is responsible? *Educational Forum*, *75*(1), 17–25. Retrieved from http://search.proquest.com/docview/851228929?accountid=13828

Hernandez, P. A. (2009). *School-based speech-language pathologists' reflections on their diagnostic practices with Latino students*. *ProQuest Dissertations and Theses*. Retrieved from

http://search.proquest.com/docview/305016405?accountid=13828

Howe, C., & Mercer, N. (2010). Children's social development, peer interaction and classroom learning. In R. Alexander (Ed.), *The Cambridge primary review research surveys* (pp. 170–194). Abingdon, Oxon: Routledge.

Huttenlocher, J. (1998). Language input and language growth. *Preventive Medicine*, *27*(2), 195–199. http://doi.org/10.1006/pmed.1998.0301

Huttenlocher, J., Vasilyeva, M., Cymerman, E., & Levine, S. (2002). Language input and child syntax. *Cognitive Psychology*, *45*(3), 337–374. http://doi.org/10.1016/S0010-0285(02)00500-5

Iacono, T. A., Chan, J. B., & Waring, R. E. (1998). Efficacy of a parent-implemented early language intervention based on collaborative consultation. *International Journal of Language and Communication Disorders*, *33*(3), 281–303. http://doi.org/http://dx.doi.org/10.1080/136828298247758

IBM Corp. (2013). IBM SPSS Statistics for Windows, Version 22.0. Armonk, NY: IBM Corp.

Indian Speech and Hearing Association. (2013). Speech language pathologists. Retrieved June 17, 2016, from http://www.ishaindia.org.in/

Irish Association of Speech & Language Therapists. (2013). About IASLT. Retrieved June 17, 2016, from http://www.iaslt.ie/newFront/about.php

James, D. G. H., Jeffries, L., & Worley, A. (2008). *Speech and language therapy service model and effectiveness review: stages II and III (5-18 year olds)*. Centre for Allied Health Evidence, University of South Australia. Retrieved from http://www.health.sa.gov.au/Portals/0/sprstagesiiandiii-alliedhealth-sahealth-090923.pdf

Jarman, E. (2008). Creating spaces that are "communication friendly." *Mathematics Teaching Incorporating Micromath*, (209), 31–33. Retrieved from http://search.proquest.com/docview/197420800?accountid=13828

Jesse, D. M. (2001). *Educators' guide to collecting and using data: conducting classroom observations*. Denver: RMC Research Corporation.

Johnson, M. B. (1999). Communication in the classroom. *The Clearing House: A Journal of Educational Srategies, Issues and Ideas*, *35*(4), 2–14.

Johnson, R. B., Onwuegbuzie, A. J., & Turner, L. A. (2007). Toward a definition of mixed methods research. *Journal of Mixed Methods Research*, *1*(2), 112–133. http://doi.org/10.1177/1558689806298224

Jones, G., Martin, P. W., & Ożóg, C. K. (1993). Multilingualism and bilingual education in

Brunei Darussalam. *Journal of Multilingual and Multicultural Development*, *14*(1–2), 39–58. http://doi.org/10.1080/01434632.1993.9994519

Justice, L. M. (2004). Creating language-rich preschool classroom environments. *Teaching Exceptional Children*, *37*(2), 36–44. Retrieved from http://ici-bostonready-pd-2009-2010.wikispaces.umb.edu/file/view/Creating+Language+Rich+Preschool+Classroom+Environments.pdf

Kalmar, K. (2008). Let' s give children something to talk about: oral language and preschool literacy. *YC Young Children*, *63*(1), 88–92. Retrieved from http://search.proquest.com/docview/197622442/fulltextPDF/3709A62FD8DF467DPQ/30?accountid=13828

Kementerian Hal Ehwal Ugama. (2009). *Vital statistics Ministry of Religious Affairs 2009*. Retrieved from http://www.kheu.gov.bn/FlipbookDocs/Vital Statistics KHEU - ringkas/index.aspx#/0

Keshavarz, S., & Baharudin, R. (2009). Parenting style in a collectivist cultures of Malaysia. *European Journal of Social Sciences*, *10*(1), 66–73. Retrieved from http://psasir.upm.edu.my/16042/

Kiewra, K. A. (2002). How classroom teachers can help students learn and teach them how to learn. *Theory Into Practice*, *41*(2), 71–80. http://doi.org/10.1207/s15430421tip4102_3

Kitzinger, J. (1995). Qualitative research: introducing focus groups. *British Medical Journal*, *311*, 299–302. Retrieved from http://www.bmj.com/content/311/7000/299

Koay, T. L. (2007). Inclusive education in Brunei Darussalam. Retrieved May 13, 2014, from www.cedol.org/wp-content/uploads/2012/02/197-202-2007.pdf

Koay, T. L. (2012). Inclusion in Brunei Darussalam: the role of teacher education. *International Journal of Inclusive Education*, 1–9. http://doi.org/10.1080/13603116.2012.693396

Koay, T. L., Lim, L., Sim, W. K., & Elkins, J. (2006). Learning assistance and regular teachers' perceptions of inclusive education in Brunei Darussalam. *International Journal of Special Education*, *21*(1).

Kontos, S. (1999). Preschool teachers' talk, roles, and activity settings during free play. *Early Childhood Research Quartterly*, *14*(3), 363–382. http://doi.org/http://dx.doi.org/10.1016/S0885-2006(99)00016-2

Kwintessential. (2014). Brunei-language, culture, customs and etiquette. Retrieved January 28, 2016, from http://www.kwintessential.co.uk/resources/global-etiquette/brunei.html

Lacey, A., & Luff, D. (2007). *Qualitative Data Analysis Authors*. Retrieved from http://www.rds-yh.nihr.ac.uk/wp-content/uploads/2013/05/9_Qualitative_Data_Analysis_Revision_2009.pdf

Landis, J. R., & Koch, G. G. (1977). The measurement of observer agreement for categorical data. *Biometrics*, *33*(1), 159–174. http://doi.org/10.2307/2529310

Law, J., Lindsay, G., Peacey, N., Gascoigne, M., Soloff, N., Radford, J., & Band, S. (2002). Consultation as a model for providing speech and language therapy in schools: a panacea or one step too far? *Child Language Teaching and Therapy*, *18*(2), 145–163. http://doi.org/10.1191/0265659002ct232oa

Lazaro, M., & Marcos, E. (2006). An approach to the integration of qualitative and quantitative research methods in software engineering research. In *CEUR Workshop Proceedings* (Vol. 240, pp. 757–764). Retrieved from http://ceur-ws.org/Vol-240/paper7.pdf

Lee, W. (2008). *Speech, language and communication needs and primary school-aged children: I CAN Talk series-Issue 6*. Retrieved from http://www.ican.org.uk/~/media/Ican2/Whats the Issue/Evidence/6 Speech Language and Communication Needs and Primary School aged Children.ashx

Leeuw, E., & JoopHox. (2008). Mixing data collection methods: lesson from social ssurvey research. In M. M. Bergman (Ed.), *Advances in mixed methods research* (pp. 138–150). London: SAGE Publications Ltd. Retrieved from http://dx.doi.org/10.4135/9780857024329

Letts, C., & Hall, E. (2003). Exploring early years professionals' knowledge about speech and language and development and impairment. *Child Language Teaching and Therapy*, *19*(2), 211–229. http://doi.org/10.1191/0265659003ct251oa

Leyden, J., Stackhouse, J., & Szczerbinski, M. (2011). Implementing a whole school approach to support speech, language and communication: perceptions of key staff. *Child Language Teaching and Therapy*, *27*(2), 203–222. http://doi.org/http://dx.doi.org/10.1177/0265659011398375

Lim, J. C., Mak, L. Y. F., & Koay, T. L. (2006). Special education teacher preparation in Brunei Darussalam. *Brunei Darussalam Journal of Special Education*, *3*, 19–40.

Lindsay, G. (2011). The collection and analysis of data on children with speech, language and communication needs: the challenge to education and health services. *Child Language Teaching and Therapy*, *27*(2), 135–150. http://doi.org/10.1177/0265659010396608

Lindsay, G., & Dockrell, J. E. (2004). Whose job is it? Parents' concerns about the needs of

their children with language problems. *The Journal of Special Education*, *37*(4), 225–235. Retrieved from http://search.proquest.com/docview/194702417?accountid=13828

Lindsay, G., Dockrell, J. E., Desforges, M., Law, J., & Peacey, N. (2010). Meeting the needs of children and young people with speech, language and communication difficulties. *International Journal of Language and Communication Disorders*, *45*(4), 448–460. http://doi.org/10.3109/13682820903165693

Lindsay, G., Dockrell, J. E., Law, J., & Roulstone, S. (2011). *Better communication programme: 2nd interim report*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/197189/DFE-RR172.pdf

Lindsay, G., Dockrell, J. E., Law, J., & Roulstone, S. (2012). *The Better Communication Research Programme: improving provision for children and young people with speech, language and communication needs*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/219622/DFE-RR247-BCRP1.pdf

Lord, C., Risi, S., Lambrecht, L., Cook, E. H. J., Leventhal, B. L., DiLavore, P. C., … Rutter, M. (2000). The Autism Diagnostic Schedule-Generic: a standard measures of social and communication deficits associated with the spectrum of autism. *Journal of Autism and Developmental Disorders*, *30*(3), 205–223. http://doi.org/10.1023/A:1005592401947

Mabmud, S. M. (2010). Cohen' s kappa. In N. J. Salkind (Ed.), *Encyclopedia of research design*. Retrieved from http://srmo.sagepub.com/view/encyc-of-research-design/n60.xml

Mackie, C. J., Dockrell, J. E., & Lindsay, G. (2013). An evaluation of the written texts of children with SLI: the contributions of oral language, reading and phonological short-term memory. *Reading and Writing*, *26*, 865–888. http://doi.org/10.1007/s11145-012-9396-1

Maclure, M., Philips, T., & Wilkinson, A. (1988). *Oracy matters*. Milton Keynes: Open University Press.

Magee, P. A., & Newcomer, P. L. (1978). The relationship between oral language skills and academic achievement of learning disabled children. *Learning Disability Quarterly*, *1*(1), 63–67.

Malaysian Association of Speech-Language Hearing. (2011). History. Retrieved June 17, 2016, from http://mash.org.my/about-2/history-2/

Markham, C., van Laar, D., Gibbard, D., & Dean, T. (2009). Children with speech, language and communication needs: their perceptions of their quality of life.

International Journal of Language and Communication Disorders, *44*(5), 748–68. http://doi.org/10.1080/13682820802359892

Marshall, J., Ralph, S., & Palmer, S. (2002). "I wasn"t trained to work with them': mainstream teachers' attitudes to children with speech and language difficulties. *International Journal of Inclusive Education*, *6*(3), 199–215. http://doi.org/10.1080/13603110110067208

Martin, D. (2000). *Teaching children with speech and language difficulties*. London: David Fulton Publishers.

Martin, D., & Miller, C. (2003). *Speech and language difficulties in the classroom* (2nd ed.). London: David Fulton Publishers.

Martin, P. W. (1996). Code-switching in the primary classroom: one response to the planned and the unplanned language environment in Brunei. *Journal of Multilingual and Multicultural Development*, *17*(2–4), 128–144. http://doi.org/10.1080/01434639608666265

Martin, P. W. (1998). A sociolinguistic perspective on Brunei. *International Journal of the Sociology of Language*, *1998*(130), 5–22. http://doi.org/10.1515/ijsl.1998.130.5

Martin, P. W. (1999). Close encounters of a bilingual kind: Interactional practices in the primary classroom in Brunei. *International Journal of Educational Development*, *19*(2), 127–140. http://doi.org/10.1016/S0738-0593(98)00057-1

Marzuki, E., & Walter, C. (2013). English and Malay text messages and what they say about texts and cultures. *Open Journal of Modern Linguistics*, *3*(4), 295–304. http://doi.org/http://dx.doi.org/10.4236/ojml.2013.34037

McConnellogue, S. (2011). Professional roles and responsibilities in meeting the needs of children with speech, language and communication needs: joint working between educational psychologists and speech and language therapists. *Educational Psychology in Practice*, *27*(1), 53–64. http://doi.org/10.1080/02667363.2011.549354

McCormick, L. (2003a). Introduction to language. In L. McCormick, D. F. Loeb, & R. L. Schiefelbusch (Eds.), *Supporting children with communication difficulties in inclusive settings: school-based language intervention* (2nd ed, pp. 1–42). Boston: Allyn and Bacon.

McCormick, L. (2003b). Language intervention and support. In L. McCormick, D. F. Loeb, & R. L. Schiefelbusch (Eds.), *Supporting children with communication difficulties in inclusive settings: school-based language intervention* (2nd ed, pp. 259–295). Boston: Allyn and Bacon.

McCormick, L. (2003c). Language intervention in the inclusive preschool. In L. McCormick, D. F. Loeb, & R. L. Schiefelbusch (Eds.), *Supporting children with communication difficulties in inclusive settings: school-based language intervention* (2nd ed., pp.

333–366). Boston: Allyn and Bacon.

McCormick, L. (2003d). Policies and practices. In L. McCormick, D. F. Loeb, & R. L. Schiefelbusch (Eds.), *Supporting children with communication difficulties in inclusive settings: school-based language intervention* (2nd ed, pp. 155–187). Boston: Allyn and Bacon.

McCormick, L., & Loeb, D. F. (2003). Characteristics of students with language and communication difficulties. In L. McCormick, D. F. Loeb, & R. L. Schiefelbusch (Eds.), *Supporting children with communication difficulties in inclusive settings: school-based language intervention* (2nd ed., pp. 71–112). Boston: Allyn and Bacon.

McCusker, K., & Gunaydin, S. (2015). Research using qualitative, quantative or mixed methods and choice based on the research. *Perfusion*, *30*(7), 537–542. http://doi.org/10.1177/0267659114559116

McDonald, D., Proctor, P., Gill, W., Heaven, S., Marr, J., & Young, J. (2015). Increasing early childhood educators' use of communication-facilitating and language-modelling strategies: brief speech and language therapy training. *Child Language Teaching and Therapy*, *31*(3), 305–322. http://doi.org/10.1177/0265659015588203

McGraw, K. O., & Wong, S. P. (1996). Forming inferences about some intraclass correlation coefficients. *Psychological Methods*, *1*(1), 30–46. http://doi.org/10.1037//1082-989X.1.1.30

McKie, B. K., Manswell Butty, J.-A., & Green, R. D. (2012). Reading, reasoning, and literacy: strategies for early childhood education from the analysis of classroom observations. *Early Childhood Education Journal*, *40*(1), 55–61. http://doi.org/10.1007/s10643-011-0489-2

McLean, L., Sparapani, N., Toste, J. R., & Connor, C. M. (2016). Classroom quality as a predictor of first graders' time in non-instructional activities and literacy achievement. *Journal of School Psychology*, *56*, 45–58. http://doi.org/10.1016/j.jsp.2016.03.004

Mercer, N. (1996). The quality of talk in children's collaborative activity in the classroom. *Learning and Instruction*, *6*(4), 359–377. http://doi.org/10.1016/S0959-4752(96)00021-7

Mercer, N., & Hodgkinson, S. (2008). *Exploring talk in school*. London: SAGE Publications Ltd.

Mercer, N., & Howe, C. (2012). Explaining the dialogic processes of teaching and learning: the value and potential of sociocultural theory. *Learning, Culture and Social Interaction*, *1*(1), 12–21. http://doi.org/10.1016/j.lcsi.2012.03.001

Mercer, N., Wegerif, R., & Dawes, L. (1999). Children's talk and the development of reasoning in the classroom. *British Educational Research Journal*, *25*(1), 95–111. http://doi.org/10.1080/0141192990250107

Miles, S. (2000). Overcoming resource barriers: the challenge of implementing inclusive education in rural areas. Retrieved January 20, 2017, from http://www.eenet.org.uk/resources/docs/bonn_1.php

Miller, C. (2003). Teachers and speech and language therapists: a shared framework. *British Journal of Special Education*, *26*(3), 141–146. http://doi.org/10.1111/1467-8527.t01-1-00126

Ministry of Education. (2008a). *The development and state of the art of adult learning and education: national report of Brunei Darussalam*. Retrieved from http://www.unesco.org/fileadmin/MULTIMEDIA/INSTITUTES/UIL/confintea/pdf/National_Reports/Asia - Pacific/Brunei_Darussalam.pdf

Ministry of Education. (2008b). *The development of education: national report*. Retrieved from http://www.ibe.unesco.org/National_Reports/ICE_2008/brunei_NR08.pdf

Ministry of Education. (2012). *The Ministry of Education: Strategic plan 2012-2017*. Brunei Darussalam: Ministry of Education.

Ministry of Education. (2013). *The national education system for the 21st century: SPN21* (Revised ed). Brunei Darussalam: Ministry of Education.

Ministry of Education. (2014a). Department of schools. Retrieved from http://www.moe.gov.bn/SitePages/Department of Schools.aspx

Ministry of Education. (2014b). Primary education. Retrieved June 15, 2016, from http://www.moe.gov.bn/SitePages/Primary Education.aspx

Ministry of Education. (2014c). Special education unit. Retrieved February 25, 2014, from http://www.moe.gov.bn/SitePages/Special Education Unit.aspx

Ministry of Education. (2015). *Education for All 2015 National Review Report: Brunei Darussalam*. Brunei Darussalam: Ministry of Education. Retrieved from http://unesdoc.unesco.org/images/0023/002305/230503e.pdf

Minnis, J. R. (1999). Is reflective practice compatible with Malay-Islamic values? Some thoughts on teacher education in Brunei Darussalam. *Australian Journal of Education*, *43*(2), 172–185. http://doi.org/10.1177/000494419904300206

Mohidin, A., Mak, L., Leong, K. T., & Mundia, L. (2008). Perceptions of primary school teachers towards the remedial Malay workshop for low achievers. *Brunei Darussalam Journal of Special Education*, *4*, 81–90.

Morgan, D. L. (1998). Practical strategies for combining qualitative and quantitative methods: application to health research. *Qualitative Health Research*, *8*, 362–376. http://doi.org/doi: 10.1177/104973239800800307

Mroz, M., & Letts, C. (2008). Interview stories: Early years practitioners' experiences with

children with speech, language and communication needs. *Child Language Teaching and Therapy*, *24*(1), 73–93. http://doi.org/10.1177/0265659007084569

Muhammad, N. (2014). *The educational system in Brunei Darussalam in the light of Al-Attas' philosophy of education*. Brunei Darussalam: ubd press.

Multon, K. D. (2010). Interrater reliability. In N. J. Salkind (Ed.), *Encyclopedia of research design*. Retrieved from http://dx.doi.org/10.4135/9781412961288.n194

Mundia, L. (2009). Implementation of inclusive education in Brunei Darussalam: review of possible implications for school counselors. *Electronic Journal for Inclusive Education*, *2*(4), 1–30. Retrieved from http://corescholar.libraries.wright.edu/cgi/viewcontent.cgi?article=1103&context=ejie

Muter, V., Hulme, C., Snowling, M. J., & Stevenson, J. (2004). Phonemes, rimes, vocabulary, and grammatical skills as foundations of early reading development: evidence from a longitudinal study. *Developmental Psychology*, *40*(5), 665–81. http://doi.org/10.1037/0012-1649.40.5.665

National Council for Curriculum and Assessment. (2007). Communication and language: guidelines for teachers of students with moderate general learning disabilities. Retrieved March 19, 2014, from http://www.ncca.ie/uploadedfiles/P_Mod_Comm.pdf

National Institute of Child Health and Human Development Early Child Care Research Network. (2000). The relation of child care to cognitive and language development. *Child Development*, *71*(4), 960–980. Retrieved from http://www.jstor.org/stable/1132337

National Literacy Trust. (2009). *Manifesto for literacy*. Retrieved from http://www.literacytrust.org.uk/assets/0000/2584/manifestoforliteracyfullversion.pdf

National Reading Panel. (2000). Teaching children to read: an evidence-based assessment of the scientific research literature on reading and its implications for reading instruction: reports of the subgroups. Retrieved March 19, 2014, from http://www.nichd.nih.gov/publications/pubs/nrp/documents/report.pdf

Noble, H., & Smith, J. (2014). Qualitative data analysis: a practical example. *Evidence-Based Nursing*, *17*(1), 2–3. http://doi.org/10.1136/eb-2013-101603

Norjum binti Haji Yusop. (2002). *Special education in Negara Brunei Darussalam*. Paper presented at the Childhood in the Millenium: Regional Conference, Singapore.

O'Cathain, A., Murphy, E., & Nicholl, J. (2007). Why, and how, mixed methods research is

undertaken in health services research in England: a mixed methods study. *BMC Health Services Research*, *7*, 85. http://doi.org/10.1186/1472-6963-7-85

O'Cathain, A., Murphy, E., & Nicholl, J. (2010). Three techniques for integrating data in mixed methods studies. *BMJ*, *341*, 1147–1150. http://doi.org/10.1136/bmj.c4587

Ormston, R., Spencer, L., Barnard, M., & Snape, D. (2014). The foundations of qualitative research. In J. Ritchie, J. Lewis, C. McNaughton Nicholls, & R. Ormston (Eds.), *Qualitative research practice: a guide for social science students and researchers* (2nd ed., pp. 1–23). London: SAGE Publications Ltd.

Östlund, U., Kidd, L., Wengström, Y., & Rowa-Dewar, N. (2011). Combining qualitative and quantitative research within mixed method research designs: a methodological review. *International Journal of Nursing Studies*, *48*(3), 369–383. http://doi.org/10.1016/j.ijnurstu.2010.10.005

Oxford Business Group. (2013). *The report: Brunei Darussalam 2013*. Istanbul: APA UNIPRINT.

Parish-Morris, J., Golinkoff, R. M., & Hirsh-Pasek, K. (2013). From coo to code: a brief story of language development. In P. D. Zelazo (Ed.), *The Oxford Handbook of developmental psychology* (pp. 867–908). New York: Oxford University Press.

Parr, S. (2001). Psychosocial aspects of aphasia: whose perspectives? *Folia Phoniatrica et Logopedica*, *53*, 266–288. http://doi.org/DOI:10.1159/000052681

Parsons, S., Guldberg, K., MacLeod, A., Jones, G., Prunty, A., & Balfe, T. (2011). International review of the evidence on best practice in educational provision for children on the autism spectrum. *European Journal of Special Needs Education*, *26*(1), 47–63. http://doi.org/10.1080/08856257.2011.543532

Pasco, G., Gordon, R. K., Howlin, P., & Charman, T. (2008). The Classroom Observation Schedule to Measure Intentional Communication (COSMIC): an observational measure of the intentional communication of children with autism in an unstructured classroom setting. *Journal of Autism and Developmental Disorders*, *38*(10), 1807–1818. http://doi.org/10.1007/s10803-008-0569-3

Paul, R., & Norbury, C. F. (2012). *Language disorders from infancy through adolescence: listening, speaking, reading, writing, and communicating.* (4th ed.). St. Louis, Missouri: Elsevier.

Pence, K. L., Justice, L. M., & Wiggins, A. K. (2008). Preschool teachers' fidelity in implementing a comprehensive language-rich curriculum. *Language, Speech, and Hearing Services in Schools*, *39*(3), 329–41. http://doi.org/10.1044/0161-1461(2008/031)

Peng, C.-Y. J., & Ziskin, M. B. (2008). Control group. In P. J. Lavrakas (Ed.), *Encyclopedia of survey research methods* (pp. 147–149). SAGE Publications Ltd.

http://doi.org/http://dx.doi.org/10.4135/9781412963947.n102

Persaud, N. (2010). Pilot study. In J. Salkind, Neil (Ed.), *Encyclopedia of research design* (pp. 1033–1034). Retrieved from http://dx.doi.org/10.4135/9781412961288.n312

Purdue, K. (2009). Barriers to and facilitators of inclusion for children with disabilities in early childhood education. *Contemporary Issues in Early Childhood*, *10*(2), 133–143. http://doi.org/10.2304/ciec.2009.10.2.133

Pyramid Educational Consultants of Australia Pty Ltd. (2010). *4th national workshop and seminar on inclusive education: maximising learning potential through enhancing communication in inclusive classrooms: utilising the Picture Exchange Communication System*. Unpublished manuscript. Brunei Darussalam: Special Education Unit.

QSR International Pty Ltd. (2012). NVivo qualitative data analysis Software; QSR International Pty Ltd. Version 10.

Radford, J., Ireson, J., & Mahon, M. (2006). Triadic dialogue in oral communication tasks: What are the implications for language learning? *Language and Education*, *20*(3), 191–210. http://doi.org/10.1080/09500780608668723

Ramey, C. T., Campbell, F. A., & Ramey, S. L. (1999). Early intervention: successful pathways to improving intellectual development. *Developmental Neuropsychology*, *16*(3), 415–431. http://doi.org/10.1207/S15326942DN1603

Ratner, N. B. (2006). Evidence-based practice: An examination of its ramifications for the practice of speech-language pathology. *Language, Speech & Hearing Services in Schools*, *37*(4), 257–267.

Reilly, S., Bishop, D. V. M., & Tomblin, B. (2014). Terminological debate over language impairment in children: forward movement and sticking points. *International Journal of Language and Communication Disorders*, *49*(4), 452–462. http://doi.org/10.1111/1460-6984.12111

Reilly, S., Tomblin, B., Law, J., McKean, C., Mensah, F. K., Morgan, A., … Wake, M. (2014). Specific language impairment: a convenient label for whom? *International Journal of Language and Communication Disorders*, *49*(4), 416–451. http://doi.org/10.1111/1460-6984.12102

Ritchie, J., & Spencer, L. (1994). Qualitative data analysis for applied policy research. In A. Bryman & R. G. Burgess (Eds.), *Analyzing qualitative data* (pp. 173–194). Abingdon: Routledge.

Rojas-Drummond, S., Mercer, N., & Dabrowski, E. (2001). Collaboration, scaffolding and the promotion of problem solving strategies in Mexican pre-schoolers. *European Journal of Psychology of Education*, *16*(2), 179–196. http://doi.org/10.1007/BF03173024

Roskos, K., & Neuman, S. B. (2001). Environment and its influences for early literacy teaching and learning. In S. B. Neuman & D. K. Dickinson (Eds.), *Handbook of early literacy research* (pp. 281–292). New York: The Guildford Press.

Roulstone, S., Law, J., Rush, R., Clegg, J., & Peters, T. (2011). *Investigating the role of language in children's early educational outcomes. Research Brief. DFE-RB 134, ISBN 978-1- 84775-945-0*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/181549/DFE-RR134.pdf

Roulstone, S., Wren, Y., & Goodlad, S. (2012). *Exploring interventions for children and young people with speech, language and communication needs: a study of practice*. Retrieved from https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/219627/DFE-RR247-BCRP13.pdf

Royal College of Speech and Language Therapists. (2005). *Clinical guidelines*. Bicester: Speechmark Publishing Ltd.

Royal College of Speech and Language Therapists. (2006). *Communicating Quality 3: RCSLT's guidance on best practice in service organisation and provision* (3rd ed.). London: RCSLT.

Royal College of Speech and Language Therapists. (2014). What do we mean by communication? Retrieved March 6, 2014, from http://www/rcslt.org/asp_toolkit/csn/what_do_we_mean_by_communication_

Royal College of Speech and Language Therapists. (2016). What is speech and language therapy? Retrieved June 17, 2016, from http://www.rcslt.org/speech_and_language_therapy/what_is_an_slt

Rudestam, K. E., & Newton, R. R. (2007). *Surviving your dissertation: a comprehensive guide to content and process* (3rd ed.). Thousand Oaks, California: Sage Publications, Inc.

Sadler, J., & Mogford-Bevan, K. (1997). "Teacher talk" with children with language disorders: four case studies I. *Child Language Teaching and Therapy*, *13*(1), 15–35. http://doi.org/10.1177/026565909701300103

Sage, R. (2000). *Class talk: successful learning through effective communication*. Stafford: Network Educational Press Ltd.

Sammons, P., Davis, S., Bakkum, L., Hessel, G., & Walter, C. (2014). *Bilingual education in Brunei: The evolution of the Brunei approach to bilingual education and the role of CfBT in promoting educational change. Full report. CfBT Education Trust*. Retrieved from http://search.ebscohost.com/login.aspx?direct=true&db=eric&AN=ED546822&site=ehost-live

Serajul Haq, F., & Mundia, L. (2012). Comparison of Brunei preservice student teachers'

attitudes to inclusive education and specific disabilities: implications for teacher education. *The Journal of Educational Research*, *105*(5), 366–374. http://doi.org/10.1080/00220671.2011.627399

Shahrill, M., & Clarke, D. J. (2014). Brunei teachers' perspectives on questioning: investigating the opportunities to "talk" in mathematics lessons. *International Education Studies*, *7*(7), 1–18. http://doi.org/10.5539/ies.v7n7p1

Shahrill, M., Lim, S. B., Poh, S. H., & Riah, H. (2013). Parenting styles of Bruneian youths ' parents. In *International Conference on Youth*. Selangor, Malaysia. http://doi.org/10.13140/2.1.5060.8323

Shenton, A. (2004). Strategies for ensuring trustworthiness in qualitative research projects. *Education for Information*, *22*, 63–75. http://doi.org/10.1111/j.1744-618X.2000.tb00391.x

Sigafoos, J., Roberts, D., Kerr, M., Couzens, D., & Baglioni, A. J. (1994). Opportunities for communication in classrooms serving children with developmental disabilities. *Journal of Autism and Developmental Disorders*, *24*(3), 259–279. http://doi.org/10.1007/BF02172226

Sim, W. K., & Koay, T. L. (2004). Thoughtful strategies for inclusive classrooms in Brunei Darussalam. *International Journal of Special Education*, *19*(2), 1–15. Retrieved from http://files.eric.ed.gov/fulltext/EJ852051.pdf

Simonsen, B., Fairbanks, S., Briesh, A., Myers, D., & Sugai, G. (2008). Evidence-based practices in classrom management: considerations for research to practice. *Education and Treatment of Children*, *21*(3), 351–380. Retrieved from http://search.proquest.com/docview/202675482?accountid=13828

Skeat, J., & Perry, A. (2008). Grounded theory as a method for research in speech and language therapy. *International Journal of Language and Communication Disorders*, *43*(2), 95–109. http://doi.org/10.1080/13682820701437245

Slonims, V., & Pasco, G. (2009). Communication disorders in preschool children. *Paediatrics and Child Health*, *19*(10). http://doi.org/http://dx.doi.org/10.1016/j.paed.2009.05.009

Smith, M. W., & Dickinson, D. K. (1994). Describing oral language opportunities and environments in head start and other preschool classrooms. *Early Childhood Research Quarterly*, *9*(3–4), 345–366. http://doi.org/10.1016/0885-2006(94)90014-0

Smolkowski, K., & Gunn, B. (2012). Reliability and validity of the Classroom Observations of Student-Teacher Interactions (COSTI) for kindergarten reading instruction. *Early Childhood Research Quarterly*, *27*(2), 316–328. http://doi.org/10.1016/j.ecresq.2011.09.004

Snowling, M. J., & Hulme, C. (2011). Evidence-based interventions for reading and language difficulties: creating a virtuous circle. *The British Journal of Educational Psychology*, *81*(Pt 1), 1–23. http://doi.org/10.1111/j.2044-8279.2010.02014.x

Sommer, R. (1977). Classroom layout. *Theory Into Practice*, *16*(3), 174–175. http://doi.org/10.1080/00405847709542694

Special Education Unit. (1997). *Special education policy guidelines*. Brunei Darussalam: Ministry of Education.

Special Education Unit. (2014). *Comprehensive report on special education practice and implementation in Brunei Darussalam*. Paper presented at the SEAMEO SEN Definition Workshop, Malaysia.

Special Education Unit. (2016a). *Report prepared for the Brunei Legislative council*. Bandar Seri Begawan.

Special Education Unit. (2016b). Special Education Unit databank. Unpublished raw data.

Speech-Language and Audiology Canada. (2016). What do speech-language pathologists do? Retrieved June 17, 2016, from http://sac-oac.ca/public/what-do-speech-language-pathologists-do

Speech-Language and Hearing Association Singapore. (2014). What is SALTS? Retrieved June 17, 2016, from http://www.shas.org.sg/cos/o.x?c=/wbn/pagetree&func=view&rid=1083533

Speech Pathology Australia. (2016). What is a speech pathologist? Retrieved June 17, 2016, from http://www.speechpathologyaustralia.org.au/SPAweb/General_Information/SPAweb/General_Information/What_is_a_Speech_Pathologist/What_is_a_Speech_Pathologist.aspx

Spencer, L., O'Connor, W., Morrell, G., & Ormston, R. (2014). Analysis in practice. In J. Ritchie, J. Lewis, C. McNaughton Nicholls, & R. Ormston (Eds.), *Qualitative research practice: a guide for social science students and researchers* (2nd ed., pp. 295–343). London: SAGE Publications Ltd.

Spencer, L., Ritchie, J., Ormston, R., O'Connor, W., & Barnard, M. (2014). Analysis: principles and processes. In J. Ritchie, J. Lewis, C. McNaughton Nicholls, & R. Ormston (Eds.), *Qualitative research practice: a guide for social science students and researchers* (2nd ed., pp. 269–290). London: SAGE Publications Ltd.

Spencer, S., Clegg, J., & Stackhouse, J. (2010). "I don"t come out with big words like other people': Interviewing adolescents as part of communication profiling. *Child Language Teaching and Therapy*, *26*(2), 144–162.

http://doi.org/http://dx.doi.org/10.1177/0265659010368757

Srivastava, A., & Thomson, S. B. (2009). Framework analysis: a qualitative methodology for applied policy research. *JOAAG*, *4*(2), 72–79. Retrieved from http://www.joaag.com/uploads/06_Research_Note_Srivastava_and_Thomson_4_2_.pdf

Starling, J., Munro, N., Togher, L., & Arciuli, J. (2012). Training secondary school teachers in instructional language modification techniques to support adolescents with language impairment: a randomized controlled trial. *Language, Speech and Hearing Services in Schools*, *43*(4), 474–495. http://doi.org/10.1044/0161-1461(2012/11-0066)

Strong, M., Gargani, J., & Hacifazlioglu, Ö. (2011). Do we know a successful teacher when we see one? Experiments in the identification of effective teachers. *Journal of Teacher Education*, *62*(4), 367–382. http://doi.org/10.1177/0022487110390221

Sukamolson, S. (2007). Fundamentals of quantitative research. *Language Institute*, 20. http://doi.org/9781848608641

Taha, A. A., Yoong, W. K., & Koay, T. L. (2004). Perceptions of special education needs assistance teachers and regular teachers towards collaborative roles for delivering services to pupils with special education needs. *Brunei Darussalam Journal of Special Education*, *1*, 65–82.

Tanner, C. K. (2009). Effects of school design on student outcomes. *Journal of Educational Administration*, *47*(3), 381–399. http://doi.org/10.1108/09578230910955809

The Brunei Economic Development Board. (2016a). Brunei Darussalam in brief. Retrieved June 16, 2016, from http://www.bedb.com.bn/index.php/about-bedb/brunei-darussalam-at-a-glance

The Brunei Economic Development Board. (2016b). Economic overview. Retrieved June 16, 2016, from http://www.bedb.com.bn/index.php/9-invest-in-brunei/55-economic-overview

The Communication Trust. (n.d.). Making your place great for communication. Retrieved January 18, 2015, from https://www.thecommunicationtrust.org.uk/media/93826/making_your_place_great_for_communication_final_1_.pdf

The Communication Trust. (2008). *Explaining speech, language and communication needs (SLCN)*. Retrieved from http://www.dccacademy.org.uk/curriculum/curriculum/cache/downloads/level_3/legislation/Explaining Speech EYMP 5 LEVEL 3.pdf

The Communication Trust. (2011). *The speech, language and communication framework (SLCF)*.

Retrieved from http://www.thecommunicationtrust.org.uk/media/13409/slcf_2011.pdf

The Department for Education and Skills. (2001). *Special educational needs code of practice*. London: Department for Education and Skills.

The Government of Brunei Darussalam. (2015). *Borneo bulletin yearbook: the guide to Brunei Darussalam 2015*. Retrieved from http://2015.borneobulletinyearbook.com.bn/#74/z

The Hong Kong Association of Speech Therapists. (2016). Services. Retrieved June 17, 2016, from http://speechtherapy.org.hk/Services.html

The Scottish Government. (2005). What are speech and language therapists?: Child health services. Retrieved January 24, 2014, from http://www.scotland.gov.uk/Publications/2005/09/06112225/22258

Thien, R., & Jalil, I. (2016). More early childhood care and education teachers needed. *The Brunei Times*. Retrieved from http://www.bt.com.bn/news-national/2016/03/04/more-early-childhood-care-and-education-teachers-needed#sthash.bZtkmglD.dpbs

Thompson, G. (2003). *Supporting children with communication disorders: a handbook for teachers and teaching assistants*. London: David Fulton Publishers.

Timmons, V., & Alur, M. (2004). Transformational learning: A description of how inclusionary practice was accepted in India. *International Journal of Special Education*, *19*(1), 38–48. Retrieved from http://files.eric.ed.gov.eresources.shef.ac.uk/fulltext/EJ852041.pdf

Toribio, A. J. (2001). Accessing bilingual code-switching competence. *International Journal of Bilingualism*, *5*(4), 403–436. http://doi.org/10.1177/13670069010050040201

UCAS. (2014). *International qualifications- For entry to university or college in 2015*. Rosehill, Cheltenham: UCAS. http://doi.org/10.2801/8721

UNESCO. (1994). *The Salamanca statement and framework for action on special needs education*. Paris: UNESCO. Retrieved from http://www.inclusive-education.org/system/files/publications-documents/Salamanca Statement.PDF

UNESCO. (2009). *Policy guidelines on inclusion in education. Organization*. France: UNESCO.

Unit Pendidikan Khas. (2013). *Buku Panduan Perkhidmatan [Guide to services]*. Brunei Darussalam: Unit Pendidikan Khas, Kementerian Pendidikan.

United Nations Educational Scientific and Cultural Organization. (2009). *Brunei Darussalam: national report on the provision of inclusive quality primary and secondary education: sub-regional workshop on "Building inclusive education system to respond to the diverse needs of disabled children"*. Retrieved from

http://unesdoc.unesco.org/images/0018/001868/186836e.pdf

Van Tassel-Baska, J., Quek, C., & Feng, A. X. (2006). The development and use of a structured teacher observation scale to assess differentiated best practice. *Roeper Review*, *29*(2), 84–92. http://doi.org/10.1080/02783190709554391

Viera, A. J., & Garrett, J. M. (2005). Understanding interobserver agreement: the kappa statistic. *Family Medicine*, *37*(5), 360–3. Retrieved from http://www.ncbi.nlm.nih.gov/pubmed/15883903

Virginia Department of Education. (2011). *Speech-language pathology services in schools: guidelines for best practice*. Virginia: Commonwealth of Virgina Department of Education. Retrieved from http://www.doe.virginia.gov/special_ed/disabilities/speech_language_impairment/speech_lang_pathology_services.pdf

Wegerif, R. (2011). Towards a dialogic theory of how children learn to think. *Thinking Skills and Creativity*, *6*(3), 179–190. http://doi.org/10.1016/j.tsc.2011.08.002

Wegerif, R., Mercer, N., & Dawes, L. (1999). From social interaction to individual reasoning: an empirical investigation of a possible socio-cultural model of cognitive development. *Learning and Instruction*, *9*(6), 493–516. http://doi.org/10.1016/S0959-4752(99)00013-4

Wells, G. (1999). *Dialogic Inquiry: Towards a sociocultural practice and theory of education*. Cambridge: Cambridge University Press.

Wickremesooriya, S. F. (2012). *Talk to me so that I can understand: enhancing adult-child communication to include students with the label of "Speech, Language & Communication Needs" in Sri Lankan Classrooms*. (Unpublished doctoral dissertation). University of Sheffield.

Wickremesooriya, S. F. (2015). A right to speak and a right to be heard. *Canadian Journal of Action Research*, *16*(1), 3–21. Retrieved from http://ezproxy.library.yorku.ca/login?url=http://search.proquest.com/docview/1697505140?accountid=15182%5Cnhttp://sfx.scholarsportal.info/york?url_ver=Z39.88-2004&rft_val_fmt=info:ofi/fmt:kev:mtx:journal&genre=article&sid=ProQ:ProQ%3Aericshell&atitle=A+Ri

Williams, M. (1989). A developmental view of classroom observations. *ELT Journal*, *43*(2), 85–91. http://doi.org/10.1093/elt/43.2.85

Wilson, L., McNeill, B., & Gillon, G. T. (2015). The knowledge and perceptions of prospective teachers and speech language therapists in collaborative language and literacy instruction. *Child Language Teaching and Therapy*, 0265659015585374-. http://doi.org/10.1177/0265659015585374

Wisdom, J., & Creswell, J. W. (2013). *Mixed Methods: intergrating quantitative and qualitative data collection and analysis while studying patient-centered medical home models*. Rockville. Retrieved from https://pcmh.ahrq.gov/sites/default/files/attachments/MixedMethods_032513comp.pdf

Wong, J., & Mak, L. (2005). Special education in Brunei Darussalam. *Brunei Darussalam Journal of Special Education*, *2*, 1–15.

Yong, B. C. S. (1994). Factors that determine the attractiveness of the teaching profession in Brunei Darussalam as perceived by teacher trainees. *Journal of Education for Teaching*, *20*(1), 113–126. http://doi.org/10.1080/0260747940200112

Zaare, M. (2013). An Investigation into the effect of classroom observation on teaching methodology. *Procedia - Social and Behavioral Sciences*, *70*, 605–614. http://doi.org/10.1016/j.sbspro.2013.01.099

Appendices

Appendix A: Legal Framework of Education in Brunei

Following the Bilingual Education Policy, the National Education Policy was introduced and implemented in 1992 (Ministry of Education, 2008b). According to this policy, all children are provided with a minimum of twelve years of education encompassing a year of preschool, six years of primary education, three years in lower secondary and another two years of upper secondary (Brunei Darussalam Government Gazette, 2007; Ministry of Education, 2014a; UNESCO, 2009). The registration, supervision and inspection of all schools and educational institutions in Brunei are regulated by a formal legal framework known as the Education Order, 2003. According to this order, all school-aged children are "given the opportunity to attend primary and secondary school and complete the course of study provided therein" (Brunei Darussalam Government Gazette, 2007, p.996).

However, MoE then went a step further in ensuring that education was made mandatory for all school-aged children. This initiative resulted in the Compulsory Education Order 2007, which makes it a requirement by law for all children to attend either private or government schools for six years in primary and another three years of lower secondary education (Ministry of Education, 2008b). According to the MoE (2008a), any parent(s) who fails to ensure that their school-aged child attends school on a regular basis, "is guilty of an offence and liable on conviction to a fine not exceeding B$5,000, imprisonment for a term not exceeding one year or both" (p. 9).

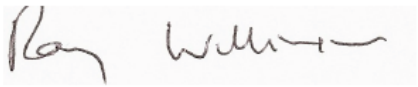
Profiling Phase

ETHICS REVIEWER'S COMMENTS FORM

This form is for use when ethically reviewing a research ethics application form.

1. Name of Ethics Reviewer:	Ray Wilkinson, Richard Body, Tom Muskett
2. Research Project Title:	Developing and evaluating Communication Supporting Classrooms in Brunei primary schools.
3. Principal Investigator (or Supervisor):	Siti Rafizah Badar
4. Academic Department / School:	HCS
5. I confirm that I do not have a conflict of interest with the project application	

6. I confirm that, in my judgment, the application should:			
Be approved:	**Be approved with *suggested* amendments in '7' below:** and/or	**Be approved providing *requirements* specified in '8' below are met:**	**NOT be approved for the reason(s) given in '9' below:**
X			

7. Approved with the following suggested, optional amendments (i.e. it is left to the discretion of the applicant whether or not to accept the amendments and, if accepted, the ethics reviewers do not need to see the amendments):
8a. Approved providing the following, compulsory requirements are met (ethics reviewers do not need to see the required changes) **8b. Approved providing the following, compulsory requirements are met (ethics reviewers need to see the required changes, which should be highlighted in the resubmitted form):**
9. Not approved for the following reason(s):
10. Date of Ethics Review: 14 May 2014 **Signature of reviewer:** 

The University Of Sheffield.

Downloaded: 19/07/2016
Approved: 25/03/2015

Siti Badar
Registration number: 130116699
Human Communication Sciences
Programme: Full Time PhD student

Dear Siti

PROJECT TITLE: Developing and evaluating communication supporting classrooms in Brunei primary schools
APPLICATION: Reference Number 002086

On behalf of the University ethics reviewers who reviewed your project, I am pleased to inform you that on 25/03/2015 the above-named project was **approved** on ethics grounds, on the basis that you will adhere to the following documentation that you submitted for ethics review:

- University research ethics application form 002086 (dated 13/03/2015).
- Participant information sheet 006420 version 1 (13/03/2015).
- Participant information sheet 006421 version 1 (13/03/2015).
- Participant information sheet 006423 version 1 (13/03/2015).
- Participant information sheet 006424 version 1 (13/03/2015).
- Participant information sheet 006425 version 1 (13/03/2015).
- Participant information sheet 006426 version 1 (13/03/2015).
- Participant information sheet 006427 version 1 (13/03/2015).
- Participant information sheet 006428 version 1 (13/03/2015).
- Participant consent form 004542 version 1 (12/01/2015).
- Participant consent form 004543 version 1 (12/01/2015).
- Participant consent form 004544 version 1 (12/01/2015).

If during the course of the project you need to deviate significantly from the above-approved documentation please inform me since written approval will be required.

Yours sincerely

Thomas Muskett
Ethics Administrator
Human Communication Sciences

A pilot study was carried out prior to the profiling phase with the aims to:

1. Test out the feasibility of using the CsC Observation Tool in the Brunei context;
2. Examine any logistical or procedural issues that may arise;
3. Allow both the researcher and a secondary researcher to become familiar with the CsC Observation Tool. This was to check whether the CsC Observation Tool can be used accurately and the information obtained was consistent for reliability issues in the main study.

For the pilot study, a total of four year two classrooms from four different government primary schools were observed. The children were aged between 6 years 9 months to 7 years 9 months. Two of the schools were categorised as model inclusive schools while the other two schools were not. From the four classrooms, half of the observations were for the English subject while the other half was for Mathematics.

Findings of Inter-rater Reliability Measures

Based on the initial study by Dockrell, Bakopoulou, Law, Spencer, and Lindsay, (2012), inter-rater reliability was calculated and demonstrated for the classroom observations. For the pilot study, data for inter-rater reliability was collected in just one classroom observation. This was due to difficulties in setting up a schedule that suited both researchers and the schools as a result of other commitments. Table 1 displays the percentage agreement values. There was a 63.2% agreement between raters for the Language Learning (LLE), 80% agreement for the Language Learning Opportunities (LLO) dimension, and a 75% agreement for the Language Learning Interaction dimension (LLI). Further analysis to determine the statistical reliability between the raters was conducted using Cohen's kappa (k) and this resulted in fair agreement for the LLE (k = .27, 95% CI (-.17 to .22), p = .245), and moderate agreement for the LLO (k = .54, 95% CI (-.17 to 1.25), p = .171), and LLI (k = .59, 95% CI (.24 to .94), p = .007), dimensions. This indicated there was quite a low agreement particularly for the LLE dimension, which could be accounted for by the fact that both researchers did not have the opportunity to meet up and discuss each item in the CsC Observation Tool prior to the observations. As a result the researchers went into the observation with a different concept of the CsC Observation Tool.

As agreement between raters was essential particularly for the main part of the study, this was something that needed to be addressed. The pilot recommended the following:

1. To ensure the consistent presence of the secondary rater:
    a. Through advanced confirmation of dates suitable for all relevant parties (i.e. schools and the secondary rater);
    b. If this was not possible then another rater should be recruited, for example a university student studying in a related field or work.
2. To ensure high agreement between raters, more training and practice in implementing the CsC observation Tool was required.

Table 1: *Table showing the Number of Agreements and Percentage Agreement Values.*

Dimension	Number of agreements	Percentage of agreement (for both 'present' and 'absent' items)
LLE	12/19 = 0.63	63.2%
LLO	4/5 = 0.80	80.0%
LLI	15/20 = 0.75	75.0%

Findings of the Classroom Observations Scores

The teachers reported mornings before break time were best to conduct the observations as the students tended to be more restless after that time. Some of the teachers were particularly nervous about the observation due to being informed that the observers were SLTs working at the SEU. As a result some of the teachers made the extra effort of changing their teaching style and activities that put unnecessary pressure on them. In order to ensure or minimise this occurring during the main data collection, the researcher met up with the teachers before the observation to explain to them the actual purpose. This was also addressed and included in the participant's information sheet.

Table 2 displays the descriptive statistics for all four classrooms in the three dimensions of the CsC Observation Tool, and this is illustrated in Figure 1. Overall, the classrooms achieved a higher mean proportion score in the LLE dimension (M = 0.48, SD = 0.12) compared to the other two dimensions. This was closely followed by the LLI dimension (M = 0.47, SD = 0.13). The lowest mean proportion score was achieved in the LLO dimension (M = 0.15, SD = 0.12), where the lowest score was 0.

Table 2: *Table showing the Descriptive Statistics of Proportion Scores for the Three Dimensions across All Settings.*

	Mean	Median	SD	Minimum	Maximum	n
P.S. LLE	.48	.52	.12	.32	.58	4
P.S. LLO	.15	.16	.12	.00	.28	4
P.S LLI	.47	.52	.13	.28	.55	4

Note. P.S. = Proportion scores; SD = Standard Deviation; n = Number of observations.

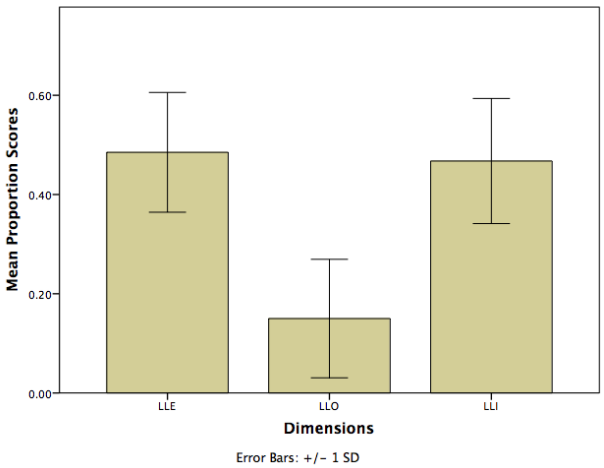


Figure 1. Graph showing the mean (+/- SE) proportion scores for the three dimensions across all settings.

Table 3 and Figure 2 present the proportion scores for classrooms in MIS and non-MIS across the three dimensions. The mean proportion score for classrooms in MIS was lower than the non-MIS for the LLE dimension (MIS M = 0.40, SD = 0.11; non-MIS M = 0.58, SD = 0.11). This was also found for the LLI dimension with classrooms in non-MIS scoring a higher mean proportion score than classrooms in MIS (MIS M = 0.42, SD = 0.19; non-MIS M = 0.52, SD = 0.14). Classrooms in MIS did relatively better in the LLO dimension obtaining a higher score than classrooms in non-MIS (MIS M = 0.24, SD = 0.06; non-MIS M = 0.06, SD = 0.08). Statistical analysis was conducted to determine if differences were statistically significant.

Non-parametric tests were used due the data not assuming normal distribution and the presence of outliers. The results of the Mann-Whitney tests revealed no significant difference in the mean proportion scores of MIS (Median = 0.40) and non-MIS (Median = 0.58) classrooms for the LLE dimension, (U = 0.00, z = -1.55, p = non-significant). Similarly, no significant differences were also observed for the LLO dimension MIS

(Median = 0.24) and non-MIS (Median = 0.06), U = 0.00, z = -1.55, p = non-significant, and the LLI dimension (MIS Median = 0.42; non-MIS Median = 0.52), U = 2.00, z = -0.00, p = non-significant.

Table 3: *Descriptive Statistics Table of Proportion Scores for MIS and Non-MIS across Dimensions*

	School Category									
	MIS (n = 2)					Non-MIS (n = 2)				
	Mean	Median	SD	Min	Max	Mean	Median	SD	Min	Max
P.S. LLE	.40	.40	.11	.32	.47	.58	.58	.01	.57	.58
P.S. LLO	.24	.24	.06	.20	.28	.06	.06	.08	.00	.12
P.S. LLI	.42	.42	.19	.28	.55	.52	.52	.01	.51	.53

Note. P.S. = Proportion Scores; M = Mean; SD = Standard Deviation; Min = Minimum; Max = Maximum; n = Number of schools.

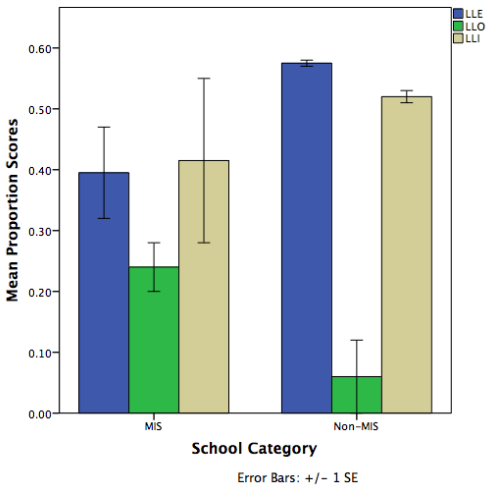


Figure 2. Graph showing the mean (+/-SE) proportion scores of MIS and non-MIS across dimensions.

Issues with the Scoring and Analysis

Although data from the pilot study was not included in the main study, it was scored and analysed. The rationale for this was to provide practice for the researcher in scoring and data analysis using the Statistical Package for the Social Sciences (SPSS) version 22. Furthermore it also enabled the researcher to explore the different statistical tests possible and the results that each test yielded. This also served to inform the researcher on the most appropriate test to use for the data collection in the main study, and discover any potential problems in the proposed techniques for data analysis (van Teijlingen & Hundley,

2001, p. 2). This was exactly what was uncovered later on where scoring of the Tool for inter-rater reliability was done incorrectly, which led to inaccurate results.

There were three dimensions in the Tool, namely the Language Learning Environment (LLE), Language Learning Opportunities (LLO) and the Language Learning Interaction (LLI) dimension. Each of these dimensions had a different number of items and scoring for the latter two was done on a basis of five occurrences, i.e. LLE has 19 items, where scoring for each item was either 'not seen' or 'observed', LLO had five items and the LLI has 20 items, but was scored on the number of five occurrences during the observation period, i.e. 25 and 100 respectively. However, for the reliability measures, scoring should have been on the number of agreed 'present' and 'absent' scores between the raters based on the total number of items, rather than the maximum scores. Furthermore, instead of scoring for the agreement for both the 'absent' and 'present' responses of the raters, only the latter was scored. This definitely had an effect on the overall inter-rater reliability scores as this did not represent the agreement among the raters.

Summary

The pilot study for the profiling phase was viewed as a feasibility study and pre-testing of the CsC observation Tool in the Brunei context. The outcomes of the pilot study identified several issues regarding the implementation, scoring and analysis process. Procedures to address these issues were applied in the main data collection of the current study.

Appendix D: Approval from the Ministry of Education

MEMORANDUM

Daripada : Pengarah Sekolah-Sekolah, Kementerian Pendidikan

Kepada : Ketua Unit Pendidikan Khas, Kementerian Pendidikan

Tarikh: 6 Jamadilawal 1435
8 Mac 2013

Rujukan : KP/DS/PTKK/18:29

MEMOHON KEBENARAN UNTUK MENJALANKAN PROJEK BAGI KURSUS PHD DI BEBERAPA BUAH SEKOLAH-SEKOLAH RENDAH KERAJAAN

Dengan hormat merujuk Memorandum Ketua Unit Pendidikan Khas bilangan (36)/Sp.Ed/P/56/I Pt.1 bertarikh 03 Jamadilawal 1435/ 05 Mac 2014 mengenai perkara di atas.

Sehubungan dengan itu, Jabatan Sekolah-Sekolah tidak ada halangan bagi Dayang Siti Rafizah binti Haji Badar, Speech Therapist dari Unit Pendidikan Khas untuk menjalankan projek bagi kursus PHD yang sedang beliau ikuti pada masa ini di Sekolah-Sekolah Rendah Kerajaan seperti yang dipohonkan.

Sekian untuk makluman mengenainya.

'Perkhidmatan Berkualiti, Pelanggan Berpuas Hati'

[AWG CHEONG HUAT JOO]
Pegawai Tugas-Tugas Khas Kanan (Menengah)
b/p. Pengarah Sekolah-Sekolah

s.k:
Pegawai Tugas-Tugas Khas Kanan (Rendah)

Chj/jm

12 MAR 2014

Appendix E: Sample Letter, Information sheet and Consent Form

Sample Letter of Invitation

The University Of Sheffield.

Department of Human Communication Sciences
362 Mushroom Lane
Sheffield S10 2TS UK

Head of Department
Professor Shelagh Brumfitt Senate Award Fellow
PhD, M.Phil, Dip CST, Cert MRCSLT (Hons)

Telephone: +44 (0) 114 222 2418/ 2402/ 2405
International: +44 (0) 114 222 2418
Fax: +44 (0) 114 222 2439
Email: hcs-support@lists.sheffield.ac.uk
http://www.shef.ac.uk/hcs

Letter to Head masters/ classroom teachers/SENA teachers(Classroom Observation)

Dear Sir or Madam,

I am a postgraduate research student at the Department of Human Communication Sciences, University of Sheffield, United Kingdom. I am currently working on a research project to investigate communication supporting classrooms in primary schools in Brunei Darussalam using an observation tool that has been developed. My supervisors for this project are Dr. Judy Clegg and Dr. Sarah Spencer.

'Communication supporting classrooms' is a term used to refer to a classroom or a learning space which has been set up in such a way that supports and develops childrens' communication skills in schools. This study aims to explore the current practices that are being used in classrooms in Brunei schools to support communication skills in children, as well as to identify and highlight areas which can be further improved. Results from this study can also provide information on what factors facilitate or are challenges in creating an environment to support these skills in the Brunei context.

I am writing to invite you to participate in this study. Please see the information sheet for more details. You are welcome to contact me if you would like more information about the study or if you have any questions. My contact details are as below:

Email: srhajibadar1@sheffield.ac.uk

Telephone: +44(0)114 222 2400 (UK number) / +673 (Brunei number)

If you agree to be part of this study, please read and complete the consent form and return this to me either in person or through the email above by (date).

Thank you,

.....

Siti Rafizah Badar
Postgraduate Research Student
University of Sheffield

The University Of Sheffield.

Department of Human Communication Sciences
362 Mushroom Lane
Sheffield S10 2TS UK

Head of Department
Professor Shelagh Brumfitt Senate Award Fellow
PhD, M.Phil, Dip CST, Cert MRCSLT (Hons)

Telephone: +44 (0) 114 222 2418/ 2402/ 2405
International: +44 (0) 114 222 2418
Fax: +44 (0) 114 222 2439
Email: hcs-support@lists.sheffield.ac.uk
http://www.shef.ac.uk/hcs

Participant Information Sheet
Risalah Maklmuat

Developing and evaluating communication supporting classrooms in Brunei primary schools.
Membangunkan dan meniliai bilik darjah yang memperkembangkan kemahiran berkomuniksai di sekolah rendah di Brunei.

Background to the project.
Latar belakang kajian.

My name is Siti Rafizah Badar and I am a PhD student at the Department of Human Communication Sciences, University of Sheffield, United Kingdom. I have written this information sheet to help you understand what this study is about and what it will involve. Please read it carefully before deciding if you would like to take part.
Nama saya Siti Rafizah Badar dan saya adalah pegawai yang mengikuti latihan dalam perkhidmatan bagi kursus PhD di Department of Human Communication Sciences, University of Sheffield, United Kingdom. Tujuan risalah maklumat ini adalah untuk membantu awda memahami kajian ini dan apa yang terlibat. Sila baca dengan teliti sebelum membuat keputusan jika awda ingin ikut serta.

What is this project about?
Apa tujuan kajian ini?

This study aims to investigate communication supporting classrooms in primary schools in Brunei Darussalam using an observation tool that has been developed. 'Communication supporting classrooms' is a term used to refer to a classroom or a learning space which has been set up in such a way that supports and develops childrens' communication skills in schools.
Kajian ini bertujuan untuk menyelidik bagaimana kemahiran komunikasi diperkembangkan dalam bilik darjah di sekolah-sekolah rendah di Brunei Darussalam, menggunakan bahan kajian yang sedia ada.

Therefore the aims of this study is to find out:
Ia juga bertujuan untuk mendapatkan maklumat berkenaan dengan:

1. What is currently being practiced in Brunei primary classrooms to support communication skills in children.
   Apa yang sedang diamalkan dalam bilik darjah sekolah rendah di Brunei untuk mempertingkatkan kemahiran komunikasi kanak-kanak.

2. What other practices can be used in our classrooms to help develop children's communication skills.
   Kaedah-kaedah lain yang boleh digunakan di dalam bilik darjah untuk memperkembangkan kemahiran komunikasi kanak-kanak.
3. The factors which facilitate or are challenges to creating a classroom environment which supports communication skills development.
   Faktor-faktor yang memudahkan atau cabaran-cabaran dalam mewujudkan persekitaran bilik darjah yang menyokong perkembangan kemahiran komunikasi.

Why have I been chosen?
Kenapa saya terpilih?

This study appreciates the key role that teachers have in the education of children in schools and particularly in the classrooms. For the purpose of this study, only Pre-school and Year 1 classes are selected. Your classroom has been invited due to one or any of the following reasons:
Kajian ini menghargai peranan penting guru-guru dalam pendidikan kanak-kanak di sekolah, terutamanya dalam bilik darjah. Bagi tujuan kajian ini, hanya kelas Pra dan Tahun 1 dipilih. Diantara sebab kelas awda dijemput adalah seperti berikut:

- It is a Pre-school and/or Year 1 class.
  Ia adalah kelas Pra dan/atau Tahun 1.
- It is in a school that is categorised as a 'Model Inclusive School for Excellent Services' or a 'Non-model Inclusive school for Excellent Services'.
  Ia adalah sekolah yang telah dikategorikan sebagai 'Sekolah Model Inklusif' atau 'Bukan Sekolah Model Inklusif'.
- Selected at random.
  Terpilih secara rambang.

Selection of classrooms is only done based on one or more of the above criteria and in no way reflects the reputation and practice of your classroom particularly in the field of special education. It is hoped the observations will provide us with valuable information to further develop and enhance strategies especially in the areas of communication development.
Pemilihan bilik darjah hanya dilakukan berdasarkan satu atau lebih daripada kriteria di atas dan sama sekali tidak mencerminkan reputasi dan amalan bilik darjah awda terutamanya dalam bidang pendidikan khas. Adalah diharapkan hasil pemerhatian akan memberikan maklumat berharga untuk meningkatkan dan memperkembangkan lagi strategi-strategi terutama sekali dalam kemahiran komunikasi.

What will happen if I take part?
Apa yang akan terjadi jika saya ikut serta?

This study involves classroom observations. This means that Rafizah (and in some cases a second observer) will come into your class and observe some lessons in the school. Only Pre-school and Year 1 classes have been selected for this study.

Your headmaster is already informed about this observation and your classroom has been invited to take part. You will have the opportunity to meet and discuss any issues with Rafizah before and after the observation.

This observation is to explore what factors are currently present or available in the classrooms to support communication skills in the Brunei context and in no way reflects your teaching methods and you as a teacher personally. This means that the observation will only focus on the classroom layout, activities and strategies that are used to support communication during the lesson.

The observation will take no longer than two hours. It will be conducted at a time agreed by your headmaster and yourself. Rafizah (and in some cases a second observer) may also be present in your classroom at least twenty minutes before the observation to familiarise herself with the classroom environment. The results of the classroom observation will only be shared with yourself and the headmaster of your school.
Kajian ini melibatkan pemerhatian bilik darjah. Ini bermakna bahawa Rafizah (dan adakalanya pemerhati kedua) akan berada di dalam kelas awda untuk menjalankan pemerhatian. Hanya kelas Pra dan Tahun 1 dipilih untuk kajian ini.

Guru besar sekolah awda sudah maklum berkenaan dengan pemerhatian ini dan kelas awda teleh dijemput untuk ikut serta. Awda akan mempunyai peluang untuk bertemu dan membincangkan sebarang isu dengan Rafizah sebelum dan selepas pemerhatian.

Pemerhatian ini adalah untuk menyelidik faktor-faktor yang sedia ada atau yang boleh didapati dalam bilik darjah untuk membantu meningkatkan kemahiran komunikasi di Brunei, dan sama sekali tidak mencerminkan kaedah pengajaran awda sebagai guru. Ini bererti bahawa pemerhatian hanya akan memberi tumpuan kepada susunan bilik darjah, aktiviti-aktiviti dan strategi-strategi yang digunakan untuk memperkembangkan kemahiran komunikasi semasa kelas dijalankan.

Pemerhatian in tidak akan mengambil masa lebih daripada dua jam. Ia akan dijalankan pada waktu yang telah dipersetujui oleh pihak sekolah. Rafizah (dan adakalanya pemerhati kedua) berkemungkinan juga akan hadir dalam bilik darjah lebih kurang dua puluh minit sebelum sesi pemerhatian untuk membiasakan diri dengan persekitaran bilik darjah. Hasil pemerhatian hanya akan dikongsikan dengan awda dan guru besar sekolah awda.

Do I have to take part?
Perlukah saya ikut serta?

No. You do not have to take part if you do not want to. You also do not have to give a reason for declining and nothing will happen if you do not take part.
Tidak. Awda tidak perlu ikut serta jika awda tidak mahu. Awda juga tidak perlu memberikan sebarang alasan untuk menolak dan tidak ada apa-apa yang akan berlaku jika awda tidak mahu mengambil bahagian.

If you do decide to take part you:
Jika awda bersetuju untuk ikut serta, awda akan:

- Will be given this information sheet to keep.
  Diberikan risalah maklumat ini untuk simpanan awda.
- Will be asked to sign and return a consent form.
  Diminta untuk mengisi dan mengembalikan borang kebenaran.
- Can choose to withdraw at any time. You do not have to give reasons for this.
  Berhak untuk menarik diri pada bila-bila masa. Awda juga tidak perlu memberikan sebarang alasan.

Will I be recorded and what will happen to the recording?
Adakah saya akan dirakam dan apa yang akan terjadi kepada rakaman itu?

There will be no audio or video recording of the classroom observations. Written data will only be collected using the observation Tool. A summary of the classroom observations will be shared only with you and your headmaster.

This written data will be kept safely and securely in Rafizah's locked office at the Department of Human Communication Sciences, University of Sheffield. Only Rafizah and her supervisors will have access to it. Any publications resulting from the study will only present anonymised data from the classroom observations. Upon the completion of the overall project, all the data will be deleted.
Pemerhatian bilik darjah tidak akan dirakam samaada secara audio atau visual. Hanya data secara bertulis saja yang akan diambil menggunakan bahan kajian yang sedia ada. Hasil pemerhatian hanya akan dikongsikan bersama dengan awda dan guru besar.

Data bertulis akan disimpan di tempat yang selamat dan berkunci di pejabat Rafizah di Department of Human Communication Sciences, Universiti Sheffield. Hanya Rafizah dan penyelia beliau akan mendapat akses kepadanya. Sebarang penerbitan hasil kajian dari pemerhatian bilik darjah adalah sulit. Setelah kajian ini selesai, semua data akan dihapuskan.

Are there any risks?
Adakah wujudnya risiko?

No. Any personal information will be kept confidential and anonymous. Your involvement in this study will not affect your involvement in school and in the field of special education.
Tidak. Semua maklumat peribadi adalah sulit dan tidak akan merujuk kembali kepada awda. Penglibatan awda dalam kajian ini tidak akan menjejaskan penglibatan awda di sekolah dan juga di bidang pendidikan khas.

If I am not happy can I make a complaint?
Jika ada sebarang masalah bolehkah saya mahu membuat aduan?

Yes. If you have any questions or are unhappy with any part of the study, please contact Rafizah directly (see below for contact details). If this does not solve anything then you may contact Rafizah's supervisors (Dr Judy Clegg and Dr Sarah Spencer) or the head of the department who is Professor Shelagh Brumfitt at the following address:
Ya. Jika awda ada sebarang pertanyaan atau tidak berpuas hati dengan mana-mana bahagian dalam kajian ini, sila berhubung dengan Rafizah secara langsung (rujuk maklumat yang diberikan dibawah). Jika awda masih tidak berpuas hati, awda bolehlah berhubung dengan penyelia Rafizah (Dr Judy Clegg dan Dr Sarah Spencer) ataupun ketua jabatan iaitu Professor Shelagh Brumfitt melalui alamat berikut:

Professor Shelagh Brumfitt,
Human Communication Sciences Department,
University of Sheffield
362 Mushroom Lane
Sheffield
S10 2TS
United Kingdom

Tel: +44 (0) 114 222 2418 (reception)
Fax: +44 (0) 114 222 2439

Will anyone know I'm taking part in this project?
Adakah penglibatan saya dalam kajian ini akan diketahui ramai?

Any information about you will be kept anonymous and confidential. Only Rafizah and her supervisors will have access to any data either written or in the electronic form. It will also be coded to ensure that any responses will not be traced back to you.
Sebarang maklumat berkenaan dengan awda akan disimpan secara sulit dan tidak akan merujuk balik kepada awda. Hanya Rafizah dan penyelia beliau mempunyai akses kepada semua data yang bertulis ataupun elektronik. Ia juga akan diberikan kod untuk memastikan sebarang jawapan tidak akan merujuk balik kepada awda.

What type of information will be collected?
Maklumat apakah yang akan dikumpul?

The following information will be collected if you agree:
Maklumat dibawah akan dikumpul jika awda bersetuju:

- School category: Model Inclusive School/Non-model inclusive school.
  Kategori sekolah: Sekolah Model Inklusif/Bukan Sekolah Model Inklusif.
- School district: Brunei-Muara/Tutong/Kuala Belait/Temburong.
  Daerah sekolah: Brunei-Muara/Tutong/Kuala Belait/Temburong.
- Classroom(s) being observed: Pre-school/Year 1.
  Bilik darjah yang diperhati: Pra/Tahun 1.
- Number of children in the classroom including gender division.
  Keramaian pelajar dalam bilik darjah termasuk pembahagian jantina.
- Number of children referred to the Special Education Unit in the classroom.
  Jumlah pelajar yang dirujuk ke Unit Pendidikan Khas.
- Lesson / subject taught during the observation.
  Subjek yang diajar semasa pemerhatian.
- Number of adults in the classroom.
  Keramaian orang dewasa dalam bilik darjah.
- Availability of a Special Education Needs Assistance (SENA) teacher in the school.
  Terdapatnya guru SENA di sekolah.
- Total population of students in the school.
  Jumlah keseluruhan keramaian pelajar di sekolah.
- Total number of students referred to the Special Education Unit in the school.
  Jumlah keseluruhan keramaian pelajar di sekolah yang dirujuk ke Unit Pendidikan Khas.

What will happen to the results of the research project?
Apa yang akan terjadi dengan hasil kajian?

The results from this study will be written up as part of the main research project report. Any information from this study will be kept anonymous and confidential and will only be accessible to Rafizah and her supervisors.
Hasil kajian ini akan digunakan sebagai sebahagian daripada laporan kajian utama. Sebarang maklumat dari kajian ini adalah sulit dan hanya Rafizah dan penyelia beliau boleh mendapatkan akses kepadanya.

Who has ethically reviewed the project?
Siapa yang telah meluluskan kajian ini?

This project has been reviewed by the Ethics Committee of the Department of Human Communication Sciences, University of Sheffield.

If you would like to take part in this study, please complete and return the consent form to Rafizah either by email or in person. A copy of the signed consent form will be given to you to keep.
Kajian ini telah diluluskan oleh Research Ethics Review Committee, Department of Human Communication Sciences, Universiti Sheffield.

Jika awda ingin ikut serta dalam kajian ini, sila isi dan kembalikan borang kebenaran kepada Rafizah samaada secara persendirian atau melalui email. Awda juga akan diberikan satu salinan borang kebenaran yang telah ditandatangani untuk simpanan awda.

Contact for further information
Untuk maklumat lanjut

If you would like to contact me for more information about the study, you can reach me at:
Jika awda ingin maklumat lanjut berkenaan dengan kajian ini, awda boleh menghubungi saya melalui:

Siti Rafizah Badar
Postgraduate Research Student
The Department of Human Communication Science
University of Sheffield
362 Mushroom Lane
Sheffield
S10 2TS
Telephone: +44 (0) 114 2222400 (UK number)
+673 (Brunei number)
Email: srhajibadar1@sheffield.ac.uk

~Thank you for your time in reading this information sheet.~
Terima kasih kerana membaca risalah maklumat ini.

Siti Rafizah Badar: PhD Student
Pelajar PhD

Sample Consent Form

Department of Human Communication Sciences
362 Mushroom Lane
Sheffield S10 2TS UK

Head of Department
Professor Shelagh Brumfitt Senate Award Fellow
PhD, M.Phil, Dip CST, Cert MRCSLT (Hons)

Telephone: +44 (0) 114 222 2418/ 2402/ 2405
International: +44 (0) 114 222 2418
Fax: +44 (0) 114 222 2439
Email: hcs-support@lists.sheffield.ac.uk
http://www.shef.ac.uk/hcs

Participant Consent Form
Borang Kebenaran Peserta

CONSENT FORM
BORANG KEBENARAN

Developing and evaluating communication supporting classrooms in Brunei primary schools.
Membangunkan dan meniliai bilik darjah yang memperkembangkan kemahiran berkomuniksai di sekolah rendah di Brunei.

Participant Identification Number:
Nombor pengenalan perserta:

Name of Researcher: Siti Rafizah Badar srhajibadar1@sheffield.ac.uk
Name Penyelidik:

Supervisors: Dr Judy Clegg j.clegg@sheffield.ac.uk
Penyelia: Dr Sarah Spencer sarah.spencer@sheffield.ac.uk

Please read the following and mark x in the boxes if you agree.
Sila baca maklumat berikut dan tandakan x pada kotak jika awda bersetuju.

1. I confirm that I have read and understand the information sheet about the study. ☐
   Saya mengesahkan bahawa saya telah membaca dan memahami risalah maklumat mengenai kajian ini.

2. I understand that I can ask questions about the study. ☐
   Saya faham bahawa saya boleh bertanya soalan mengenai kajian ini.

3. I understand that information from the observations will be shared with myself and the headmaster of my school. ☐
   Saya faham bahawa sebarang maklumat hasil dari pemerhatian akan dikongsikan bersama saya dan guru besar sekolah saya.

4. I understand that I do not have to take part if I do not want to and that I am free to withdraw at any time, without giving any reason. ☐
   Saya faham bahawa saya tidak perlu mengambil bahagian jika saya tidak mahu dan saya bebas untuk menarik diri pada bila-bila masa, tanpa memberi sebarang alasan.

5. I know that any information about me and my responses will be kept in a secure place at the University of Sheffield and that only Rafizah and her supervisors will have access to it. ☐
   Saya tahu bahawa sebarang maklumat tentang saya dan jawapan saya akan disimpan di tempat yang selamat di Universiti Sheffield dan hanya Rafizah dan penyelia beliau akan mempunyai akses kepadanya.

6. I understand that any information given by me may be used in future reports, articles or presentations by the research team. ☐
   Saya memahami bahawa sebarang maklumat yang diberikan oleh saya boleh digunakan dalam laporan, artikel dan taklimat yang akan datang oleh pasukan penyelidikan.

7. I understand that my name will not appear in any reports, articles or presentations. ☐
   Saya faham bahawa nama saya tidak akan dimasukkan dalam sebarang laporan, artikel dan taklimat.

8. I understand that a second observer may be present during the classroom observation. ☐
   Saya faham bahawa pemerhati kedua mungkin akan hadir semasa pemerhatian bilik darjah.

9. I AGREE to take part in the above study. ☐
   Saya BERSETUJU untuk ikut serta dalam kajian ini.

   I DO NOT AGREE to take part in the above study. ☐
   Saya TIDAK BERSETUJU untuk ikut serta dalam kajian ini.

10. I AGREE to be included in the second part of this study which involves focus group discussions. ☐
    Saya BERSETUJU untuk ikut serta dalam bahagian kedua kajian ini yang merupakan temuga secara berkumpulan. ☐

    I DO NOT AGREE to be included in the second part of this study. ☐
    Saya TIDAK BERSETUJU untuk ikut serta dalam bahagian kedua kajian ini.

Name of Participant *Nama Peserta*	Date *Tarikh*	Signature *Tandatangan*
Siti Rafizah Badar	Date	Signature

Thank you for completing this. Please return this form to me either in person or through email. You will also be given a copy for you to keep.
Terima kasih. Sila kembalikan kepada saya samaada secara persendirian ataupun melalui email. Awda juga akan diberikan satu salinan untuk disimpan.

Appendix F: Communication Supporting Classroom Observation Tool

2012

BETTER COMMUNICATION RESEARCH PROGRAMME

Developed by CsC Team –
Dockrell, J. E., Bakopoulou, I., Law, J., Spencer, S & Lindsay, G.

School:

Date:

Start Time: Finish Time

Completed by:

Class:

No pupils:

COMMUNICATION SUPPORTING CLASSROOMS OBSERVATION TOOL

- The observation checklist is designed to be used in an observation of a classroom or a learning space by someone other than the adult working with the children.
- The observation checklist can be used in Reception, Year 1 and Year 2 classrooms and other Early Years learning spaces.
- The average length of time necessary to collect a representative sample of behaviour is approximately one hour. Some of the items of the first dimension (Language Learning Environment) can be done during break time or prior to the start of the school day.
- It is recommended that the observation takes place during a regular classroom session (usually a morning session starting with the class register).
- The language learning dimensions are recorded as either present or absent. For some items, there is a record of a Language Learning Opportunity being 'Present' and being 'Used during the Observation'.
- For the dimensions of 'Language Learning Opportunities' and 'Language Learning Interactions', each different occurrence is recorded up to a maximum of 5 times during the observation period. Each recorded observation is a new/different occurrence of the behaviour/activity.
- There is space when recording language learning interactions to note which staff use specific ways of talking with the children

THE TOOL IS DESIGNED TO PROFILE THE ORAL LANGUAGE ENVIRONMENT OF THE CLASSROOM. It is not expected that all items are coded on all observations.

LANGUAGE LEARNING ENVIRONMENT: *This dimension involves the physical environment and learning context*					
		NOT SEEN	**OBSERVED**		**COMMENTS**
1	The classroom is organised to emphasise open space.				
2	Learning areas are clearly defined throughout the classroom.				
3	Learning areas are clearly labelled with pictures/words throughout the classroom.				
4	Space for privacy/ quiet areas where children can retreat to have 'down time' or engage in smaller group activities. These areas are less visually distracting.				
5	Children's own work is displayed and labelled appropriately.				
6	Some classroom displays include items that invite comments from children.				
7	Book specific areas are available.				
8	Literacy specific areas are available				
9	Background noise levels are managed consistently throughout the observation, and children and adults are able to hear one another with ease.				
10	Transition times are managed effectively, so that noise levels are not excessive and children know what to expect next.				
11	There is good light.				
12	The majority of learning resources and materials are labelled with pictures/words.				
13	Resources that are available for free play are easily reached by the children or easily within their line of vision.				
14	An appropriate range of books is available in the book area (e.g, traditional stories, bilingual/dual language books and a variety of genres and books related to children's own experiences).				
15	Non-fiction books, books on specific topics or interests of the children are also available in other learning areas.				
16	Outdoor play (if available) includes imaginative role play.				
17	Good quality toys, small world objects and real / natural resources are available.		Present:	Used:	
18	Musical instruments and noise makers are available.		Present:	Used:	
19	Role play area is available.		Present:	Used:	
TOTAL LLE SCORE	**/19 NOTES**				

LANGUAGE LEARNINGOPPORTUNITIES: *This dimension involves the structured opportunities that are present in the classroom to support language development*								
		Not Seen	**Observed (5 times)**					**Comments**
1	Small group work facilitated by an adult takes place.							
2	Children have opportunities to engage in interactive book reading facilitated by an adult (for example: asking predictive questions, joining in with repetitions, story packs etc.).							
3	Children have opportunities to engage in structured conversations with teachers and other adults.							
4	Children have opportunities to engage in structured conversations with peers (Talking partners).							
5	Attempts are made to actively include all children in small group activities.							
TOTAL LLO SCORE:	**/25** **NOTES:**							

LANGUAGE LEARNING INTERACTIONS: *This dimension involves the ways in which adults in the setting talk **with** children.*									
		Not Seen	**Observed**					**Observed By All Staff in Classroom**	**COMMENTS**
1	Adults use children's name, draw attention of children.								
2	Adults get down to the child's level when interacting with them.								
3	Natural gestures and some key word signing are used in interactions with children.								
4	Adults use symbols, pictures and props (real objects) to reinforce language.								
5	Pacing: Adult uses a slow pace during conversation; give children plenty of time to respond and take turns in interacting with them.								
6	Pausing: Adult pauses expectantly and frequently during interactions with children to encourage their turn-taking and active participation.								
7	Confirming: Adult responds to the majority of child utterances by confirming understanding of the child's intentions. Adult does not ignore child's communicative bids.								
8	Imitating: Adult imitates and repeats what child says more or less exactly.								
9	Commenting: Adult comments on what is happening or what children are doing at that time.								
10	Extending: Adult repeats what child says and adds a small amount of syntactic or semantic information.								

11	Labelling: Adult provides the labels for familiar and unfamiliar actions, objects, or abstractions (e.g. feelings).								
12	Adult encourages children to use new words in their own talking.								
13	Open questioning: Adult asks open-ended questions that extend children's thinking (what, where, when, how & why questions).								
14	Scripting: Adult provides a routine to the child for representing an activity (e.g. First, you go up to the counter. Then you say 'I want milk..') and engages the child in known routines (e.g. 'Now it is time for circle time. What do we do first?').								
15	Adult provides children with choices (for example: 'Would you like to read a story or play on the computer?').								
16	Adult uses contrasts that highlight differences in lexical items and in syntactic structures.								
17	Adult models language that the children are not producing yet.								
18	Turn-taking is encouraged.								
19	Children's listening skills are praised.								
20	Children's non-verbal communication is praised.								
TOTAL LLI SCORE:	**/100** **NOTES:**								

Appendix G: Testing for Normality

Profiling Phase

Prior to selecting the appropriate statistical tests for analysis, the data was first put through a series of further testing to check for the assumption of normality. This is important especially in selecting the type of test statistics that the data will be subjected to, which is parametric tests for normally distributed data, or non-parametric tests for data which is not normally distributed (Field, 2013). As there are two independent variables (school category and year levels), it is necessary to check for the distribution of the data within each of these groups separately (Field, 2013).

The distribution of the proportions scores and combined scores were tested for outliers and deviation from normality. Only the proportion and combined scores for across the year levels (pre-school and year one) were found to violate normality. Outliers were observed in the proportion scores of the LLO dimension and combined scores for both pre-school and year one classrooms. This can be seen in Figures 1 and 2. Additionally a significant *p*-value was obtained from the Shapiro-Wilk test for the combined scores of the pre-school classrooms, $W(6) = .67$, $p = .003$, indicating that these scores deviated significantly from normal.

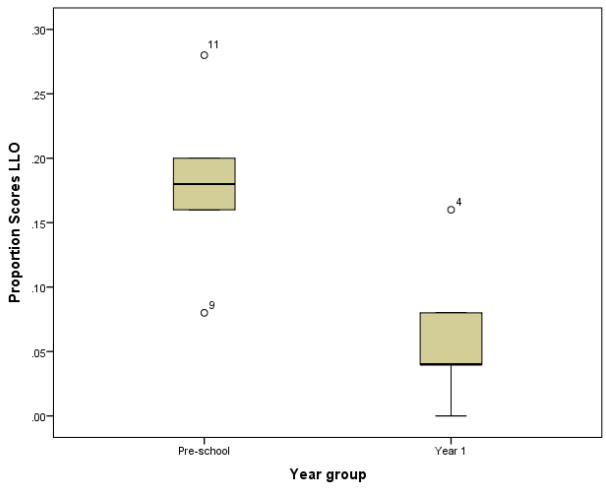


Figure 1. Graph showing mild outliers of the LLO proportion scores for the pre-school and year one classrooms.

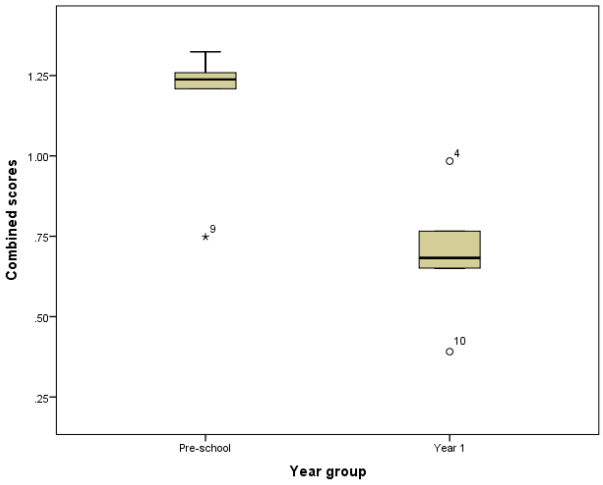


Figure 2. Graph showing mild and extreme outliers of the LLO proportion scores for pre-school and year one classrooms.

Intervention Phase

Testing for normality was done separately for the intervention and control classrooms, for each of the three dimensions of the Tool, and was examined according to three levels of the independent variables (T1, T2 and T3).

The proportion scores for the intervention classrooms in the LLI dimension were found to violate normality due to the presence of outliers across the three time points (Figures 3 to 5). Significant *p*-value at time point 1, W (5) = .70, p = .010, time point 2, W (5) = .64, p = .002, and a significant violation of homogeneity of variance at time point 2, F (2, 12) = 4.56, p = .034, were also observed.

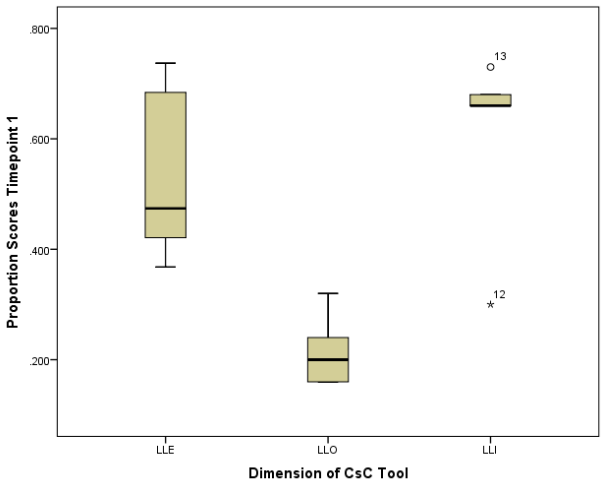


Figure 3. Graph showing mild and extreme outliers of the LLI proportion scores at time point 1.

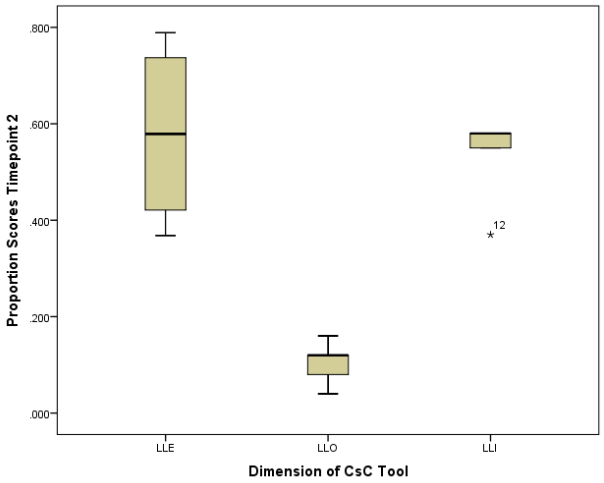


Figure 4. Graph showing an extreme outlier of the LLI proportion scores at time point 2.

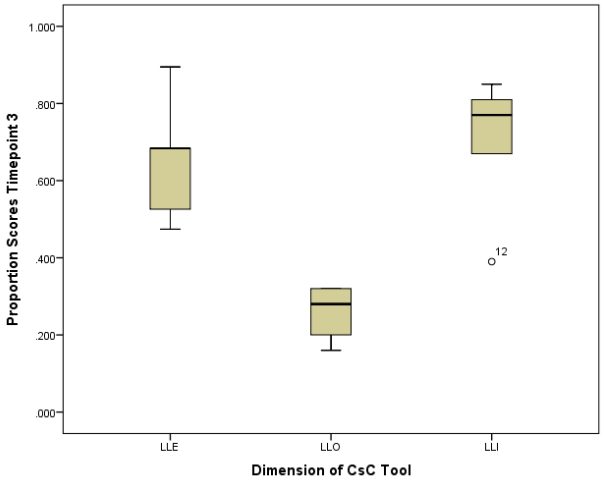


Figure 5. Graph showing a mild outlier of the LLI proportion scores at time point 3.

For the control classrooms, the proportion scores in the LLI dimension at time point 1, and the LLO dimension at time point 2 were observed to have outliers (Figures 6 and 7). Violation of normality was found for the LLE dimension at time point 1, W (5) = .98, p = .006. Significant violations for homogeneity of variance was also seen for the proportion scores across the three time points; T1, F (2, 12) = 3.43, p = .066; T2, F (2, 12) = 6.13, p = .015; and T3, F (2, 12) = 4.18, p = .042.

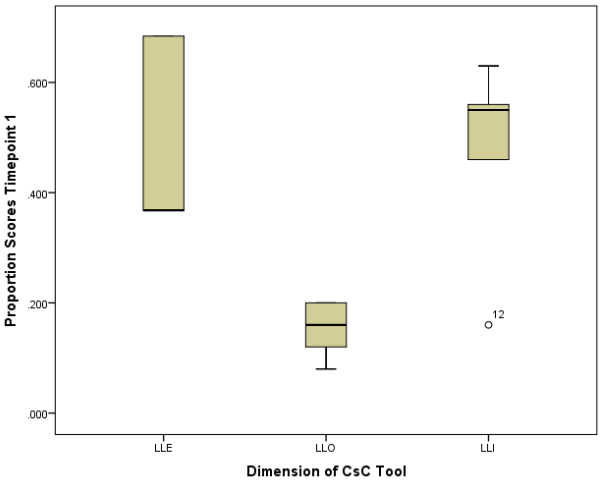


Figure 6. Graph showing a mild outlier of the LLI proportion scores at time point 1.

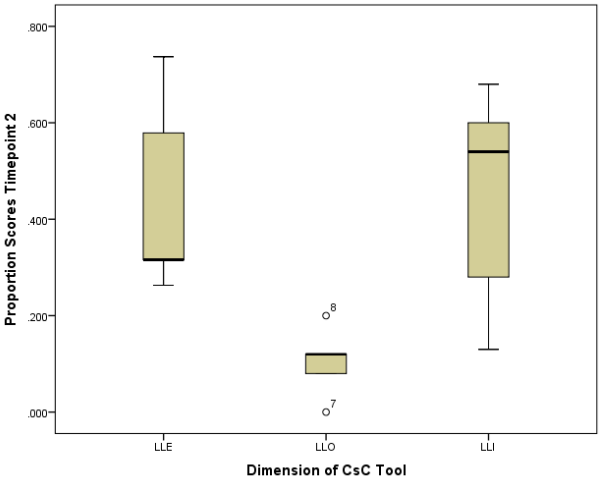


Figure 7. Graph showing mild outliers of the LLO proportion scores at time point 2.

Distribution of the combined scores for both the intervention and control classrooms was found to violate normality due to the presence of outliers between time points 1 and 2, and time points 2 and 3 (Figures 8 and 9). A significant *p*-value for the difference in the combined scores across time point 2 and 3, W (5) = .78, p = .051, indicated that these scores deviated from normal.

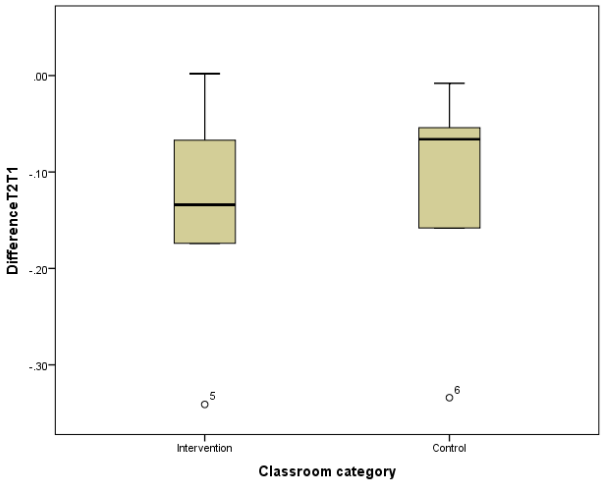


Figure 8. Graph showing mild and extreme outliers for the differences in the combined scores between time points 1 and 2, across classroom categories.

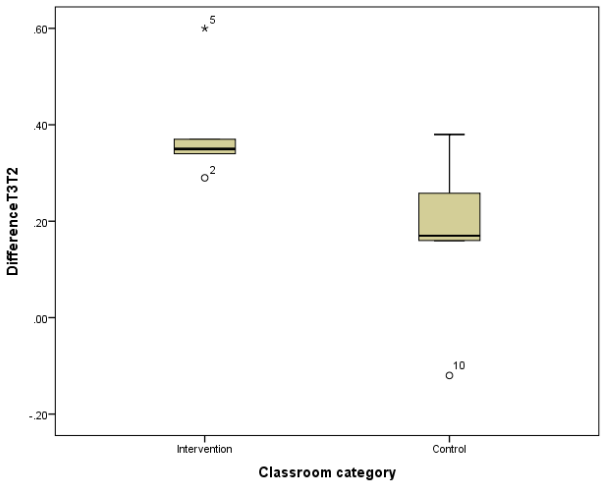


Figure 9. Graph showing mild and extreme outliers for the differences in the combined scores between time points 2 and 3, across classroom categories.

Appendix H: Inter-rater Reliability (Profiling Phase)

Inter-rater reliability was conducted for six of the twelve classroom observations. Details of these classrooms and the scores are presented in Table 1. Scoring for inter-rater reliability was completed based on the number of agreements between both raters, i.e. 'present' and 'absent' scores. This was completed for the number of items in each of the three dimensions, 19 items in the Language Learning Environment (LLE) dimension, five for the Language Learning Opportunities (LLO) and 20 items for the Language Learning Interaction (LLI) dimension.

Percentage Agreement

Table 1 shows that percentage agreement for the CsC observation Tool was consistently high for the LLE and LLI dimensions, but values had a wide range for the LLO dimension. Specifically, details are discussed below:

1. LLE: Percentage agreement for all six observations ranged from 84.21% to 100%.
2. LLO: Percentage agreement ranged from 40% to 100%. An agreement score of 40% was achieved for only one observation, two classrooms yielded a percentage agreement score of 60% while the remaining three classrooms achieved more than 80% agreement. The low agreement score was a result of the raters not agreeing on three out of the five items in the opportunities dimension, specifically on the occurrence of structured conversations with teachers and adults, with their peers and on the active involvement of all children in the class.
3. LLI: Agreement scores for the six classrooms ranged from 75% to 100%.

Cohen's Kappa

The Cohen's kappa (k) statistics and the strength of the agreements are presented in Table 2. Strengths of agreement from Cohen's kappa statistics is based on Landis and Koch's (1977) and Viera and Garrett's (2005) characteristics where values less than 0 are categorised as 'poor', between 0.41 and 0.60 as 'moderate', between 0.61 and 0.80 as 'substantial', and values above 0.81 as 'almost perfect' agreement. For the LLE dimension, three out of the six observations achieved substantial agreement and the remaining three yielded almost perfect agreement. This indicated that agreement between the two raters was consistently high for this dimension.

Similar to the percentage agreement values observed in the previous section for the LLO dimension, three of the six observations showed poor agreement, one observation had substantial agreement, while another observation had almost perfect agreement. One classroom observation yielded no statistics when kappa analysis was computed. This was

because both raters scored exactly the same for each item in this particular session. Overall, the range of agreement scores suggested that agreement between raters was not consistently high for this particular dimension. Specifically, the raters agreed on half of the observations but did not agree on the other half. For the LLI dimension, it was found that half of the observations gained almost perfect agreement, two observations achieved moderate agreement and the last score showed substantial agreement. This indicated that overall, both raters' agreement was consistently high for all six observations for this particular dimension.

Intra-class Correlation Coefficient

The intra-class correlation coefficient (ICC) values and the strength of the agreements for the LLO and LLI dimensions are displayed in Table 3. Strengths of agreement was based on Cicchetti's (1994) scale where values less than 0.40 are classified as 'poor', between 0.40 to 0.59 as 'fair', between 0.60 and 0.74 as 'good', and values above 0.75 as 'excellent'. For the LLO dimension, only one observation gained poor agreement, another observation had good agreement, two observations obtained fair agreement between raters, and the remaining two resulted in excellent agreement.

The poor agreement was a result of both raters only agreeing on the occurrence of two out of the five items in the LLO dimension, hence resulting in the very low score. With the exception of the single poor agreement, most of the classroom observations indicated that both raters agreed on the number of times a particular behaviour occurred in this dimension, within the fair to excellent range. In the LLI dimension, half of the observations resulted in good agreement while the other half yielded excellent agreement. This showed that for the interaction dimension, both raters highly agreed on the frequencies of the occurrence of the behaviours.

Table 1: *Table of Agreed Scores for Primary and Secondary Raters*

Sch.	Cat.	Year	Dim.	N / n[a]	% agreement[b]
1	MIS	Pre-school	LLE	16/19	84.21%
			LLO	5/5	100.00%
			LLI	19/20	95.00%
2	MIS	Year 1	LLE	18/19	94.74%
			LLO	2/5	40.00%
			LLI	15/20	75.00%
3	Non-MIS	Year 1	LLE	19/19	100.00%
			LLO	3/5	60.00%
			LLI	14/20	70.00%
4	MIS	Pre-school	LLE	17/19	89.47%
			LLO	3/5	60.00%
			LLI	17/20	85.00%
5	MIS	Pre-school	LLE	17/19	89.47%
			LLO	5/5	100.00%
			LLI	20/20	100.00%
6	MIS	Year 1	LLE	18/19	94.74%
			LLO	4/5	80.00%
			LLI	19/20	95.00%

Note. Sch. = School; Cat. = Category; Dim. = Dimension; N = Number of agreements; n = number of items;
[a]The number of agreements between raters divided by the number of items in the dimension.
[b] Percentage agreement for both the present and absent items by both raters.

Table 2: *Table of Kappa Values for Inter-rater Agreement across Dimensions*

Dim.	Obs.	k statistic	Agreement
LLE	1	k = .66, 95% CI (0.33, 0.99), p = .002	Substantial
	2	k = .89, 95% CI (0.69, 1.10), p < .001	Almost perfect
	3	k = 1.00, 95% CI (1.00, 1.00), p < .001	Almost perfect
	4	k = .79, 95% CI (0.52,1.06), p < .001	Substantial
	5	k = .69, 95% CI (0.30, 1.08), p = .002	Substantial
	6	k = .89, 95% CI (0.69, 1.10), p < .001	Almost perfect
LLO	1	k = 1.00, 95% CI (1.00, 1.00), p = .025*	Almost perfect
	2	k = -.36, 95% CI (-0.90, 0.17), p = .361	Poor
	3	k = -.25, 95% CI (-0.59, 0.09), p = .576	Poor
	4	k = -.25, 95% CI (-0.59, 0.09), p = .576	Poor
	5	No statistics were computed because Rater A and Rater B scores are constants [a]	-
	6	k = .62, 95% CI (-0.01, 1.24), p = .136	Substantial
LLI	1	k = .83, 95% CI (0.50, 1.15), p < .001	Almost perfect
	2	k = .50, 95% CI (0.17, 0.83), p = .010*	Moderate
	3	k = .42, 95% CI (0.06, 0.78), p = .043*	Moderate
	4	k = .63, 95% CI (0.24, 1.01), p = .005	Substantial
	5	k = 1.00, 95% CI (1.00 , 1.00), p < .001	Almost perfect
	6	k = .89, 95% CI (0.67, 1.10), p < .001	Almost perfect

Note. Strength of agreement is based on the scale by Vierra and Garrett (2005) and Landis and Koch (1977); Dim. = Dimension; Obs. = Observation; k = kappa statistic.

[a]No statistics were computed as both raters scored exactly the same. As a result the denominator becomes zero hence the kappa value is indeterminate according to http://www-01.ibm.com/support/docview.wss?uid=swg21476750.

*p < .05.

Table 3*: Table of Intra-class Coefficient Values for Inter-rater Agreement across the LLO and LLI Dimensions*

Dim.	Obs.	ICC statistic	Agr.
LLO	1	ICC (3,2) = .57, 95% CI (-3.12, .96), F (4,4) = 2.33, p = .216	Fair
	2	ICC (3,2) = -1.33, 95% CI (-21.41, .76), F (4,4) = .429, p = .784	Poor
	3	ICC (3,2) = -.67, 95% CI (-15.01, .83), F (4,4) = .600, p = .684	Good
	4	ICC (3,2) = .53, 95% CI (-.3.48, .95), F (4,4) = 2.14, p = .239	Fair
	5	ICC (3,2) = .89, 95% CI (-.07, .99), F (4,4) = 9.00, p = .028*	Excellent
	6	ICC (3,2) = .80, 95% CI (-.92, .98), F (4,4) = 5.00, p = .074	Excellent
LLI	1	ICC (3,2) = .80, 95% CI (.48, .92), F (19,19) = 4.87, p = .001	Excellent
	2	ICC (3,2) = .71, 95% CI (.27, .89), F (19,19) = 3.44, p = .005	Good
	3	ICC (3,2) = .74, 95% CI (.34, .90), F (19,19) = 3.81, p = .003	Good
	4	ICC (3,2) = .71, 95% CI (.27, .89), F (19,19) = 3.45, p = .005	Good
	5	ICC (3,2) = .82, 95% CI (.54, .93), F (19,19) = 5.46, p < .001	Excellent
	6	ICC (3,2) = .83, 95% CI (.56, .93), F (19,19) = 5.75, p < .001	Excellent

Note. Strength of agreement is based on the scale Cicchetti (1994); Dim. = Dimension; Obs. = Observation; ICC = Intra-class coefficient statistic; Agr. = Agreement.
*p < .05.

Appendix I: Inter-rater Reliability (Intervention Phase)

As there were different raters for each school, tests to assess the consistency of these raters were conducted. Specifically, this was done for each observation of both Intervention Classrooms and Control Classrooms for the five schools at the individual time points. The analysis followed similar procedures to the profiling phase. Percentage agreement values were calculated for the three dimensions at the individual time points (Table 1). The k statistics were also calculated to determine statistically reliable results (Tables 2 to 4). Table 5 displays the ICC values for the LLO and LLI dimensions. The findings are presented separately below.

Percentage Agreement

Percentage agreement values for the Intervention Classrooms in the LLE dimension ranged from 63.16% to 89.47% (T1), 73.68% to 89.47% (T2), and 73.68% to 100.00% (T3). The Control Classrooms on the other hand yielded values that ranged from 68.42% to 89.47% (T1), 57.89% to 84.21% (T2), and 78.95% to 94.74% (T3). Overall, with the exception of one Control Classroom that obtained an agreement score of 57.89% (11/19 agreed items for school 4, T2) all the classrooms yielded consistent scores of above 60%. For the LLO dimension, this ranged between 40% to 80% (T1) and 60% to 80% (T2 and T3) for the Intervention Classrooms. The low agreement was scored by two of the classrooms (schools 2 and 3) at T1, where the raters only agreed on two out of the five items. The Control Classrooms obtained values ranging from 60% to 80% (T1 and T2), and from 80% to 100% (T3). Despite the two low scores of 40% of the Intervention Classrooms at T1, the rest of the observations achieved scores of 60% and above. The LLI dimension yielded percentage agreement scores of 75% to 95% (T1), 80% to 95% (T2), and 95% to 100% (T3) for the Intervention Classrooms, and obtained scores ranging from 55% to 95% for T1 and T2 and from 70% to 100% for T3 for the Control Classrooms. The low score of 55% was obtained by two Control Classrooms from school 2 at T1 and T2, which was the result of the raters only agreeing on 11 out of the 20 items in the interaction dimension.

The results of the percentage agreement values for all the schools across the three time points were quite wide particularly for the LLO dimension where two classrooms achieved a percentage agreement of 40%. In the LLE dimension, only one classroom obtained a score of 57.89%, while two classrooms scored 55% for the LLI dimension. In spite of these low scores, the rest of the percentage agreement values obtained were 60% and above, particularly between T2 and T3 that was when intervention occurred, indicating

that the raters' agreement improved with time. It also suggested that overall there was quite a good inter-rater reliability across the observations.

Table 1: *Table of Agreed Scores by Raters across Dimensions, Time points and Classroom Categories*

Dim.	Cat.	Sch.	T1		T2		T3	
			n[a]	% agreement[b]	n[a]	% agreement[b]	n[a]	% agreement[b]
LLE	IC	1	17	89.47	16	84.21	18	94.74
(N=19)		2	16	84.21	14	73.68	18	94.74
		3	12	63.16	16	84.21	14	73.68
		4	15	78.95	17	89.47	19	100.00
		5	15	78.95	17	89.47	15	78.95
	CC	1	15	78.95	16	84.21	17	89.47
		2	16	84.21	15	78.95	18	94.74
		3	13	68.42	12	63.16	16	84.21
		4	17	89.47	11	57.89	18	94.74
		5	16	84.21	13	68.42	15	78.95
LLO	IC	1	4	80.00	4	80.00	3	60.00
(N=5)		2	2	40.00	3	60.00	4	80.00
		3	2	40.00	4	80.00	4	80.00
		4	3	60.00	4	80.00	4	80.00
		5	4	80.00	3	60.00	4	80.00
	CC	1	3	60.00	3	60.00	4	80.00
		2	4	80.00	4	80.00	5	100.00
		3	4	80.00	3	60.00	4	80.00
		4	4	80.00	4	80.00	4	80.00
		5	3	60.00	4	80.00	4	80.00
LLI	IC	1	15	75.00	17	85.00	20	100.00
(N=20)		2	15	75.00	18	90.00	20	100.00
		3	19	95.00	19	95.00	19	95.00
		4	18	90.00	16	80.00	20	100.00
		5	19	95.00	16	80.00	19	95.00
	CC	1	19	95.00	15	75.00	19	95.00
		2	11	55.00	11	55.00	15	75.00
		3	16	80.00	18	90.00	18	90.00
		4	17	85.00	19	95.00	20	100.00
		5	16	80.00	19	95.00	14	70.00

Note. Dim. = Dimension; Cat. = Category; Sch. = School; T = Time point; IC = Intervention classroom; CC = Control classroom; N = Number of items; n = number of agreements; CI = Confidence Intervals.
[a]The number of agreements between raters divided by the number of items in the dimension.
[b] % agreement for both the present and absent items by both raters.

Cohen's Kappa

The findings showed that for both the Intervention Classrooms and the Control Classrooms in the LLE dimension, the observations largely ranged between fair to almost perfect agreement, with the exception of one observation that achieved slight agreement in

both categories. This was a result of the raters only agreeing on 12 out of the 19 items for the Intervention Classrooms (school 3, T1) and the Control Classrooms (school 3, T2). For the LLO dimension the Intervention Classrooms obtained agreement that ranged between poor to moderate. The poor agreement was a result of only two and three items that were agreed on by the raters (school 2 at T1 and T2), out of the five items in the dimension. There were also three observations where no k statistics were computed due to either one or both of the raters scores being constant throughout the observations. However, for these observations, the raters agreed on three (school 4, T1) and four (schools 4 and 5, T3) items. The Control Classrooms achieved slight to moderate agreement, but two schools also had no k statistics computed. These observations were a result of four and five agreed items for school 2 at T2 and T3 respectively. In the LLI dimension, the agreement between the raters for both the Intervention Classrooms and the Control Classrooms ranged between fair to almost perfect. However, for the Intervention Classrooms, two observations again resulted in no k statistics. Here the raters were found to agree on 20 (school 4, T3) and 19 (school 5, T3) items out of the 20 items in the LLI dimension.

With the exception of two classroom observations with poor agreement (LLO dimension), slight agreement obtained by ten classroom observations and seven observations with fair agreement across the three dimensions, and no computed kappa statistic for seven classroom observations (LLO and LLI dimensions), the majority of the classroom observations did obtain values that ranged from moderate to almost perfect agreement, particularly at T3, suggesting that agreement improved with time. It also showed that there was a wide variation in the agreement of the scores among the raters, but it also indicated that a majority of the observations were consistently high throughout particularly for the LLE and LLI dimension. This suggested that there was a need to explore the reasons for the differences in the raters' agreement, especially for the LLO dimension. However, an explanation for this could be that particularly for the SENA teachers who were the secondary raters for each respective school, they needed more training and practice to become familiar with the procedure and items of the tool in order to achieve a higher consistency agreement.

Table 2: *Table of Kappa Values for Inter-rater Agreement across Time points for LLE Dimension*

Cat.	Sch.	T1		T2		T3	
		k	Agr.	k	Agr.	k	Agr.
IC	1	k = .73, 95% CI (.38, 1.08), *p* = .001	Substantial	k = .48, 95% CI (-.03, .98), *p* = .035*	Moderate	k = .77, 95% CI (.35, 1.20), *p* = .001	Substantial
	2	k = .67, 95% CI (.33, 1.01), *p* = .003	Substantial	k = .50, 95% CI (.18, .83), *p* = .012*	Moderate	k = .89, 95% CI (.69, 1.10), *p* < .001	Almost perfect
	3	k = .18, 95% CI (-.27, .64), *p* = .419	Slight	k = .50, 95% CI (.04, .95), *p* = .012*	Moderate	k = .42, 95% CI (-.01, .84), *p* = .067	Moderate
	4	k = .58, 95% CI (.21, .95), *p* = .012*	Moderate	k = .78, 95% CI (.50, 1.07), *p* = .001	Substantial	k = .100, 95% CI (1.00, 1.00), *p* < .001	Almost perfect
	5	k = .55, 95% CI (.18, .93), *p* = .013*	Moderate	k = .79, 95% CI (.52, 1.06), *p* < .001	Substantial	k = .58, 95% CI (.23, .94), *p* = .009	Moderate
CC	1	k = .51, 95% CI (.10, .93), *p* = .025*	Moderate	k = .57, 95% CI (.13, 1.00), *p* = .013*	Moderate	k = .68, 95% CI (.28, 1.09), *p* = .003	Substantial
	2	k = .65, 95% CI (.29, 1.01), *p* = .004	Substantial	k = .55, 95% CI (.18, .93), *p* = .013*	Moderate	k = .89, 95% CI (.68, 1.10), *p* < .001	Almost perfect
	3	k = .27, 95% CI (-.19, .73), *p* = .241	Fair	k = .17, 95% CI (-.20, .55), *p* = .348	Slight	k = .57, 95% CI (.13, 1.00), *p* = .013*	Moderate
	4	k = .77, 95% CI (.48, 1.07), *p* = .001	Substantial	k = .22, 95% CI (-.13, .56), *p* = .243	Fair	k = .90, 95% CI (.70, 1.10), *p* < .001	Almost perfect
	5	k = .69, 95% CI (.38, 1.00), *p* = .002	Substantial	k = .38, 95% CI (.01, .75), *p* = .069	Fair	k = .57, 95% CI (.19, .94), *p* = .013*	Moderate

Note. Strength of agreement is based on the scale by Vierra and Garrett (2005) and Landis and Koch (1977); T = Time point; k = kappa statistic; Sch. = School; Cat. = Category; IC = Intervention classroom; CC = Control classroom; Agr. = Agreement; CI = Confidence Interval.
*$p < .05$.

Table 3: *Table of Kappa Values for Inter-rater Agreement across Time points for LLO Dimension*

Cat.	Sch.	T1		T2		T3	
		k	Agr.	k	Agr.	k	Agr.
IC	1	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial	k = .17, 95% CI (-.71, 1.04), *p* = .709	Slight
	2	k = -.15, 95% CI (-.97, .66), *p* = .709	Poor	k = -.25, 95% CI (-.59, .09), *p* = .576	Poor	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial
	3	k = .12, 95% CI (-.18, .42), *p* = .576	Slight	k = .62, 95% CI (.01, 1.24), *p* = .136	Substantial	k = .55, 95% CI (-.17, 1.26), *p* = .171	Moderate
	4	No statistics computed because Rater B scores are constants[a]		k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial	No statistics computed because Rater B scores are constants[a]	
	5	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial	k = .17, 95% CI (-.71, 1.04), *p* = .709	Slight	No statistics computed because Rater A scores are constants[a]	
CC	1	k = .17, 95% CI (-.71, 1.04), *p* = .709	Slight	k = .29, 95% CI (-.25, .82), *p* = .361	Fair	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial
	2	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial	No statistics computed because Rater A scores are constants[a]		No statistics computed because Rater A and B scores are constant[a]	
	3	k = .55, 95% CI (-.17, 1.26), *p* = .171	Moderate	k = .17, 95% CI (-.71, 1.04), *p* = .709	Slight	k = .55, 95% CI (-.17, 1.26), *p* = .171	Moderate
	4	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial	k = .54, 95% CI (-.17, 1.26), *p* = .171	Moderate	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial
	5	k = .17, 95% CI (-.71, 1.04), *p* = .709	Slight	k = .62, 95% CI (-.01, 1.24), *p* = .136	Substantial	k = .55, 95% CI (-.17, 1.26), *p* = .171	Moderate

Note. Strength of agreement is based on the scale by Vierra and Garrett (2005) and Landis and Koch (1977); T = Time point; k = kappa statistic; Sch. = School; Cat. = Category; IC = Intervention classroom; CC = Control classroom; Agr. = Agreement; CI = Confidence Interval.

[a]No statistics were computed as either both raters scored exactly the same or the scores were constant. As a result the denominator becomes zero hence the kappa value is indeterminate according to http://www-01.ibm.com/support/docview.wss?uid=swg21476750.

Table 4: *Table of Kappa Values for Inter-rater Agreement across Time points for LLI Dimension*

Cat.	Sch.	T1		T2		T3	
		k	Agr.	k	Agr.	k	Agr.
IC	1	k = .29, 95% CI (-.19, .77), p = .197	Fair	k = .63, 95% CI (.28, .99), p = .002	Substantial	k = 1.00, 95% CI (1.00, 1.00), p < .001	Almost perfect
	2	k = .44, 95% CI (.05, .84), p = .035*	Moderate	k = .77, 95% CI (.47, 1.07), p < .001	Substantial	k = 1.00, 95% CI (1.00, 1.00), p < .001	Almost perfect
	3	k = .64, 95% CI (.01, 1.28), p = .002	Substantial	k = .77, 95% CI (.35, 1.20), p < .001	Substantial	k = .64, 95% CI (.01, 1.28), p = .002	Substantial
	4	k = .44, 95% CI (-.20, 1.09), p = .047*	Moderate	k = .47, 95% CI (.02, .91), p = .037*	Moderate	No statistics computed because Rater A and B scores are constant[a]	
	5	k = .77, 95% CI (.35, 1.20), p < .001	Substantial	k = .47, 95% CI (.05, .90), p < .028*	Moderate	No statistics computed because Rater A scores are constants[a]	
CC	1	k = .77, 95% CI (.35, 1.20), p < .001	Substantial	k = .47, 95% CI (.07, .87), p = .035*	Moderate	k = .86, 95% CI (.59, 1.13), p < .001	Almost perfect
	2	k = .15, 95% CI (-.17, .47), p = .369	Slight	k = .06, 95% CI (-.35, .48), p = .769	Slight	k = .50, 95% CI (.12, .88), p = .025*	Moderate
	3	k = .22, 95% CI (-.33, .76), p = .335	Fair	k = .46, 95% CI (-.14, 1.06), p = .015*	Moderate	k = .62, 95% CI (.15, 1.08), p = .003	Substantial
	4	k = .58, 95% CI (.14, 1.00), p = .010*	Moderate	k = .77, 95% CI (.35, 1.20), p < .001	Substantial	k = 1.00, 95% CI (1.00, 1.00), p < .001	Almost perfect
	5	k = .47, 95% CI (.05, .90), p = .028*	Moderate	k = .83, 95% CI (.50, 1.15), p < .001	Almost perfect	k = .29, 95% CI (-.16, .74), p = .201	Fair

Note. Strength of agreement is based on the scale by Vierra and Garrett (2005) and Landis and Koch (1977); T = Time point; k = kappa statistic; Sch. = School; Cat. = Category; IC = Intervention classroom; CC = Control classroom; Agr. = Agreement; CI = Confidence Interval.

[a]No statistics were computed as either both raters scored exactly the same or the scores were constant. As a result the denominator becomes zero hence the kappa value is indeterminate according to http://www-01.ibm.com/support/docview.wss?uid=swg21476750.

*p < .05.

Intra-class correlation coefficient

The Intra-class coefficient (ICC) tests showed that in the LLO dimension, the agreement obtained by the Intervention Classrooms ranged between poor to excellent, and for the Control Classrooms between fair to excellent across T1 and T2. However this improved at T3 where the Intervention Classrooms achieved only one observation with poor agreement and the rest were excellent, while the Control Classrooms obtained good to excellent agreement. One Control Classroom observation had no ICC statistic

calculated as both raters' scored exactly the same throughout the observation (school 2, T3). For the LLI dimension, across T1 and T2, the Intervention Classrooms achieved agreements that ranged between good to excellent, and fair to excellent for the Control Classrooms. At T3, both the Intervention Classrooms and the Control Classrooms largely obtained good to excellent agreement with the exception of one observation in each category (school 5, Intervention Classroom and school 2, Control Classroom). The results of the ICC values showed that for the LLO dimension, half of the classroom observations across the different times and schools had agreement values that ranged from fair to poor, while the other half scored within the good to excellent range. This indicated that there was a wide variation in the consistency among the raters. This also suggested that more practice and shared understanding is required among the different raters in order to achieve a much more consistent agreement pattern.

Conversely, the LLI dimension showed a much more consistent pattern where the different raters tended to highly agree on the frequencies of the behaviour occurrence for a majority of the observations. This was despite two observations achieving poor agreement at T3, and four classroom observations gaining fair agreement at T1 and T2. Overall, it can be seen that for both the LLO and LLI dimensions, the ICC inter-rater reliability scores mostly ranged between the fair to excellent agreement across the schools, classrooms and time points. This indicated that the different raters tended to rate the occurrence of the behaviours similarly, especially for the LLI dimension.

Table 5: *Table of Intra-class Coefficient Values for Inter-rater Agreement at the Three Time points for the LLO and LLI Dimension*

Dim.	Cat.	Sch.	T1		T2		T3	
			ICC	Agr.	ICC	Agr.	ICC	Agr.
LLO	IC	1	ICC (3,2) = .43, 95% CI(-.4.52, .94), *F*(4,4) = 1.74, *p* =.302	Fair	ICC (3,2) = .75, 95% CI(-1.40, .97), *F*(4,4) = 4.00, *p* =.104	Exc.	ICC (3,2) = .61, 95% CI(-2.73, .96), *F*(4,4) = 2.58, *p* =.191	Good
		2	ICC (3,2) = .33, 95% CI(-5.40,.93), *F*(4,4) = 1.50, *p* =.352	Poor	ICC (3,2) = -.67, 95% CI(-.15.01,.83), *F*(4,4) = .600, *p* =.684	Poor	ICC (3,2) = .61, 95% CI(-.2.78,.96), *F*(4,4) = 2.54, *p* =.194	Good
		3	ICC (3,2) = .00, 95% CI(-8.61, .90), *F*(4,4) = 1.00, *p* =.500	Poor	ICC (3,2) = .57, 95% CI(-3.12, .96), *F*(4,4) = 2.33, *p* =.216	Fair	ICC (3,2) = .95, 95% CI(.55,1.00), *F*(4,4) = 21.40, *p* =.006	Exc.
		4	ICC (3,2) = .23, 95% CI(-6.39,.92), *F*(4,4) = 1.30, *p* =.403	Poor	ICC (3,2) = .95, 95% CI(.54,1.00), *F*(4,4) = 21.00, *p* =.006	Exc.	ICC (3,2) = .71, 95% CI(-1.79,.97), *F*(4,4) = 3.44, *p* =.129	Good
		5	ICC (3,2) = -.22,95% CI(-10.69,.87), *F*(4,4) = .82, *p* =.573	Poor	ICC (3,2) = .41, 95% CI(-4.64,.94), *F*(4,4) = 1.70, *p* =.309	Fair	ICC (3,2) = .32, 95% CI(-5.49,.93), *F*(4,4) = 1.48, *p* =.357	Poor
	CC	1	ICC (3,2) = .64, 95% 95% CI(-2.47, .96), *F*(4,4) = 2.77, *p* =.174	Good	ICC (3,2) = -.17, 95% CI(-10.24, .88), *F*(4,4) = .86, *p* =.559	Poor	ICC (3,2) = .71, 95% CI(-1.74, .97), *F*(4,4) = 3.50, *p* =.126	Good
		2	ICC (3,2) = .51, 95% CI(-3.67, .95), *F*(4,4) = 2.06, *p* =.251	Fair	ICC (3,2) = .00, 95% CI(-8.61, .90), *F*(4,4) = 1.00, *p* =.500	Poor	Scale has zero variance items[a]	
		3	ICC (3,2) = .56, 95% CI(-3.27,.95), *F*(4,4) = 2.25, *p* =.226	Fair	ICC (3,2) = .87, 95% CI(-.21,.99), *F*(4,4) = 7.92, *p* =.035*	Exc.	ICC (3,2) = .60, 95% CI(-2.84,.96), *F*(4,4) = 2.500, *p* =.198	Good
		4	ICC (3,2) = .97, 95% CI(.69,1.00), *F*(4,4) = 31.00, *p* =.003	Exc.	ICC (3,2) = .33, 95% CI(-5.40,.93), *F*(4,4) = 1.50, *p* =.352	Poor	ICC (3,2) = .88, 95% CI(-.12,.99), *F*(4,4) = 8.60, *p* =.030*	Exc.
		5	ICC (3,2) = .47, 95% CI(-4.11,.95), *F*(4,4) = 1.88, *p* =.278	Fair	ICC (3,2) = .81, 95% CI(-.83,.98), *F*(4,4) = 5.25, *p* =.069	Exc.	ICC (3,2) = .75, 95% CI(-1.40,.97), *F*(4,4) = 4.00, *p* =.104	Exc.
LLI								
	IC	1	ICC (3,2) = .84, 95% CI(.59,.94), *F*(19,19) = 6.18, *p* < .001	Exc.	ICC (3,2) = .89, 95% CI(.72, .96), *F*(19,19) = 9.12, *p* < .001	Exc.	ICC (3,2) = .77, 95% CI(.42, .91), *F*(19,19) = 4.38, *p* =.001	Exc.
		2	ICC (3,2) = .69, 95% CI(.23,.88), *F*(19,19) = 3.26, *p* =.007	Good	ICC (3,2) = .91, 95% CI(.77,.96), *F*(19,19) = 11.07, *p*<.001	Exc.	ICC (3,2) = .82, 95% CI(.55,.93), *F*(19,19) = 5.58, *p*<.001	Exc.
		3	ICC (3,2) = .86, 95% CI(.65,.95), *F*(19,19) = 7.23, *p* <.001	Exc.	ICC (3,2) = .78, 95% CI(.45,.91), *F*(19,19) = 4.59, *p* =.001	Exc.	ICC (3,2) = .79, 95% CI(.47,.92), *F*(19,19) = 4.77, *p* =.001	Exc.
		4	ICC (3,2) = .65, 95% CI(.12,.86), *F*(19,19) = 2.88, *p* =.013*	Good	ICC (3,2) = .67, 95% CI(.16,.87), *F*(19,19) = 3.01, *p* =.010*	Good	ICC (3,2) = .95, 95% CI(.95,.86), *F*(19,19) = 18.29, *p* <.001	Exc.

Table 5. Continued.

	5	ICC (3,2) = .82, 95% CI(.54,.93), F(19,19) = 5.44, p <.001	Exc.	ICC (3,2) = .80, 95% CI(.49,.92), F(19,19) = 4.98, p <.001	Exc.	ICC (3,2) = .15, 95% CI(-1.15,.66), F(19,19) = 1.17, p =.365	Poor
CC	1	ICC (3,2) = .68, 95% CI(.20,.87), F(19,19) = 3.14, p =.008	Good	ICC (3,2) = .86, 95% CI.65,.95), F(19,19) = 7.18, p <.001	Exc.	ICC (3,2) = .96, 95% CI(.90,.99), F(19,19) = 26.26, p <.001	Exc.
	2	ICC (3,2) = .50, 95% CI(-.12,.67), F(19,19) = 1.99, p =.072	Fair	ICC (3,2) = .53, 95% CI(-.19, .81), F(19,19) = 2.13, p =.054	Fair	ICC (3,2) = .37, 95% CI(-.59,.75), F(19,19) = 1.59, p =.160	Poor
	3	ICC (3,2) = .68, 95% CI(.18,.87), F(19,19) = 3.08, p =.009	Good	ICC (3,2) = .91, 95% CI(.77,.96), F(19,19) = 10.89, p < .001	Exc.	ICC (3,2) = .77, 95% CI(.43,.90), F(19,19) = 4.39, p =.001	Exc.
	4	ICC (3,2) = .88, 95% CI(.70,.95), F(19,19) = 8.51, p <.001	Exc.	ICC (3,2) = .77, 95% CI(.41,.91), F(19,19) = 4.26, p =.001	Exc.	ICC (3,2) = .85, 95% CI(.63,.94), F(19,19) = 6.83, p <.001	Exc.
	5	ICC (3,2) = .50, 95% CI(-.29,.80), F(19,19) = 1.96, p =.075	Fair	ICC (3,2) = .58, 95% CI(-.07,.83), F(19,19) = 2.35, p =.035*	Fair	ICC (3,2) = .68, 95% CI(.19,.87), F(19,19) = 3.12, p =.009	Good

Note. Strength of agreement is based on the scale by Cicchetti (1994); IT = Time point; ICC = Intra-class coefficient; Sch. = School; Cat. = Category; IC = Intervention classroom; CC = Control classroom; exc. = Excellent; Agr. = Agreement.

[a]Both raters' scores were constant and exactly the same throughout resulting in no variance in the scores, hence no ICC coefficient.

*p < .05.

Appendix J: Focus Group Questions (Profiling Phase)

No.	Question
To explore: *Existing knowledge on children's communication skills and how they relate to educational attainment.* *Perception on significance of children's communication skills.* *Use of communication skills for teachers and children.*	
1	Can you tell me what you understand by communication skills? What do you think it means?
2	From a scale of 1 to 5 (1 = not at all important, 5 = extremely important), how would you rate the importance of communication skills?
3	Do you think there is a link between communication skills and education? What are your reasons?
4	How important do you think communication skills are for children in schools? Rate from a scale of 1 to 5. (1 = not at all important, 5 = extremely important).
5	How and why will children use communication skills in schools?
6	How important do you think communication skills are for teachers in schools? Rate from a scale of 1 to 5. (1 = not at all important, 5 = extremely important).
7	How and why will teachers use communication skills in schools?
To explore how children's communication skills are supported in schools:	
8	Can you tell me examples of how teachers support communication skills in the classrooms?
9	What other things do you think teachers can do to support communication skills in our outside the classrooms?
To explore the three dimensions of the CsC observation tool:	
10	How should the classroom environment be organised to support children's communication skills?
11	Can you tell me what activities or tasks you think would support children's communication skills in the classrooms?
12	How do you think adults should interact with children to help develop their communication skills?

Development of Focus Group Questions

The changes to questions 5 and 7 were done as a result of feedback:

- Question five was amended from "What sort of things will children use communication skills for in schools?" to "How and why will children use communication skills in schools?"
- Question seven was changed from "What do you think teachers use communication skills for in schools?" to "How and why will teachers use communication skills in schools?"

Appendix K: Focus Group Questions (Intervention Phase)

No.	Question
To explore the SENA teacher's experience in implementing the Tool.	
1	Can you tell me about your experience of carrying out the 'Communication Supporting Classroom Observation Tool'?
2	In your opinion, how suitable or appropriate do you think the tool is to be used in our Brunei context?
3	When you talk about culture specific, which parts of the tool, as you remember there are three parts, which one would you say the culture specific applies to? All three or just the environment, interaction or opportunities dimension?
4	On a scale of 1 to 5 (1 = very easy, 5 = extremely difficult), how easy or difficult did you find the tool was to complete overall?
5	Which parts of the tool did you find were easy to complete and why?
6	Which parts of the tool did you find difficult to complete and why?
To explore any changes in expectations and knowledge in terms of creating a communication-friendly classroom after using the Tool:	
7	What were your expectations about a communication supportive classroom environment before being involved in this study?
8	Can you tell me what new things you have learnt about creating a classroom environment that supports children's communication during this study?
9	Do you feel that the tool has helped you understand more about how classrooms in your school support children's communication skills? How?
Awareness of what is currently being practiced in Brunei classrooms and areas for improvement:	
10	In the classrooms that you observed, can you give me some examples of what was available to support children's communication skills?
11	Can you give me some examples of what could be improved in the classrooms that you observed, to support children's communication skills?
12	What are the challenges in doing that do you think?
13	Are there any other comments that you would like to add regarding the tool or about your involvement in this study?

Based on feedback received on the question, changes are detailed below:

1. Question one was changed from, "Can you tell me about your experience in carrying out the 'Communication Supporting Classroom Observation Tool' during this study?" to "Can you tell me about your experience of carrying out the 'Communication Supporting Classroom Observation Tool'?"
2. Question two was amended from, "From a scale of 1 to 5 (1= very easy, 5= very difficult), how easy or difficult did you find the tool was to complete?" to "On a scale of 1 to 5 (1= very easy, 5= very difficult), how easy or difficult did you find the tool was to complete overall?"
3. Question three, from, "Which parts of the tool did you find easy to do?" to "Which parts of the tool did you find easy to complete, and why?"
4. Question four from, "Which parts of the tool did you find difficult to do?" to "Which parts of the tool did you find difficult to complete, and why?"
5. Question six was changed from, "Can you tell me what new things have you learnt about creating a classroom environment that supports children's communication during this study?" to "Can you tell me what new things you have learnt about creating a classroom environment that supports children's communication during this study?"
6. Question seven, from "Do you feel that the tool has helped you understand more about how classrooms in your school support children's communication skills?" to "Do you feel that the tool has helped you understand more about how classrooms in your school support children's communication skills? How?"
7. Question eight, from, "In the classrooms that you observed, can you give me some examples of what were available to support children's communication skills?" to "In the classrooms that you observed, can you give me some examples of what was available to support children's communication skills?"
8. Question nine, from, "Can you give me some examples of what could be improved in the classrooms that you observed, to support communication skills in children?" to "Can you give me some examples of what could be improved in the classrooms that you observed, to support children's communication skills?"

The researcher also added impromptu questions based on the information provided by the participants. These questions were used to draw out more information and build on participants' initial responses. These questions are detailed below:

Chapter 1 "In your opinion, how suitable or appropriate do you think the tool is to be used in our Brunei context?"

Chapter 2 "When you talk about culture specific, which parts of the tool, as you remember there are three parts, which one would you say the culture-specific applies to, all three or just the environment, interaction or opportunities dimension?"

Chapter 3 "What are the challenges in doing that do you think?" This was a follow up question to question nine, which was, "Can you give me some examples of what could be improved in the classrooms that you observed, to support children's communication skills?