INVESTIGATING ACTIVE LEARNING REFORM IN THE SMALL STATE OF THE MALDIVES: WHAT WORKS AND UNDER WHAT CIRCUMSTANCES?

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ABSTRACT

Globally, national governments and donor organisations have endorsed pedagogical reform in their efforts to improve the quality of education, yet disparity between policy and practice is well-documented. In the small state of the Maldives, the UNICEF supported Child Friendly School's project and the new National Curriculum both endorse active learning pedagogy, but implementation challenges have been widely acknowledged. The aim of this qualitative study was to investigate how teachers can enact active learning pedagogy in the Maldivian education system. It was conceived using design-based research, an interventionist methodology, which examines the conditions that influence how educational innovations work in real-life practice. The study was situated in an island school selected for offering optimum conditions for implementation of the pedagogical intervention, and was conducted over two phases: a contextual analysis phase; and an intervention phase.

Using an adaptation of the World Café (J. Brown & Isaacs, 2005), a participatory approach to data collection, the contextual analysis was undertaken with members of the school community — parents, teachers and school leadership — to identify local priorities and perspectives of active learning. The results from this phase revealed features of active learning considered important in the school community: the active participation of students; the use of group work to aid learning; emphasis on the role of teacher as facilitator; the necessity for a friendly classroom environment; and the potential of active learning to cater more equally for all students. Embracing these features of active learning, a pedagogical intervention was developed in collaboration with teachers and school management, to support teachers' enactment of active learning in the school. The intervention, an instructional model, was then enacted in the island school with two groups of primary teachers and studied over eight months. Data on the teachers' use of the instructional model were collected through multiple sources that included, teacher recording booklets, questionnaires, interviews and classroom observations.

The data revealed the factors that both supported and inhibited teachers' use of the intervention. These were converted into design principles; an anticipated outcome of design-based research, highlighting three broad areas that revealed what worked in what circumstances, and represented the study's key findings identifying the need to:

- develop a contextually relevant model of active learning that respects local priorities, fits with the circumstances of teachers' work, and takes into account the available resources; and moves from conceptual ambiguity to operational clarity;
- support teachers' knowledge-practice refinement by creating space for reform, providing on-going classroom-based support and drawing on available resources; and
- foster a change-welcoming school reform approach through an inclusive process that mobilises community participation.

The conceptual framework of design principles that evolved from the study can potentially guide like schools and communities engaging with reform around active learning pedagogy. It is recommended that future research explores the transferability of these design principles to other contexts.

DECLARATION

This is to certify that:

    I.   the thesis comprises only my original work towards the PhD except where indicated

    II.   due acknowledgement has been made in the text to all other materials used

    III.   the thesis is less than 100,000 words in length exclusive of tables, figures, references and appendices.

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Rhonda Di Biase

DEDICATION

To my father and grandfather, having lived through wars and hardship, emigrated to this country in search of a better life.

To my mother, who always believed in the value of education, and who herself endured hardships for the opportunity of going to school in rural Queensland.

Acknowledging the sacrifices they made, for the opportunities I now have, I dedicate this thesis to them.

ACKNOWLEDGMENTS

Appreciation is a wonderful thing.
It makes what is excellent in others belong to us as well. (Voltaire)

presentation. It is wonderful to be part of this international community of learners. So many people provided words of wisdom and assistance over many years. Thank you.

Finally to all my family and friends in Melbourne, too numerous to name all, I thank you so much for the encouragement you have shown in so many ways. The phone calls, words of wisdom and cups of coffee were a constant source of support and very much appreciated. For those who scribed during my period of injury I am particularly grateful for your kindness. My much needed haven of tranquillity, at Heathcote, provided the most wonderful setting for many a chapter to be written. Thank you mum and dad.

PUBLICATIONS GENERATED DURING THIS THESIS

Di Biase, R. (2015). Policy, pedagogy and priorities: Exploring stakeholder perspectives of active learning in the Maldives. *Prospects 45*(2), 213-229.

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Di Biase, R. (2013). Active learning in the Maldives: Developing a contextually relevant pedagogical model. *International Journal of Pedagogy and Curriculum, 19*(3), 29-46.

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LIST OF ABBREVIATIONS

CFS	Child Friendly Schools
COL	Centre for Open Learning
DBR	Design-based Research
ESQID	Educational Supervision and Quality Improvement Department
FE	Faculty of Education
GROR	Gradual Release of Responsibility Framework
GSS	Gonoshahajjo Sangshta (CFS)Model
LCE	Learner-centred Education
MCHE	Maldives Centre for Higher Education
MoE	Ministry of Education
MNU	Maldives National University
NER	Net Enrolment Rate
NIE	National Institute of Education
PD	Professional Development
TRC	Teacher Research Centre
UNDP	United Nations Development Program
UNESCO	The United Nations Educational, Scientific and Cultural Organization
UNICEF	The United Nations Children's Emergency Fund
UPE	Universal Primary Education
ZFI	Zone of Feasible Innovation

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CHAPTER 1: INTRODUCTION

Too many children go to school believing it to be a gateway to opportunity, only to find themselves sat in rows, learning by rote, bored out of their mind, physically present but psychologically absent. (Leadbeater, 2012, p. 70)

Introduction to the study

This thesis arose from my experiences working at the Faculty of Education, within the Maldives National University, following the 2004 tsunami. In my role, promoting active learning within pre-service courses, I encountered first hand, the challenges of implementing active learning in Maldivian classrooms. I also discovered that other countries that were trying to implement this reform were encountering similar challenges. Recognising the limits of transmission models of teaching such as described by Leadbeater (2012), many countries are promoting pedagogical reform in an effort to improve the quality of education and achieve international targets such as Education for All (EFA) goals (UNESCO, 1990), and more recently the Sustainable Development Goals (SDGs). However, the transition from transmission models of teaching to more active learning approaches is a highly challenging process. Given that national governments and donor organizations endorse such pedagogical reforms, the need to understand these challenges and the disparity between policy and practice is critical if educational reforms are to succeed. Schweisfurth (2011), whilst acknowledging the implementation challenges of active learning reform, highlights the influence of contextual factors and signals the need to recognise what is feasible in the circumstances, rather than what is desirable. With this in mind, the study seeks to investigate how teachers enact active learning pedagogy within the context of Maldivian educational system, document the form it takes, reveal the enabling conditions that support the pedagogy, and identify the factors that hinder its implementation.

This qualitative study investigates what might be considered a contextually relevant approach to implementing active learning in the Maldives. Acknowledging the importance of context, the aim of the study is to investigate the conditions under which teachers can enact active learning in the Maldivian education system. In order to investigate these conditions, the study was conceived using design-based research (DBR) — an interventionist methodology — that

involves developing practical solutions to real-world problems that are implemented and studied in authentic settings (McKenney & Reeves, 2012). The intervention in this study is a model of active learning, which was developed, operationalised, and studied in the authentic setting of a Maldivian island school. The study was located on an island approximately 150 kilometres distance from Malé. Participants were drawn from the school community and included parents, school management and teachers. Qualitative methods were used to collect the data: the World Café; semi-structured interviews; questionnaires; classroom observations; teacher recording booklets; and a field notes journal.

Background to the study: The context of the Maldives

The island school chosen for the research setting is one of 1,190 Maldivian coral islands that constitute the archipelago, of which approximately 200 are inhabited. The capital, Malé, is densely populated: approximately 120,000 people reside on a small island of two square kilometres. With a total population of 350,000, the Maldives is categorized as a small state and, in particular, a 'small island developing state' (SID). Such states have particular contextual features(Crossley, 2010) such as remoteness, small populations, and a narrow resource base and therefore face distinctive priorities and dilemmas. Due to their small size and limited population base, small states are usually 'takers' rather than 'makers' of world policies (Bacchus 2008). The geographic dispersion of the Maldives poses challenges for those providing education across the country. The spread of islands makes equitable distribution of resources difficult, and services are heavily concentrated in the capital.

After achieving Universal Primary Education in 2000, greater attention has been paid to improving the quality of education across the country. Initially, the Child Friendly School's (CFS) project was initiated in 2002 to address the needs of the most disadvantaged in the country. Following the 2004 Boxing Day tsunami, additional UNICEF funding resulted in a wider reach across the country. The CFS approach was perceived as one means of addressing issues of quality in education across the country, and it consequently became a major driver of pedagogical reform, with child-centred active learning being a prominent feature of the CFS project in the Maldives. Like many other nations promoting such pedagogical reform, the Maldives has also experienced challenges in its implementation. Further details about the Maldives context and efforts to promote active learning are provided in Chapter Two.

Active learning pedagogy

Active learning represents a shift from the transmission model of schooling described by Harpaz (2005) as teaching is telling, learning is listening, knowledge is an object, and to be educated is to know valuable content. It is aligned with constructivist approaches to learning in which learners 'actively create, interpret and reorganise knowledge in individual ways' (Gordon 2009, p 738). Therefore, knowledge is not external to the learner, something to be delivered or transmitted, but something with which students must engage (Vavrus, Bartlett, & Salema, 2013, p. 5). This focus changes the role of the teacher from one where the teacher is in control of 'the construction and dissemination of knowledge' to one where teachers and students engage in dialogue with each other (Gordon, 2009, p. 739).

Active learning is based on the idea that people learn best when they are actively engaged (Vavrus, 2013) through explorations, discovery and reflection, rather than 'passive absorption of facts and skills through rote memorization and drilling' (Nykiel-Herbert, 2004, p. 251). There are a wide variety of terms used in the literature, including: active learning; student-centred learning; child-centred learning; and learner-centred pedagogy. The term active learning is used in this thesis as a generic term representing the changes to pedagogy being sought for Maldivian classrooms. It is also chosen as a term used by Maldivians, based on my experience of working in the country. However, active learning is also used interchangeably with child-centred learning and CFS methodology by Maldivian educators. The term learner-centred education (LCE) is often used in the literature and reports on pedagogical renewal in developing and middle-income countries. So whilst the term active learning is used predominately throughout this thesis there are times, in accordance with the literature, when active learning and LCE are used interchangeably.

Whilst I acknowledge that there is a vast body of literature that elaborates the range of philosophical and theoretical orientations that underpin active learning (Schweisfurth, 2013b; Westbrook, Durrani, Brown, & Orr, 2013), in the Maldives active learning is understood as increased student participation and engagement. This includes a greater emphasis on a variety of teaching strategies, attending to the different ability and interests of students, increased flexibility and student choice, use of pair work and group work and using a variety of learning materials, as outlined in the Child Friendly Schools quality assurance framework (Ministry of

Education, 2010b), a Ministry of Education policy document. As such, the changes being sought in Maldivian classrooms may not equate to the way they are practised in English-speaking western countries. Reform is directed towards facilitating a deliberate shift away from the dominant teacher transmission approach that is embedded within the school system. It also challenges the traditional hierarchical teacher/student relationship. This is elaborated in Chapters Two and Three.

Positioning the researcher

I first travelled to the Maldives in 2006, in response to the 2004 Boxing Day tsunami, as part of reconstruction efforts in the country. Living on a tropical island meets many people's idea of paradise and the prospect of working in the Maldives conjured up such images. I knew little about the country at the time and had pictured the capital, Malé, the site of my work, as a quiet seaside town. What I found was a capital city bursting at the seams, made worse by the tsunami and the migration of people to the capital and the influx of aid workers, resulting in a high density population, high rents, and high food prices.

The opportunity to work in the Maldives came on the back of many years of teaching in Asia where I witnessed education systems very different from that in Australia, my home country. In countries where I worked, I regularly observed the formulaic rather prescriptive nature of lessons in which teachers talked and students listened, and wondered how students tolerated such passivity and boredom day after day. In Thailand I witnessed boys in the back row of a class gambling, but with a class size of 50 the teacher did not have the time, or interest, to intervene. Or, perhaps it was not the teacher's job to motivate — if students' did not want to learn it was not her responsibility. Hearing choral recitations coming from a classroom was another reality I could not fathom. What was the value of such teaching? I also witnessed situations where access to schooling was a major issue; something we take for granted in my own country could not be assumed in a country with a developing education system. I visited schools in Laos in 1992 with makeshift wooden furniture, no walls and no facilities of any description. During a visit to East Timor in 2005, I was distressed to learn that because education was not free at the time young children sat outside the doorway and windows of classrooms and watched as onlookers not participants, as this provided their only access to schooling. Finally, highlighting a different dimension in Singapore, I learnt that if parents chose

a preschool that focused on play rather than academic learning then their child would be severely disadvantaged in Grade 1, as this academic knowledge was assumed and there was no allowance made for catch up time.

These experiences were central in my reflections about the role of schooling, and were pivotal in shaping my educational philosophy. I came to the Maldives with a belief that students were more than vessels to be filled and that learning could, and should, be stimulating. I had formed a view that resonates with Leadbeater's (2012) stance that too many students are bored by rote and repetitive teaching, which is what I observed in many Maldivian classrooms. As such, my beliefs were a good fit for my role in the Maldives – 'for the training of future student-teachers in child-friendly, activity-based teaching methods' (Department of Premier and Cabinet, 2006). I found myself participating in an international program to improve the quality of education, a UNICEF initiative known as the Child Friendly Schools (CFS) project. Specifically, I worked within pre-service courses at the Faculty of Education to incorporate the pedagogical elements of CFS, known at the time as child-centred learning, into the relevant teacher education subjects.

I found that the aforementioned observations of the formulaic teacher transmission approach were also prevalent in the Maldives. In my effort to support change to this transmission model I soon appreciated the many complexities of my role and was confronted with conflicting messages as I endeavoured to make sense of it within the wider education system. The lack of alignment between policy and practice was a living reality, and how to bridge that gap shaped much of my work at that time, and is a driving force behind this research study.

The disparity became most acute when students from the Faculty of Education (known as FE) went on their teaching practicum. The students would tell me how they were not allowed to practice what they had learned in their studies because their supervising teachers did not understand the methods, and/or leading teachers feared these methods were not in line with Ministry of Education (MoE) policy and how they perceived the curriculum should be delivered. Seeking to reconcile these competing pressures, I encountered substantial contradictions from different people or divisions working within the education sector. In my experience there was a distinct lack of alignment between what MoE officials were saying to me about what schools should be doing and what school leaders articulated as their

understanding of the MoE requirements. Navigating these conflicting messages was central to my work. Striving to find a way through this quagmire sowed the seeds for this study and how it would be conducted — through DBR and the study of an intervention within the complex, educational context (Kelly, Baek, Lesh, & Bannan-Ritland, 2008) and investigating what is feasibly possible within this context. I believed there had to be a better way through the labyrinth of contradictions that I had experienced.

Active learning reform

My experiences resonated with Alexander's (2001) description of the blame game where he describes a cycle in which government blames teachers and teachers blame government for a lack of progress with reforms. In this statement I could understand that my challenges were not unique to the Maldives. Schweisfurth (2011), in her review of 72 learner-centred studies, outlines the challenges experienced across different settings and contexts that are associated with implementing LCE. So my experiences in the Maldives were not unique to this country. Yet the promotion of learner-centred pedagogies has become widespread in many developing and middle-income countries, often as part of efforts to improve the quality of education. However, as noted by Schweisfurth (2011), the transition from transmission models of teaching to learner-centred approaches has been well-documented as a challenging process.

My experience working at FE to support the pedagogical reform led to extensive observations of active learning in Maldivian classrooms and the many challenges faced by teachers in making this transition. I took from this experience an interest in the complexity of the process and a desire to consider how the many documented challenges could be overcome. I also questioned the predominant model of CFS, adopted in the country at the time that was centred on learning corners. It was a model adapted from Bangladesh and I concluded that a Maldivian adaptation was required which was appropriate to their context, rather than adopting a model designed for another setting. As supported in the literature, navigating a fit between the strategy and the local environment (S. Johnson, Hodges, & Monk, 2000) may provide a more productive way forward. Likewise, Schweisfurth (2011) recommends that new practices need to be mediated to fit a particular context. As such, I was interested in exploring what a contextually relevant 'Maldivian' model of active learning might be and in particular the conditions and

circumstances under which teachers would be better able to use active learning methods for their teaching in the Maldives.

Research questions and research approach

In order to investigate the conditions under which active learning can be implemented in the Maldivian education system, this DBR study was designed around an intervention — a model of active learning. The intervention, also referred to as an innovation, was studied in a real-world setting investigating the factors that supported or hindered its enactment. The following research questions guide this study.

Overarching question

How can teachers enact active learning pedagogy within the Maldivian education system?

Sub-questions

1. *What form does active learning take in the Maldivian context?*
2. *What are the enabling conditions that support the use of active learning pedagogy?*
3. *What are the factors that hinder use of active learning pedagogy?*

The study was conducted over two phases: a contextual analysis phase; and an intervention phase, in order to develop what might be considered a contextually relevant approach to implementing active learning.

In DBR complex problems are addressed in real-world settings, in collaboration with practitioners, where plausible local solutions are developed and empirically tested (Oliver, Herrington, & Mckenney, 2007). Consequently, the context is critical to the study and is richly delineated (O'Toole & Beckett, 2009, p.72). Acknowledging the call for better attention to context in reform efforts, DBR, with its focus on real-world problems, provided an appropriate methodology for this study. Van den Akker (2002) advocates the use of DBR for educational development in developing countries because of its specific focus on context, its flexibility, and its potential for capacity building. Numerous studies (for example, S. Johnson et al., 2000; O'Sullivan, 2004) outline the necessity to explicitly acknowledge the realities of the context in developing countries. Therefore, DBR in responding to 'the messiness of real-world practice'

(O'Toole & Beckett, 2009, p.71) provided the avenue through which to design and implement a contextually relevant pedagogical intervention. Consequently, DBR has two outcomes: a practical outcome in developing locally valuable interventions; and a theoretical outcome which encompasses more globally useable knowledge in the form of guidelines or design principles (McKenney & Reeves, 2012), as articulated in Box 1.

> Design principles occupy a key place in this thesis and research project. Design principles are first articulated from a synthesis of the literature to gain theoretical inputs that shape an understanding of the problem and enhance the development of a solution. These principles informed the project and intervention. However, in DBR, the term 'design principles' is also legitimately used to explain the theoretical output of the research project. It is the intent that the design principles can then be localised for use beyond the research setting and can inform the work of others interested in enacting innovations.

Box 1: The role of design principles in this study

Throughout this study I investigated active learning in the Maldives within the context of the CFS project. However, the intention of my research is not to engage in a critical debate about the decisions of governments and donor organisations to promote LCE, instead my goal is to move beyond a discussion of the challenges of LCE and whether it works to focus instead on 'what works for whom and under what circumstances' (Pawson & Tilley, 1997, p. 2).

Significance of the study

In the context of support from governments and donor organisations toward more learner-centred pedagogies, this research has the potential to provide nuanced insights into the enabling conditions that support how teachers enact active learning, in the context of the Maldives and other settings sharing similar contextual features. In doing so, the study responds to Schweisfurth's (2011) call for a move beyond bland statements to more detailed analyses of what works, for whom and how. To date, no study has sought to document the conditions that support teachers to implement active learning in the Maldives. This has particular relevance given reports about the CFS project (McNair, 2009; A. Shareef, 2007; Wheatcroft, 2004) stating that the new pedagogy is struggling to be implemented. With recognition of the need to improve the quality of education in the country (UNDP, 2014), the development of the CFS Quality Schools indicators (Ministry of Education, 2010b) as a school evaluation tool, and the

impending roll out of the new National Curriculum Framework (NCF) that is explicitly aligned with constructivist learning principles (UNICEF, 2014), this research is very timely.

The study specifically addresses Chisholm and Leyendecker's (2008) call for more research on the gap between policy and practice and the identification of conditions needed in different contexts for successful implementation of LCE. As Akyeampong et al. (2006) argue, more research is needed in a range of developing nations to explore how teachers engage in dialogue about improving their classroom practice. The methodology and design of this proposed research study takes these recommendations into consideration. The collaborative nature of DBR provides teachers with a voice for identifying factors that might enhance or inhibit the intervention, and for modifying the intervention so that it might be implemented more effectively. Thus, this study addresses the relative lack of involvement and representation of teachers that has been identified as a key factor in creating the gap between research and practice (Villegas-Reimers & Reimers, 1996). Specifically, this study has the capacity to provide teachers, administrators, and teacher educators with a better understanding of the factors that hinder teachers' implementation of the active learning intervention, and to identify practical implications for classroom practice.

The collaborative nature of DBR documents a process that endeavours to mediate a fit between the strategy and the context, and therefore has the potential to contribute to the international knowledge base on the process of pedagogical reform. The design principles generated from the investigation are ultimately 'a critical product of the research' (Herrington & Reeves, 2011, p. 596). This theoretical contribution of DBR is designed to be of value to those outside the research setting who may be interested in enacting or studying relevant innovations (Kelly et al., 2008; McKenney & Reeves, 2012).

Thesis format

Chapter One is an introduction to the study. It positions the researcher in relation to the study, provides an overview of the context, identifies the aims and research questions, the methodological approach, the study's significance, key terms, and then gives an overview of the thesis structure.

Chapter Two contextualises the study by providing background information on the Maldives: its geography, population, socio-economic features, religion and culture, within the framework of the particular characteristics and challenges of small states. This is followed by an overview of the education system, which includes a brief history and a discussion of the current system. The evolution of CFS is then discussed, along with current MoE initiatives that promote the use of active learning pedagogy.

Chapter Three reviews key literature relevant to the study. The first section explores the challenges of implementing active learning or LCE globally. The concept of active learning is then explored further, LCE reform across multiple contexts is addressed, and literature pertaining to the professional development of teachers, particularly highlighting research relevant to developing countries, is discussed. The chapter concludes with an analysis of how the literature informs the study.

Chapter Four explains the DBR methodology used in this study, specifically considering the features of DBR and providing a rationale for its choice. A description of the research site and its selection is outlined and details of the participants are provided. The methods and data collection procedures that were employed are justified and described, followed by sections that explicate the data analysis, and the challenges of the study. Finally, the validity of the study and ethical considerations are denoted.

Chapter Five presents the findings from the contextual analysis phase. A discussion of these findings is provided in relation to the relevant literature. An explanation of the final intervention design is provided along with an explanation of how these findings enabled local input into the intervention design. By establishing the perspectives and priorities of the local community this chapter responds to the research question,'What form does active learning take in the Maldives?' This chapter draws on the following publications.

Di Biase, R. (2013). Active learning in the Maldives: Developing a contextually relevant pedagogical model. *International Journal of Pedagogy and Curriculum*, *19*(3), 29–46.

Di Biase, R. (2015). Policy, pedagogy, and priorities: Exploring stakeholder perspectives on active learning in the Maldives. *PROSPECTS*, *45*(2), 213–229.

Chapter Six details findings from the intervention phase of the study and details the practical outcome of DBR. It focuses on teachers' enactment of the intervention by reporting teachers' use of the active learning intervention in this study. In using DBR it is possible to report not only what teachers say but also what they do. My experiences, through my extended fieldwork, are also reported as they illuminate aspects of the context relevant to enacting the intervention. The reporting of my experiences draws from the following publication:

Di Biase, R. (2015). Learning from a small state's experience: Acknowledging the importance of context in implementing learner-centred pedagogy. *International Education Journal: Comparative Perspectives 14*(1),1-20.

Chapter Seven reflects upon the findings and implications of the intervention phase of the study and reports the enabling conditions and inhibiting factors identified during the study. These findings address the research questions relating to the enabling conditions and the inhibiting factors.

Chapter Eight continues the analysis and discussion begun in Chapters Six and Seven and brings together the results from both phases of the study, discussing the findings in light of the literature reviewed in Chapter Three. It specifically considers the findings in light of the question 'What works for whom under what circumstances?'. This chapter presents nine design principles, as the theoretical output that emerged from the study.

Chapter Nine presents the conclusions that have been drawn from the study. A synthesis of the research findings is provided, including a conceptual framework summarising the main findings and design principles that were generated. The chapter concludes with recommendations for future research.

CHAPTER 2: EDUCATION IN THE MALDIVES

The Maldives is a popular tourist destination which is advertised as a tropical island paradise, but where the realities are somewhat at odds with the idyllic images perpetrated. (Henderson, 2008, p. 99)

This study takes place in the Republic of the Maldives, a small island nation. Since design-based research (DBR) explores the complexities of the context (McKenney & Reeves, 2012) this chapter provides rich detail about the country, with particular attention given to the education system and the context for implementing active learning. Acknowledging that context is crucial in the study of educational reform (Crossley, 2010) and design-based research (McKenney & Reeves, 2012), a brief historical, geographical, and social and cultural overview of the Maldives is discussed followed by a description of the education system. This discussion is contextualized within the literature on small states and the particular vulnerabilities this presents for the development of the country and its education system. Drawing on this explication of the Maldives context, the chapter concludes with a number of implications for the research design, a feature of DBR. As an outsider, doing research in the Maldives, this chapter has been read and verified by a local academic.

The Maldives: an island nation

In the early 1980s, the Maldives was one of the world's 20 poorest countries, with a population of 156,000. In 2012, with a population of more than 300,000, it is a middle-income country with a per capita income of over $6,300. The country has impressive improvements in health and education with a life expectancy of 74.8 and a literacy rate 98.4%. However, the country faces challenges in environmental sustainability, policy uncertainty and service delivery. (The World Bank, 2013, p.1)

The Maldives is an archipelago of 1190 coral islands, known for its tropical waters and tourist resorts. Seen from the air are strings of islands, visible against the brilliant turquoise water for which the country is so famous. Yet small islands are bounded spaces, and limited in size, land area, resources, and in economic and population potential (Royle, 2001, p.42). These features present challenges for Maldivian island communities. Small islands have few benefits except perhaps exclusivity, which becomes a commodity in its appeal to tourists (Royle, 2001). The growth of tourism has driven the impressive economic development of the Maldives, however

the country confronts many challenges. Paradoxically the unique geography is both the driver of its economic miracle whilst constraining services and equity for its citizens, particularly across the outer islands. The Maldives also faces challenges with a widespread drug problem, political instability as a young democracy, a poor fiscal outlook and major inequalities in income and opportunity between the capital and the atolls. Whilst there has been great progress in the provision of education across the country, the need to improve the quality of education has been well-documented (Latheef & Gupta, 2007; MOE, 2008; Ngang, Abdulla, & Mey, 2010; UNDP, 2014).

The Maldives archipelago, formed into 26 naturally occurring atolls, is located in the Indian Ocean close to Sri Lanka and India. The islands are spread 823 kilometres from north to south and 130 kilometres from east to west. The total area of the Maldives is 90,000 square kilometres, of which 99% is water. Consequently land is a scarce resource with a land area of just 290 square kilometres. There are 197 inhabited local islands, 105 resort islands and 34 industrial islands. The majority of islands are small (Figure 1), averaging 0.7 km^2 with only nine being larger than 2km^2 (UNDP, 2014). The population of the country in 2014 was 399,939. Approximately a third of the population (153,379) resides in the capital, Malé, an island of approximately two square kilometres, thereby making it one of the most densely populated capital cities in the world. In contrast, 72 inhabited islands have populations of less than 1000 and only four islands have populations over 5000.
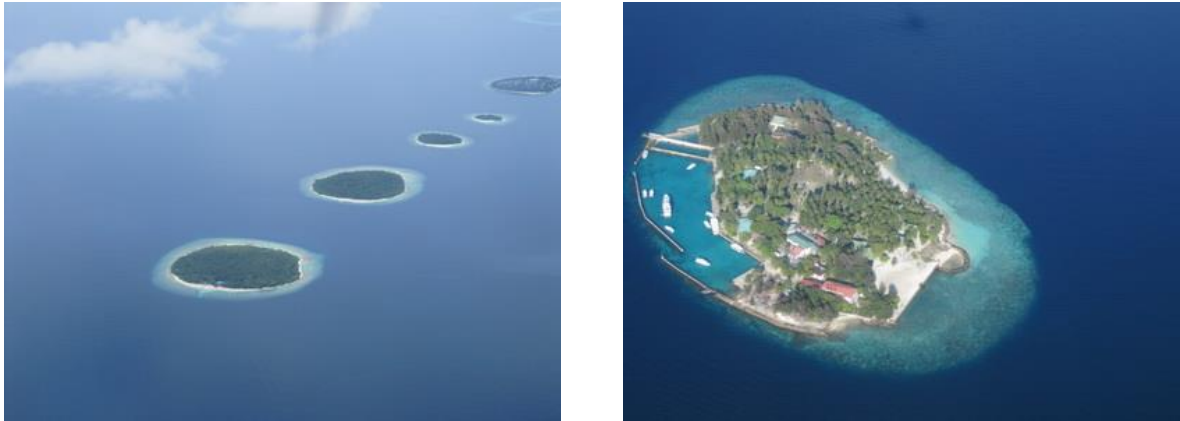
Figure 1: Maldivian islands

Small states

The Maldives is classified as a small state and in particular as a small island developing state (SIDS). The definition of small states varies, although the Commonwealth uses the classification of states with populations of less than 1.5 million. A further subset of small states is the conceptualisation of Small Island Developing States (SIDS). This was officially recognised at the UN Conference on Environment and Development (UNCED) in 1992, acknowledging the severe and complex difficulties SIDS face in pursuing sustainable development (Ghina, 2003). Characteristics of SIDS include: remoteness; small size and limited natural and human resources; aid dependence; and vulnerability to climate change and natural disasters (UNDP, 2014).

Brock and Crossley (2013) outline definitional characteristics of small states in spatial, economic and educational categories, which provide a useful framework for further understanding the distinctive contextual features of the Maldives. To this I add a further category— the social dimension of small states. Each of these characteristics are now discussed briefly in relation to the Maldivian small state context.

➢ *Spatial dimension*

As an archipelago, the Maldives is both small and scattered (See Figure 2). It can also be categorised as a microstate (less than 500 sq. km) which embodies even more distinctive conditions, needs and priorities (C. Brock & Crossley, 2013). The unique geographical and demographic features of the Maldives present particular challenges in delivering services across the nation and for the provision of educational services (Smith, 1989; UNDP, 2014). Many islands are far from the capital from where the MoE operates. Travelling from one island to another is time consuming and expensive, a financial burden for a small state (Didi, 2002; Farrugia & Attard, 1989).
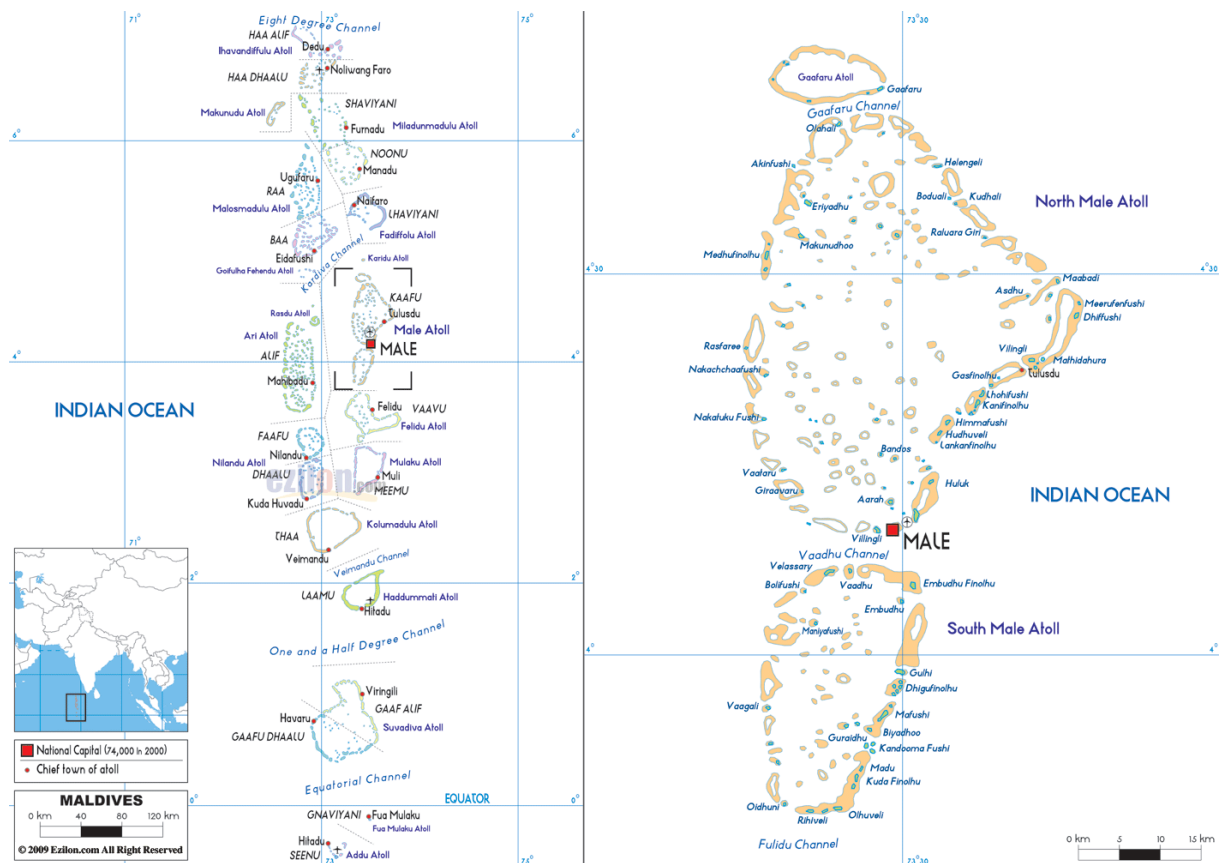
Figure 2: Map of the Maldives (Source: http://www.ezilon.com/maps/asia/maldives-maps.html)

➢ *Economic dimension*

Economic indicators of most significance to small states 'highlight dependency, vulnerability and limited diversity' (Brock & Crossley, 2013, p.392). Small states tend to rely on one or two main products or services for income, making them particularly vulnerable and excessively dependent on external events. Small states also suffer from not being able to benefit from economies of scale. The Maldives is heavily reliant on tourism, which makes it particularly susceptible to world events such as the 2004 tsunami and the global financial crisis that severely affected tourist numbers. A narrow economic base means funding for education consumed 13.1% of national budget in 2013, 12.2% in 2014, and was projected to be 12.0% in 2015 (People's Majlis, 2014).

➢ *Educational dimension*

This dimension relates to the 'degree of completeness of the formal education system' (C. Brock & Crossley, 2013, p. 393). Referring to Smawfield (1993), Brock and Crossley

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distinguish between small states with no university, one university or more than one. The Maldives National University (MNU) was established in 2011, emerging from the previous Maldives College of Higher Education. This has implications for tertiary education options for Maldivians which are discussed later in the chapter.

➢ *Social dimension*

Farrugia and Attard (1989, p. 134) outline the 'social ecology' in small states as being 'closely knit, integrated but open communities with highly personalised relationships' also known as a 'particularistic culture' (Didi, 2002, p. 111). This can exert pressure in official roles and in small state societies making it difficult to avoid bias and not be influenced by personal considerations (Didi, 2002; Farrugia & Attard, 1989). Lowenthal (Lowenthal, 1987) refers to this as 'managed intimacy' where inhabitants of small states confront intersecting social relationships that serve many purposes, and learn to get along and minimise overt conflict. Regarding the provision of education, this results in less neutral bureaucracies which may influence procedures such as, monitoring of schools (Bacchus, 2008), the management of examination systems (Bray & Adam, 2001; Yamada, Fujikawa, & Pangeni, 2015), as well as school management and how it can function (Bacchus, 2008). Consequently standards of judgement, in a particularistic culture, may depend on who people are rather than what they do (Bray & Packer, 1993).

Small states, reform and education

Small states are seen to have an ecology of their own with distinctive priorities and dilemmas (Crossley, 2010). In the new Sustainable Development Goals (SDG) SIDS are given specific mention, noting their particular characteristics and vulnerabilities. Small states are known for a high degree of openness (Qureshi & Velde, 2008) making them 'inherently international'(Crossley, Bray, & Packer, 2011, p. 48). The particular challenges of small states mean they tend to be more outward looking; seeking innovative approaches beyond their borders to help exploit the slender resources they do have (Bacchus, 2008). The 'idiosyncrasies associated with smallness' (Baldacchino, 2012, p. 16) emphasise the need for sensitivity to context (Crossley & Sprague, 2012). As such, Brock and Crossley (2013, p. 388) argue that it is the uniqueness of small states that draws attention to the limitations of a one size fits all approach and the need to 'appreciate the significance of multi-layered contextual factors in educational development'. They propose there is much the international community can learn

from the experiences of small states and why context matters. This has the potential to interrogate the process of international policy transfer and illuminate cases where global agendas have been mediated to better meet local needs (Brock & Crossley, 2013, p.399).

The Maldives faces particular vulnerabilities that are unique to the country 'due to its geographical characteristics, the smallness, the remoteness and the dispersion or 'islandness''' (UNDP, 2014, p.94), which impact on the provision of education across the country. The most recent Human Development report of the Maldives (UNDP, 2014, p. 44) noted that:

> [t]he geographic and spatial dispersion of the population poses major challenges to policy-makers in the delivery of high qualities services such as education health and other infrastructure such as power, at economical costs.

Thus a sensitive approach is necessary to acknowledge the historical, political, economic and cultural contexts within which education is conducted (Crossley, 2012). These specific features of the Maldives and its education system are now discussed.

Country Profile

The Maldives has been an independent state for most of its history apart from a short period of Portuguese occupation in the 16th century and an agreement with the British to become a protectorate in 1887 until 1965 (MOE, 2008). Recent political history saw a thirty year reign by Maumoon Abdul Gayoom from 1978, who was elected by single-party referendums for six terms (UNDP, 2014). Preparation for democratic reform began in 2004 with political parties legalised in 2005. The first democratic elections were held in 2008. Mohamed Nasheed was elected president, although he resigned in February 2012 under controversial circumstances (T. Ginsburg, 2012). There are significant challenges facing this nascent democracy within this fragile political environment (T. Ginsburg, 2012; UNDP, 2014). Elections in 2013 led to further tensions and polarizations (UNDP, 2014) when the half-brother of ex-President Gayoom, Abdulla Yameen was elected president.

Despite the geographic dispersion, the country is a closely knit, tightly structured culture (Fulu, 2007; Hassan, 1996) unified by 'a common history, the Islamic faith and the Dhivehi language' (Faber, 1992, p.125). The country converted to Islam in 1153A.D. Maldivians are Sunni Muslims and Islamic tradition is embedded in Maldivian culture. The Maldives has prided itself

on its liberalism, although more fundamentalist arms of Islam are becoming evident (UNDP, 2014). The language of the Maldives, Dhivehi, is the language of communication and of the media (N. Mohamed, 2013). Recognising that Dhivehi is of limited use outside the country, English is the medium of instruction in schools and serves as the country's second language (MOE, 2008; N. Mohamed, 2013).

Notwithstanding these commonalities, the country is geographically fragmented with most of the population living 'in very small island communities distant from each other and from the Republic's capital, Malé' (Faber, 1992, p.124). These island communities have traditionally demonstrated a sense of community, togetherness and cohesion (UNDP, 2014). The very 'islandness' of the country means people have a strong connection with the island of their birth and with this comes an 'expectation that services and growth should "come" to them on their island' (UNDP, 2014, p. 95).Whilst isolation and peripherality are challenges faced by Maldivian island populations, typically in archipelagos the power of the capital 'can become overwhelmingly dominant' (Royle, 2001, p. 48). Significant variations in the economies and lifestyles of different islands depend on proximity to the capital, tourism and employment opportunities. Island communities can face issues with drinking water, lack of basic services, food prices, provision of health and education facilities. Some islands face poor accessibility with lack of connectivity and limited transport infrastructure (UNDP, 2014). Although internet usage is high across the country there is an 'information divide' between islands and Malé (Gross & Riyaz, 2004, p.221). There are also strong regional disparities resulting from varying levels of tourism development within different atolls.

The 2004 Boxing Day tsunami led to high levels of internal displacement with only eight inhabited islands being unaffected (Fulu, 2007). There was severe damage to houses, resorts, schools, and other key infrastructure. Two thirds of GDP was washed away in a few minutes, although the economy bounced back within a year (UNDP, 2014). The Maldives was to set to graduate from Less Developed Country (LDC) status to the middle-income group in 2005 but this was delayed due to the effects of the tsunami. This transition finally took place in 2011. This meant external aid continued to flow into the country following the tsunami, but with the change in status the amount of foreign aid has declined.

The country has few resources or vegetation that can be converted to economic activity or development (UNDP, 2014), except perhaps the exclusivity of islands which is a drawcard for tourists (Royle, 2001). Through the development of tourism the Maldives has seen impressive economic growth (Ghina, 2003), while at the same time dealing with the challenges of being a SIDS. The drivers of the country's economic transformation have been the rapid development of tourism and related sectors, including construction, transport and telecommunication (Scheyvens, 2011; UNDP, 2014) which have accounted for 30% of GDP over the past two decades (UNDP, 2014). Tourism plays a major role in the socio-economic development of Maldivian society by providing funds for essential social infrastructure, for example, education, health, transport and power (Ghina, 2003, p.148). Although it is noted that the cost of providing school and health facilities is approximately five times higher than a non-SIDS country, such as Sri Lanka, due to the high cost of importing and transporting materials and the lack of economies of scale (Ghina, 2003).

Although the Maldives has been quoted as a development success story, it also faces economic vulnerabilities arising from its physical characteristics and dependence on tourism and imports (UNDP, 2014). Economic activity is hampered by the spatial dispersion of the population. The narrow economic base, based on tourism, makes it vulnerable to world travel trends. The Maldives also has a large current account deficit arising from the high dependence of food and fuel imports (UNDP, 2014). Ninety percent of food is imported and the majority of this goes to resorts with Maldivians on outer islands having less access to fresh produce (UNDP, 2014). Currently there are serious budget constraints due to a growing fiscal deficit and debt conditions. With income inequality on the rise tourism has exacerbated the existing inequities. In her analysis of tourism development, Scheveyens (2011) writes that income disparity between Malé and other atolls is increasing which has entrenched Malé as the development centre, compounding the underdevelopment of outer atolls. There is a contrast between atoll development where resorts provide employment opportunities and atolls with limited access to the benefits of tourism. Therefore, atolls with tourist development offer employment opportunities closer to their home islands meaning Maldivians often need to move away from home in order to find work in resorts. This can result in fathers being absent from home for long periods (Scheyvens, 2011).

The reliance on an expatriate workforce is another small state feature, to meet the shortfall in human resources. In 2010, there were 73,840 expatriate workers in the labour market compared to 95,085 Maldivians (UNDP, 2014). The number would be higher if illegal workers were taken into account (T. Ginsburg, 2012; UNDP, 2014). This is a complex issue which exists along with high youth unemployment. An explanation for this unemployment is a lack of skills and 'weaknesses in the education system' (UNDP, 2014, p.63). Maldivians complete schooling and do not have adequate skills, such as the language skills necessary for working in tourism. The Human Development Report (UNDP, 2014, p. 64) proposes that these unemployment issues can be addressed in the education system by encouraging 'skills and talents beyond academic grades'. An economic consequence of relying on expatriate workers means that income leaves the country when wages are repatriated (Ghina, 2003; UNDP, 2014).

High youth unemployment and income inequality are seen as causes for the growing social crisis in the country which includes heroin addiction, an increase in crime, and rising gang violence (Fulu, 2007; T. Ginsburg, 2012; UNDP, 2014). Drug abuse is widespread with reports estimating that every family is directly affected in some way (UNDP, 2014). With absent fathers working in resorts, this contributes to the growth in social issues (Scheyvens, 2011). It is also reported that many school drop-outs become exposed to drugs and coupled with their inability to find employment increases their chances of becoming involved in crime. Increasing gang violence is also attributed to youth unemployment, schooling issues such as bullying and discrimination and family breakdown (UNDP, 2014). The lack of opportunity on many islands has resulted in migration to the capital. The population density in Malé continues to rise, leading to poor social conditions and overcrowding. The level of overcrowding and privacy have been attributed to an increase in emotional problems (Ghina, 2003). Consequently young people in Malé lack adequate living space, recreational facilities and employment opportunities (MOE, 2008). The specific challenges in addressing inequality in the Maldives relates to the particular features of the Maldives as a SIDS. The most influential feature is the spatial setting−where a person is born in the Maldives impacts many of the choices and opportunities available to them. Smaller and more remote islands have limited access to schooling, jobs and health services by virtue of their overall isolation (UNDP, 2014).

Education in the Maldives

Education is highly regarded in the Maldives (Hassan, 1996; MOE, 2008). According to Latheef and Gupta (2007, p. 118), it is the 'strong and abiding commitment to education which has enabled Maldives to make very significant progress during the last decade to the goals it had set itself despite all the natural difficulties'. There have been impressive gains in access to education and the high literacy rate. Yet, serious challenges remain. The scattered island geography makes it expensive and logistically complex to deliver services and provide equitable education opportunities across the country (UNDP, 2014). There is also recognition of an urgent need to improve the quality of both primary and secondary education, and recent reports reveal that the education system is not able to produce enough graduates to meet the demand for skilled workers (The World Bank, 2014; UNDP, 2014).

The paradox of the Maldives is that despite the remarkable development over the past thirty years serious inequalities exist across the country. A person living in Malé is likely to complete three years more of schooling than someone living in the atolls (UNDP, 2014). The spatial dispersion has implications for widespread education provision that is of high quality (MOE, 2008). There is a need to better prepare students for further education and evolving employment opportunities (Latheef & Gupta, 2007), particularly in light of the specific challenges the country faces as a small state, and for developing its human resources. Education, therefore, has a major role in helping combat the aforementioned social issues (MOE, 2008). Likewise, education systems in small states have a vital role in helping build human resource capacity (Bacchus, 2008) and in educating students to contribute to technologically advanced knowledge economies (Bacchus, 2008; Crossley et al., 2011) so that small states can interact in the international arena.

As in other small states, the Maldivian education system faces particular challenges. A limited resource base, in terms of manpower, means there is a lack of trained teachers. This has resulted in a reliance on foreign workers, namely expatriate teachers from other South Asian countries who generally teach in secondary schools. The particular geographical and demographic features of the Maldives poses further challenges in providing equitable education resources across the country. Services are heavily concentrated in the capital. Hence, Malé schools have better teaching resources and higher numbers of trained teachers compared to island schools,

which typically face a higher concentration of untrained teachers. The isolation of island schools also means in-service training has traditionally been provided to teachers in short, intensive blocks often by visiting trainers, thereby limiting opportunities for ongoing in-school support.

History of Education

The Maldivian education system has evolved from being the responsibility of religious leaders and institutions to a nationwide government system of schools. Traditionally children gathered in homes known as 'edhurge' to learn Dhivehi, Arabic script, and to recite the Holy Quran. This traditional system served to contribute to the high literacy rate in the country and in the preservation of national culture and traditions (Education for All, 2008). Changes to this traditional model began in 1927 when the first government school was established in Malé. By 1945 each inhabited island had a traditional school, known as a 'makthab' which provided lower primary schooling.

Rapid changes started to take place from the 1950s. Education was seen, for the first time, as being integral to national development. Some form of schooling became available on every inhabited island. During this period two English medium schools were opened in Malé based on the British curriculum. However, this meant a dual system was in place – traditional Dhivehi schools in the Atolls and English medium schools in Malé. In 1978 a unified system was formed in an attempt to promote a more equitable distribution of facilities and resources. There was an upgrade of new schools with the establishment of one Atoll Education Centre (AEC) and one Atoll School (AS) within each atoll. Schools in the atolls began to adopt English as the medium of instruction. Secondary education was only available in Malé until 1995, when a unified system of education was established to provide primary and middle school education in the atolls, although this was constrained by a lack of qualified teachers and basic infrastructure in the atolls.

The structure of the education system

Almost one quarter of the Maldivian population is of school age (Shiuna & Sodiq, 2013). There are four types of schools: government, community schools, public-private partnerships school and private schools. Of 375 schools in the country, 58% are government schools of which 6%

are in Malé catering for 40% of the population. Preschool is optional from the age of three. Formal education begins at the age of six with a structure of seven years of primary school, three years of lower secondary and two years of higher secondary (Figure 3).
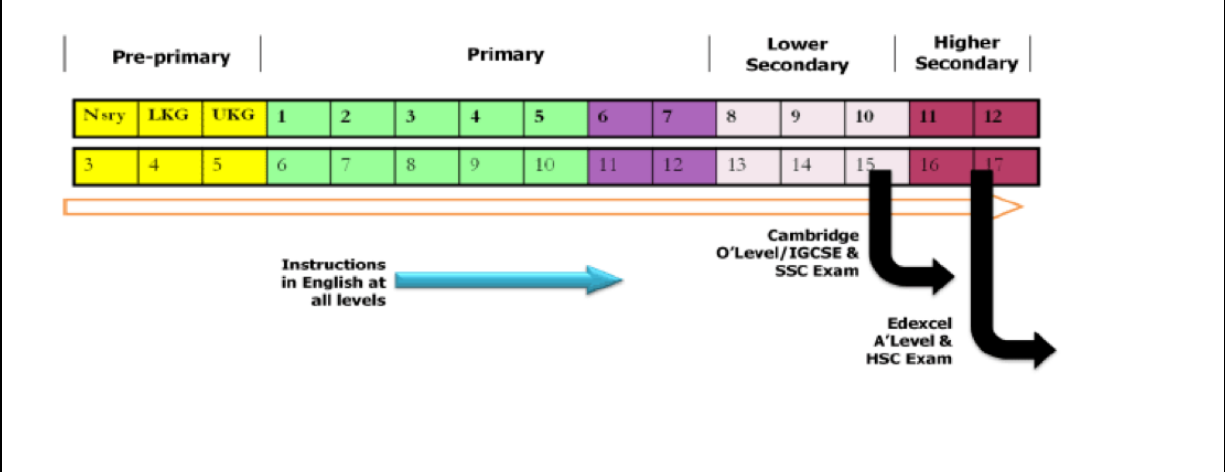
Figure 3: Structure of the Maldivian Education System (Source: Ministry of Education, 2010)

Primary and secondary education

Every island has at least one primary school, so no-one is denied access to schooling. School statistics for 2012 (Ministry of Education, 2012) reported the net enrolment rate (NER) for primary at 93.6%. Recently, secondary education was only available in larger island schools but is now available in all island schools to Grade 10. The NER for lower secondary in 2012 was 81.2% and was 19.3% for higher secondary. Higher secondary grades are available in Malé and in larger schools in the atolls. The student/teacher ratio averages approximately 10:1 (Ministry of Education, 2012). Where there are insufficient facilities to house all classes at one time, schools may operate in two teaching sessions [morning and afternoon] in which classrooms are shared over the day. The government has supported the building of new classrooms with the goal of single session across all islands.

The primary system generally follows a five year cycle [Grades 1-5] followed by two years of middle-school classes [Grades 6-7]. This makes up the basic education cycle. Primary education is based on a locally designed national curriculum, first written in 1984 and revised in 1994, while secondary education is subject to international examinations, as illustrated in Figure 3. At the secondary level students follow the British system of O-level and A-level examinations. Lower secondary students prepare for the International General Certificate of Secondary

Education (IGCSE) examination in six subjects, including two local subjects (Islam and Dhivehi). At the end of higher secondary school students sit the General Certificate of Education Advanced level examination administered by EdExcel. A new National Curriculum Framework (NCF) (NIE, 2015) began implementation in 2015 and will gradually replace the existing curriculum.

Tertiary education

Until recently many Maldivians seeking a tertiary education studied abroad due to a lack of options in the country. The Maldives National University was established in 2011 emerging from the Maldives College of Higher Education (MCHE). There is also an increase in the number of private colleges overseen by the Maldives Qualification Authority (MQA) which monitors the standard and quality of courses available in the country (Aturupane, Fielden, Samih, & Shojo, 2011). Whilst some of the institutions offer degrees and post-graduate level courses, The World Bank report (Aturupane et al., 2011) stated that 95% of the programs offered in private institutions are pre-degree or certificate level. Likewise, Shiuna and Sodiq (2013) report that higher education opportunities are limited in scope. The higher education system is in its embryonic stage and a key challenge for the country is the expansion and diversification of this sector. Enrolments are low for a middle-income country due to limited access because of the poor completion rates for secondary schooling students (Aturupane et al., 2011). The overall result is that Maldivians continue to seek further education opportunities abroad.

Populations on remote islands face even more restrictions and, as such, various institutions have sought alternate delivery modes, including block mode delivery and the use of technology to deliver classes remotely to islands. This latest delivery mode has only become possible with the upgrade of internet facilities within the country. This is another example of the limitations that the unique geography has had on the provision of services across the nation. To increase accessibility the MNU has established four campuses in the atolls.

The present system of education and current challenges

Achieving universal primary education (UPE) has been a major objective as the education system has evolved. Even with the pressures of one third of the population being of school age,

the goal of UPE was achieved in 2000 (UNDP, 2014). In a recent World Bank report (Aturupane & Shojo, 2012, p. 1) the success and challenges of the current situation are summarised in the first paragraph:

> The country achieved the first generation objective of providing universal access to basic education through rapid expansion of enrolment…the second generation challenge is to provide education of adequate quality. Evidence, from a variety of sources, shows that education quality in the Maldives is weak, and needs urgent attention.

A fundamental challenge in the Maldives has been managing quantitative expansion in this highly dispersed country whilst also focusing on improving the quality of education. As noted, 'an urgent need now exists to improve the quality of both primary and secondary education' (UNDP, 2014, p.73).

Enrolment, attendance and completion

The most recent Human Development Report (UNDP, 2014) raises concern about the levels of school attendance. Whilst there is high levels of enrolment in both primary and lower secondary levels, attendance levels are lower and there are a high number of dropouts. Student not attending school were reported as suffering from neglect, being in conflict with the law or coming from broken homes. The issue of the sharp drop in the number of students entering higher secondary school was also raised as a major challenge. This has further implications for the already low tertiary enrolment rates.

Educational attainment

A number of reports reveal that educational outcomes are weak. For example, a recent UNICEF report found 'the level of learning of Maldivian students is lower than the average international levels as represented by reputed international studies' (UNICEF, 2014, p. 1). It also highlighted that Maldivian students did not do well on questions involving deeper conceptual understanding, but performed better on questions of basic competency and on application of procedures and the recall of facts. The report noted there were several areas where basic misconceptions persist into higher grades. The first recommendation of this report is the need to raise the importance of initiating a 'debate on issues such as rote learning and learning with

understanding' (UNICEF, 2014, p. 7). Other reports similarly stated that results in national assessments are unsatisfactory (Aturupane & Shojo, 2012; UNDP, 2014).

Consistent concerns are also raised with O and A-level results. The pass rate, reflecting a pass in five subjects, was 36% in 2011 (UNDP, 2014). Results from 2009-2011 are presented in Figure 4 showing the disparity between Malé and the atolls.
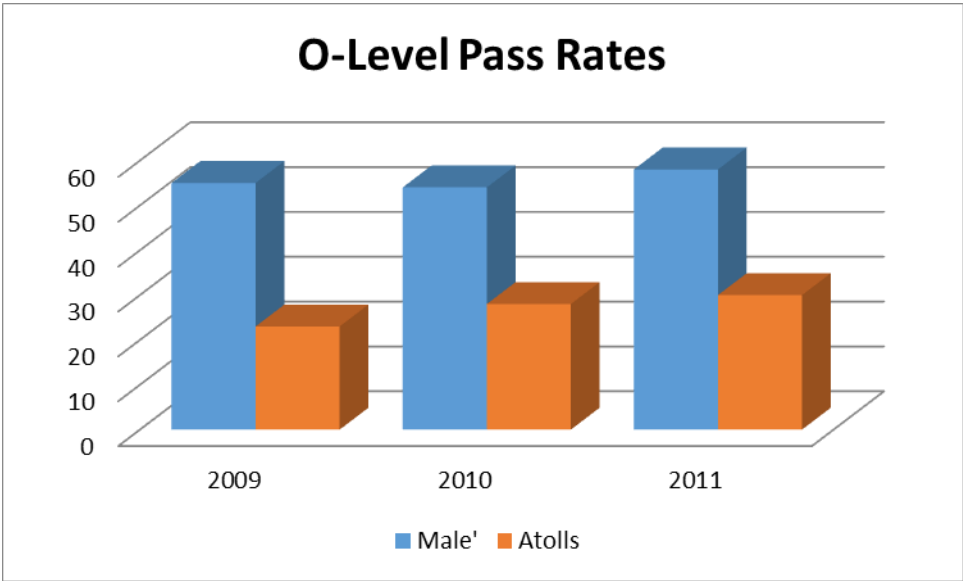
Figure 4: Percentage achievement rates for O-level examinations (2009-2011). Source: Maldives Human Development Report 2014

The World Bank reports the high failure rates reveal two of every three students do not pass these examinations (Aturupane & Shojo, 2012). Of great concern are the figures that reveal 19% and 16% of students in 2010 and 2011 respectively did not achieve a pass in any subject (Aturupane & Shojo, 2012). The MoE has created a specific policy to focus efforts on improving the pass rate (Ministry of Education, 2010a) and there has been some improvement over time, as shown in Figure 4.

The Cambridge examinations were introduced after the education system was unified in 1978. In 1996 Hassan raised the debate around the use of O-level exams in his thesis. Bray and Khajeedha (2001) also explored the various complexities around this issue for small states and outlined alternative options for the Maldives. The use of these British examinations continues today with the O-level results being published for each school as an accountability mechanism (Ministry of Education, 2010a). However, given the development of the schooling system and

the use of English in Malé over a longer period, some schools are better positioned for these examinations. The debate continues, although O and A level examinations are now well entrenched in the fabric of schooling in the country (Yamada et al., 2015).

Teacher demographics

The lack of trained teachers, noted earlier, is particularly acute in the atolls (Figure 5). This issue is perceived to be a major contributor to the low attainment results (UNDP, 2014). The recent announcement of a new salary structure has implications for teachers without a diploma qualification who will need to upgrade their qualifications (Hamid, 2015).

Number of trained/untrained teachers in Maldivian schools   Number of local/expatriate teachers in Maldivian schools
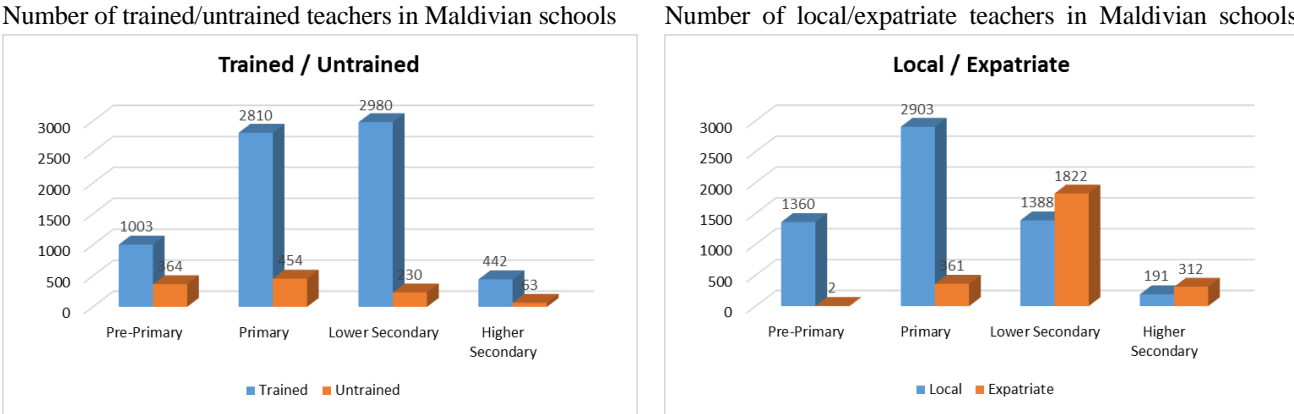
Figure 5: Teacher demographics (Source: Ministry of Education School statistics 2014)

As raised earlier, there is a reliance on foreign workers, mostly expatriate teachers from other South Asian countries to meet the shortfall of teachers (Figure 5). In 2012 approximately 30% of teachers were foreigners with 84% of these teachers working in atoll schools. This dependence on expatriate teachers is not without controversy (Aturupane & Shojo, 2012). The high turnover of expatriate teachers places a higher cost burden on the system and a loss to students in school days (Aturupane & Shojo, 2012; UNDP, 2014). Other concerns are a lack of commitment to the Maldivian education system and the challenges arising from working in a different culture (Aturupane & Shojo, 2012). There is a fear that expatriate teaches do not 'engage sufficiently to understand the local curriculum and the cultural context and the quality of education may suffer as a consequence' (UNDP, 2014, p.74). The Maldives is seen as a transit point for many foreign teachers seeking jobs in other countries (UNDP, 2014). However, there are counter arguments that expatriate teachers bring new ideas and cultural diversity to the

education system, and are willing to serve in remote schools where there are a shortage of Maldivian teachers (Aturupane & Shojo, 2012).

Disparity between Malé and Atoll schools

Inequalities exist despite the gains in access to schooling made across the country. As already noted, Malé schools generally have better human and material resources than those of outlying islands. Both the examination results and the teacher demographics highlight a clear disparity between Malé and Atoll schools. The examination pass rates in Malé are almost double that of the atolls, as shown in Figure 1. Children in Malé complete almost three more years of schooling than children in atoll schools (UNDP, 2014, p. 12). Further indicators of disparity are access to higher secondary and tertiary education opportunities.

Improving the quality of education

With the achievement of UPE, the focus has shifted to improving the quality of education. This presents a significant challenge, given the geographic and demographic constraints of the Maldives and, as noted by The World Bank (Aturupane & Shojo, 2012), is a major policy challenge. Low attainment in O and A-level examinations is often at the centre of this debate on improving quality. Whilst these current examination results are by any measure poor, the high focus on these exams results has also been questioned:

> An important aspect of the debate on education is related to the pedagogy of teaching and the highly examination-oriented system that is followed, which leads to high competition among schools to have their students ranked in the top ten positions in the Republic. It is argued that overall pass rates and performance of students are compromised, as attention gets focused on individual top achievers for schools. (UNDP, 2014, p.75)

There is a tension between the importance belied on these results and the profile that successful individuals receive versus the need to improve the quality of education for all students and address the disparity of opportunity for students in atoll schools. When a unified system was created in 1978, implicit in this was that education was no longer only for the elite in Malé. Providing equality of opportunity across the nation also features in this debate. The continued focus on examination results is questioned by Saeed (2003, cited in (O'Shaughnessey, 2009, p. 13):

More than ninety percent of the Maldivian youth leave school having failed the school system. Making Maldivian children 'more English than the English' may not be very sustainable for a Maldivian community to survive in the long term.

This attention to improving the quality of education has resulted in a focus on raising the level of teacher qualifications, particularly in more remote islands, and on offering better in-service opportunities (Aturupane & Shojo, 2012; MOE, 2008). Yet, as highlighted by Alexander (2015), this puts the focus on teachers rather than teaching. Within this debate, he cites the focus on quantifiable measures of quality, such as numbers of trained teachers, literacy rates and net enrolment ratios (Alexander, 2008, 2015) rather than the more elusive area of pedagogy. Notwithstanding the importance of qualified teachers, he also asks 'but what are teachers to teach and how?' (Alexander, 2015, p.254).

Attending to teaching and learning in Maldivian classroom, Fittell (2014) writes of the consistency of approach he saw across grades and islands in his role as a teacher educator. He found teachers working from schemes of work structured around fact-based topics that aligned with the textbook, with teachers requiring students to memorise statements from textbooks, rather than promoting application of knowledge or understanding of topics. He contends that classrooms are run on the principle that learning is remembering and that this 'view of learning does not prepare them for life, or even an OL exam' (Fittell, 2014, p.62). Supporting this view are the findings from a UNICEF study (2014), discussed earlier, in which students performed better on questions based on a recall of facts and performed poorly on questions requiring conceptual understanding. The recommendations from this report raised the need for a campaign to 'educate teachers, parents and students to recognise the importance of learning with understanding' (UNICEF, 2014, p.7).

This highly regimented system is reported to support a pedagogy that privileges memorisation over critical thinking. Shiuna and Sodiq (2013) report that teaching is too result-oriented whereby grades are emphasised over learning. Mohamed (2006) writes of her experience of observing a teacher from her old school many years later —'I watched as he taught the same lesson from the same textbook in the same way that I remembered him doing when I was a student in his class' (p.3). Likewise, Nazeer (2006, p. 3) portrays the dominant teaching pedagogy as traditional where students are taught by rote memorisation and sit passively in

classrooms which means they 'quickly forgot what they studied or memorised for their examinations'. Ngang et al. (2010) report that parents complain that teachers are not innovative in their teaching and of poor student performance. Ismail, Halse and Buchanan (2000) found the highly structured system and reliance on expatriate teachers constrained the pedagogical options, with didacticism and teacher-centredness being prevalent. From this range of reports it seems little has changed despite calls to incentivise learning and move away from examination as the yardstick for measuring success (UNDP, 2014). The poor O and A-level results lead to disappointment and low esteem contributing to the growing social problems in the country (O'Shaughnessey, 2009), including many students leaving school without employment prospects or further education options (McNair, 2009). As Shiuna and Sodiq (2013) attest, students leave school lacking broader skills such as communication, time-management and leadership skills, which are needed when young people enter the work force.

Teacher Education in the Maldives

In order to bring about a change in teaching methods, teacher education is central to such reform efforts. The evolution of pre-service education is now considered, reflecting the history of the Maldivian education system and its development since the 1950s.

Pre-service teacher education

Pre-service teacher education has reflected the developments and growth within the tertiary education sector. Formal teacher education began in 1977 with the development of a teacher training section with the Education Project Office within the MoE. At the time there was an urgent need in the country to train local teachers (Jaleel, 1998). Schools in the atolls were staffed by untrained Maldivian teachers, often with no formal schooling, while schools in Malé were mainly staffed by expatriate teachers (Ismail, 1998). With the commencement of the training programs, most participants did not have a background in formal education and so this era faced low entry qualifications (Ismail, 1998). Islands face a vicious cycle in terms of education outcomes. Since Maldivians have a strong connection to the island of their birth, (UNDP, 2014) trained teachers tend to return to their islands to teach. As such, schools with students who achieve strong academic outcomes usually have more qualified teachers, while schools whose students do not meet the entry criteria usually end up with less qualified teachers.

As noted by Ahmed (1994, p.29), 'almost all atolls have 'richer' and 'poorer' types of schools created by this process' resulting in a self-perpetuating cycle for island communities.

In 1984 the Institute of Teacher Education was formed as a formal teacher preparation institution. It became the Faculty of Education (known as FE) in 1998 when the MCHE was formed. Over time it expanded to provide primary, middle school and secondary qualifications across certificate, diploma and degree courses. The FE was the sole provider of pre-service teacher education, until 2009 when a range of private providers began to offer teacher education programs. As raised earlier, these institutions began utilising a range of delivery modes to cater for the needs of island teachers who wished to upgrade their qualifications without leaving their island.

The entry requirements continue to be a challenge and the low pass rates at O and A-level examinations have implications for training teachers. There is a desperate need to train teachers to meet the shortfall across the country. Yet there is also a need to balance eligibility criteria against these low examination results in order to attract people into teaching, particularly in island schools to address larger numbers of untrained teachers and islanders who may have had less secondary school opportunities. The country's geography and the history of its education system continue to have implications for training teachers in a practical and cost efficient manner today.

Teachers' in-service professional development

Professional development for teachers has historically relied on external trainers travelling to atolls to conduct intensive training. Given the high travel costs, 80% of training expenditure can relate to transport (McNair, 2009). Hence, online learning is seen as a potential means of encouraging collaborative dialogue and learning amongst Maldivian educators (Saeed & Moreira, 2010), without incurring high expenses. Following the tsunami, Teacher Resource Centres (TRCs) were established in each atoll, with support from UNICEF, to provide decentralised professional development support to schools.

Teacher Resource Centres are the professional development hub for each atoll, with a TRC coordinator responsible for professional development across the atoll in conjunction with a PD

coordinator from each school. Some schools are closer to the TRC island, while outlying islands may have less access and consequently remain isolated. In 2009 the goal to decentralise professional development and minimise the reliance on external facilitators was articulated in the new professional development policy, known as School Based Professional Development (SBPD) (Ministry of Education, 2009). The introduction of this policy was a significant change to the school system and was designed to make PD activities more meaningful and useful to teachers so that schools can become better learning organisations (A. Shareef, 2011). In this policy, PD is defined as:

> Activities conducted for individuals employed in advancement of learning and teaching in the schools, working in the professional field and for those working for the development of physical and mental health of school students. This includes seminars, workshops, induction, online programmes, and content upgrading courses for upgrading the professional level of teachers. In addition to this, introduction of new strategies related to teaching and professional activities which are assured to be successful and which are cultivated in the schools are included in the professional development programmes. (A. Shareef, 2011, p. 8)

The policy specifies three days to be set aside in the academic calendar so that teachers undertake at least 15 hours of school-based PD activities each year, and with PD activities to be self-initiated in each school based on a needs-analysis conducted with teaching staff (A. Shareef, 2011). An evaluation of the SBPD policy was conducted in 2011 and found whilst there were positive findings in terms of TRC support for the policy and recognition in schools of the importance of SBPD, the understanding of the SBPD concept was variable and the demand for external facilitation of PD remained high, despite being ineffective in addressing teachers' issues. Specifically referring to active learning, Shareef (2011, p. 6) considers that 'engaging teachers as learners in a collaborative approach would allow the teachers to experience the value of active learning and how it leads to learning enrichment'. Yet, many of the trainers themselves have limited experience of the pedagogy. This point is elaborated later in the chapter.

With many Maldivian schools being geographically isolated, Saeed and Moreira (2010), highlight the need to give teachers an opportunity to access new ideas, collaborate, experiment and to share ideas. Teachers also need more practical components where ideas are modelled to help them translate ideas into action in their classrooms (K. Shareef, 2008). In explaining some

challenges that were encountered during a widespread professional development program, Saeed and Moreira (2010) assert that any PD program needs to build on teachers' current knowledge and practice in order to build new skills. They also report that Maldivian culture determines the establishment of relationships and that a degree of personal care was expected of instructors to a level not expected within a European context. Given the highly personalised nature of small states (Farrugia & Attard, 1989) this is an important feature that warrants attention in this context.

Active learning in the Maldives

An explicit program designed to address educational quality was the introduction of the Child Friendly Schools (CFS) project in 2002, with support from UNICEF. This is a global framework that promotes local engagement while recognising that adaptations will be made in different contexts (Schweisfurth, 2013b; UNICEF, 2006, 2010). Interestingly the CFS approach has been shown to work in 'some of the poorest and hardest-to-reach areas' (Schweisfurth, 2013, p.153). The CFS project began in the Maldives as a pilot project, with the objective of addressing disparities across island schools and improving the quality of education in the selected schools. Initially, 22 of the most under-served schools in the country were selected based on availability of teaching resources, physical facilities and the quality of teaching. Following the 2004 tsunami, in an effort to 'build back better', additional schools were funded to embrace the concept allowing a broader reach of CFS across the country.

There are five core dimensions of CFS (UNESCO, 2004b):
1. Proactively inclusive
2. Effective child-centred teaching and learning
3. Healthy and safe learning environment
4. Gender responsiveness
5. Community partnerships.

As an overarching approach, CFS is comprehensive yet flexible, encouraging diversity in adaptation at community level (UNICEF, 2010, p.7). Therefore, each country ideally takes the basic model and adapts it to its own circumstances resulting in adaptations to the core CFS framework (Schweisfurth, 2013b). For example, Sri Lanka and Cambodia have both added a sixth dimension and in the Maldives a leadership dimension was added in place of dimension 4 (gender responsiveness).

The introduction of CFS drew attention to the notion of active learning through dimension 2 – effective child-centred teaching and learning. Whilst the goal of CFS is to improve the quality of education in all five dimensions, it is dimension two that has received the most attention in the Maldives (McNair 2009). Schools often refer to CFS methodology (McNair, 2009; A. Shareef, 2007) as being synonymous with active learning, or other labels such as child-centred learning. Therefore, CFS has become a major driver of pedagogical reform in the country and raised the profile of active learning within schools. In his evaluation of the CFS programme, Shareef (2007, p.4) found that it has 'made some contribution to the reform process of the education system' by seeking to transform traditional teaching to more child centred teaching. CFS, as a label, serves to both define a specific program as well as representing an emerging pedagogy in Maldivian schools.

The history of how CFS was introduced to the Maldives has some bearing on how active learning is currently understood. The introduction of CFS into the Maldives was based on the Gonoshahajjo Sangshta (GSS) model from Bangladesh and its use of learning corners in primary classrooms. This model of teaching focused on the students' engagement in learning and the role of the teacher in facilitating students' learning (A. Shareef, 2007). The change to the structure of the daily schedule, along with the physical arrangement of learning corners in the room, came to represent the CFS model in Maldivian schools (A. Shareef, 2007). However, the learning corners were reported to work 'better in theory than in the current practice' (Shafeega et al., 2005). Yet this model of CFS brought changes to the traditional structures in classrooms and greater flexibility. Shareef (2007) reports, that over time, the CFS concept shifted from the GSS model to the UNESCO model. In practice this meant some schools moved away from the learning corners model and developed their own practices in line with the five dimensions of CFS.

When CFS was first implemented, the objective was to establish child-centred learning in grades 1-3 (A. Shareef, 2007). Whilst focus has generally been on the lower primary grades, as a way of managing limited resources, the goal is to scale up to all grades in all schools (McNair, 2009). Figure 6 is a representation of the reform process.
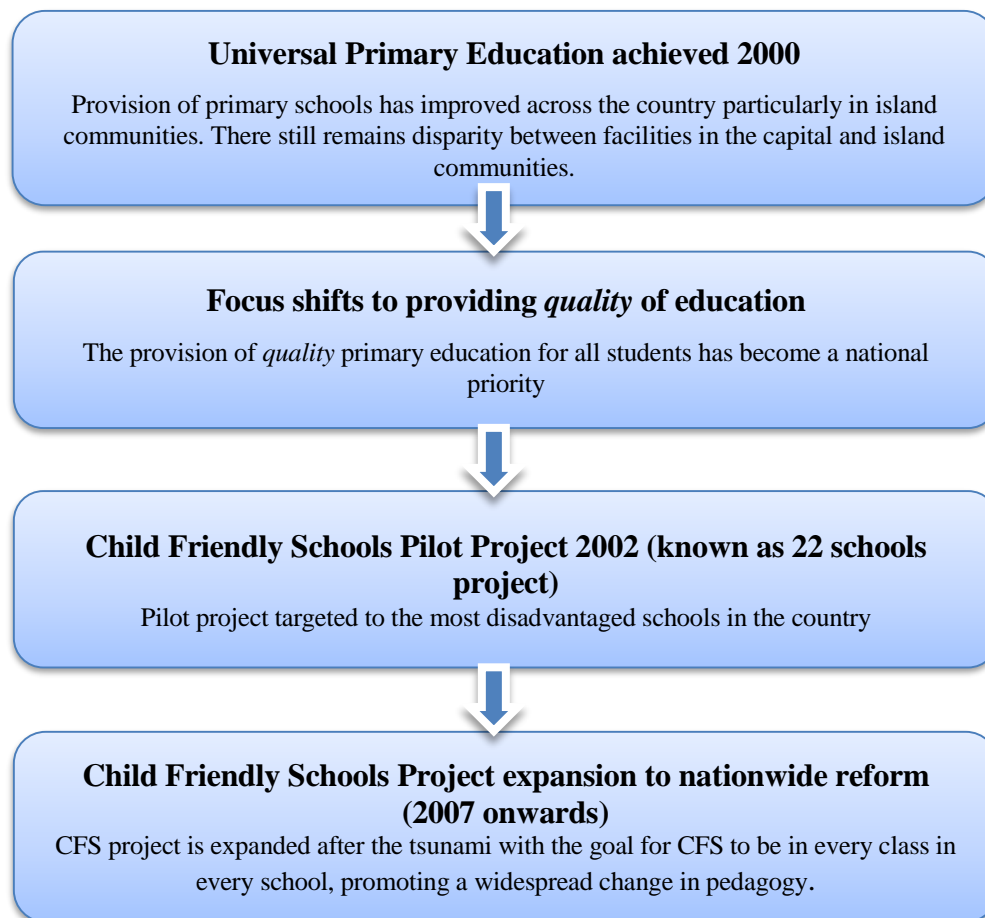
Figure 6: The broad process of reform in the Maldives

Notwithstanding the initial objectives of the project and the growth of CFS across the country, the policy context for implementing active learning in the Maldives is embedded in broader reform developments, rather than being a clear policy statement in itself. This situation is similar to The Gambia, another small state, where Schweisfurth (2002) writes that policy creates the space that is generally supportive, while not being directive of learner-centred education (LCE). McNair (2009, p. 6) claims that in the Maldives 'there are few written policies, particularly in the areas of school quality'. Following her report, the MoE introduced the Child Friendly Baraabaru (CFBS) quality school indicators (Ministry of Education, 2010b), as a way forward to acquire sector wide support (UNICEF, 2010). The CFBS document is aligned with the MoE goals for improving the quality of education (Aturupane & Shojo, 2012; MOE, 2008; UNDP, 2014).

The CFBS indicators serve as a quality assurance framework and are designed to facilitate an internal process of school self-assessment and external school evaluation by authorities such as Educational Supervision and Quality Improvement Department (ESQID) against the indicators for each CFS dimension. Whilst this is a policy document, there is no explicit definition of active learning offered in this or any other MoE policy document. The concept of child-centred active learning is found under dimension two labelled 'learner-centred teaching and learning' in this document (Ministry of Education, 2010b). In 2010 the following standards were listed:

Curriculum/syllabus

Lesson planning

Teaching and learning strategies

Teaching and Learning Resources

Learning environment

Learner-centred assessment

Co-curricular/Vocational guidance.

This CFBS document was revised in 2013 to simplify the hierarchy of indicators from four levels of achievement to single descriptors under each standard.

Since the introduction of CFS, several labels have been in use to articulate the envisioned pedagogy—child-centred learning, active learning, learner-centred teaching and learning. As previously stated, the history of CFS has some bearing on this as the program expanded and developed. The term active learning is used in this thesis as one that represents the core elements promoted in the Maldives since the concept was introduced through the CFS project. Active learning are understood in terms of learner participation, activity-based education and relevance to students (Ministry of Education, 2010b). Students are allowed greater freedom and flexibility and the teacher's role is to facilitate learning rather than directing students (A. Shareef, 2007; Wheatcroft, 2004).

Implementing active learning in the Maldives

The CFS program was the vehicle that explicitly promoted active learning as a pedagogy that represents 'good education', according to interviews conducted within MoE (UNICEF, 2010, p.16). The goal of achieving child-centred active learning, through the implementation of CFS,

has not been without its challenges. Wheatcroft (2004, p.14), in an evaluation of the 22 schools pilot project, wrote:

> Teachers are not using active learning techniques but rely heavily on textbook work pages which indicates that they are not sufficiently trained in the methodology. Whilst the elements of the model are in place, teachers are not yet equipped with the skills needed to make it a child centred, active learning environment.

This statement captures the situation in regards to CFS from the pilot project through to the current situation in Maldivian classrooms. In line with Fittell's (2014) observations, teachers still rely heavily, if not exclusively, on the textbook. Reports on the CFS project reveal recurring themes in how active learning is being enacted and the challenges that teachers are facing in using this pedagogy. Some key barriers, specific to the Maldives, are now discussed. This discussion on implementation barriers is continued in the next chapter within the broader context of similar reforms across developing and middle-income countries.

Policy environment

The policy environment for CFS has lacked a clear and organised plan for its implementation (UNICEF, 2010). This has meant 'the thinking related to CFS, has not been shared in the required depth or in a consistent manner, by all stakeholders involved' (UNICEF, 2010, p.18). McNair (2009), in noting the lack of written policies in the Maldives, suggests this offers an opportunity to 'embed CF dimensions into a national plan, beginning with establishing a framework for quality, healthy schools for all children' (p.6). The creation of CFBS indicators was a response to this need. The document was designed to build an awareness of important aspects of CFS to allow for self-assessment by teachers, supervisors and school heads, leading to higher levels of awareness and accountability (McNair, 2009, p.4).

Restrictions at the policy level were attributed to the highly centralised nature of the education system. McNair found that 'limited communication between MoE divisions and between MoE administration and schools hinder systemic improvement' (p.37). Principals reported unnecessary restrictions that limited their capacity to implement requirements specific to their schools (UNICEF, 2010). Inconsistencies and lack of coordination across the sector were also reported as barriers (McNair, 2009; UNICEF, 2010). However, a number of principals showed

it was still possible to work within those limitations at the school level 'if the core attitude and thinking related to CFS is understood by the SMT' (UNICEF, 2010, p.21).

How active learning has been understood

The original model of CFS brought changes to classroom structures in the target schools, particularly in the structure of the day and the inclusion of creative writing and story time (A. Shareef, 2007; Wheatcroft, 2004). These changes in routines and structures emphasised greater flexibility in the classroom and more freedom for students (A. Shareef, 2011). Teachers were found to follow the examples presented and were not creative and flexible in structuring the day to meet the needs of their students (A. Shareef, 2007). Physical changes have been the most obvious changes observed (Di Biase, 2009; McNair, 2009; A. Shareef, 2007; Wheatcroft, 2004). Therefore, change has been most noticeably on organisational changes rather than attitudinal changes, resulting in superficial acceptance without true comprehension (UNICEF, 2010).

The lack of coherency and consistency in the implementation of CFS is evidenced in the changes to the model promoted since its first introduction in the country. It is also seen in the multiple labels used for the pedagogy embedded in dimension two; child-centred learning, active learning, learner-centred teaching and learning, exacerbating confusion around this core concept. Shareef's evaluation (2007) found the child-centred approach was conceived as specific elements rather than a way of teaching. Within the GSS model, students were given a choice as to which task they chose to complete first. Wheatcroft (2004, p. 14) concluded that this element of the child-centred approach was ineffective:

> From observation this seems to be a time to explain the workbook pages for two subjects. There does not seem to be much time, if any, spent building upon the previous sessions' learning. Neither are the children very engaged in this part of the lesson. Most of the time they are listening to the teacher explaining the task and together they complete some examples. It is not an example of child-centred teaching.

Focus has been on visible change to traditional structures with positive regard to the increased freedom and flexibility CFS has fostered. McNair (2009) reported that characteristics relating to the environment and role of the teacher were the most mentioned aspects of CFS dimension 2 (child-centred learning and teaching) across school interviews around the country. She also

found there was little mention of the characteristics of instruction. This may be a result of the lack of a clear vision of CFS during its implementation (UNICEF, 2010). With the absence of a clear policy or understanding of active learning pedagogy, teachers have focused on changing the teacher-student relationship with the literal definition of a 'child-friendly' school (Di Biase, 2009). As noted by McNair (2009), the cognitive demands of child-centred learning were not raised: 'no-one discussed the merits of CFS pedagogy for engaging children in all grades, up to Grade 10, in higher-level thinking, meta-cognition and stronger self-efficacy' (p. 3). Shareef (2007, p. 60) also reported 'the actual teaching is not very participatory and the students do not investigate knowledge'.

Curriculum, textbooks and assessment

Textbooks in the Maldives are used widely, if not exclusively, and serve as a syllabus substitute (Di Biase, 2009; Fittell, 2014). Yet McNair found that they are not child friendly. The reliance on textbooks in this way constrains the use of active learning (Di Biase, 2010; McNair, 2009; A. Shareef, 2007; Wheatcroft, 2004). There are limited examples of textbooks being supplemented with active learning experiences or cooperative project work (McNair, 2009). Instead, McNair found widespread use of worksheets from internet sources and together with textbooks she estimated that their use accounted for approximately 95% of the school day. Shareef (2007, p. 86) also found the rigidity of the schemes of work and curriculum as an inhibiting factor and proposed that an outcomes-based curriculum 'may assist teachers to transform their teaching into a more participatory approach in learning'.

Under dimension 2 of CFS, greater emphasis is placed on assessment that supports learning, rather than assessment that reports marks (McNair, 2009). Commonly referred to as continuous assessment, this concept has been misunderstood and has resulted in ongoing testing rather than continuous assessment (Di Biase, 2009; McNair, 2009). McNair (2009) reports that assessment is 'seen as a separate and distasteful entity rather than embedded in the teaching and learning process as a way to reflect on the learning process, and progress made' (p.20). Likewise, Shareef (2007) found the predominant form of assessment was pen and paper tests with little constructive feedback given to students to improve their learning. He also noted that the MoE requirement of the 'Report Book' affected the practice of continuous assessment. Bray and

Adam (2001, p. 232) in their analysis of the O and A-level examinations similarly refer to the 'backwash effects of examination systems on lower levels of education'.

Teaching resources

The lack of resources was raised across a number of studies as being a barrier to being able to use active learning methods (Di Biase, 2009; McNair, 2009; A. Shareef, 2007; Wheatcroft, 2004). During the early phases of CFS some teaching resources were provided by UNICEF. Yet McNair (2009) reported these resources could be found unopened in some schools, suggesting that perhaps teachers were unsure how to use them. Similarly, Shareef (2007) found that there was little evidence of teachers producing locally designed resources from local materials. Notwithstanding the importance of resources, there were 'a few examples of inviting, stimulating learning environments, some created with none of the UNICEF provided materials' (McNair, 2009, p.18). She suggested the desire to use or make resources came down to the motivation of individual teachers (McNair, 2009). Therefore, the availability of resources is one component evidenced in the Maldives, but the use of teaching materials is also a product of teachers' understanding of the principles of active learning (Di Biase, 2009).

Infrastructure

Learning corners, floor tiles, and child-sized furniture are examples of changes to the physical classroom environment, which has been a key feature of CFS (McNair, 2009). Yet a lack of classrooms is another problematic feature raised when schools do not have enough space for all their classes, leading to double school sessions and the sharing of classrooms. Some schools have dealt with this by organising classes of the same grade to share the classroom over the two shifts so that furniture and classroom displays are suitable for the age of the students (A. Shareef, 2007). Other schools have split classrooms in half to create two classrooms. The MoE is striving to build more classrooms with the objective of allowing schools to operate in a single session (The President's Office, 2009).

Other infrastructure concerns were raised by Shareef (2007) regarding school libraries and internet facilities. Some schools may have a library space but a lack of books or organisation means it is underused. Internet infrastructure is still being upgraded nationwide (Saeed & Moreira, 2010), resulting in variability of internet access and reliability across islands. The

physical changes in classrooms that came about through the CFS project have been a key enabling condition of active learning; therefore infrastructure inequities have an impact on how schools embrace the new pedagogy.

In-service teacher training

Consistent challenges around training teachers in active learning methods have been well-documented (Di Biase, 2009; McNair, 2009; A. Shareef, 2007; Wheatcroft, 2004). Overall, three broad areas of concern were raised: the nature of the training itself; the lack of support for teachers in schools to enact the new pedagogy; and the attitude and the skill of school management to support this change. Initial CFS training was provided off-site in highly intensive training blocks and with limited in-school support (McNair, 2009; A. Shareef, 2007). Shareef (2007, p. 84) reported that training in child-centred pedagogy was minimal and that trainers themselves require further preparation in how to support teachers 'to organise learning activities that enable the students to explore knowledge and investigate their own learning' (p.84). McNair (2009) found the two-week training was insufficient for full implementation; supported by Shareef (2007) who found it to be too intensive and lacking practical demonstrations. Training is not a one-off event but requires ongoing school-based support (A. Shareef, 2007). Additionally, when leadership personnel are not included in training 'teachers do not received the support they need to continue to learn new educational strategies' (McNair, 2009, p.22). This can manifest in senior management not understanding the change themselves and therefore not provide support for innovation in the classroom. It also means leading teachers may not have adequate skill or knowledge to provide ongoing support to teachers (A. Shareef, 2007; Wheatcroft, 2004), although their key role in promoting change is recognized (K. Shareef, 2008) .

Nazeer (2006) found there was a significant gap in teacher professional development that affected Maldivian teachers' ability to conduct alternative teaching methods. Teachers need 'someone who can plan lessons with them, teach with them, model good practice, discuss new ways of teaching concepts and evaluate the teaching and learning taking place' (Wheatcroft, 2004, p.22). Thus, leading teachers should be highly skilled people in order to motivate and support teachers, and provide ongoing professional development. Leading teachers need to take on more of a mentoring rather than an evaluation role (K. Shareef, 2008). Some alternative

strategies include facilitating a system of peer support as a way of encouraging teachers to share successful experiences and strategies (A. Shareef, 2007; Wheatcroft, 2004). McNair (2009) also suggests support is needed in how to supplement textbooks with active learning experiences.

Community mobilisation

A feature of CFS is encouraging community involvement in the school (UNICEF, 2004). Mobilising community involvement and support is a feature of CFS as dimension 5, fostering community partnerships, indicates. Generally parents are kept at a distance from being actively involved in Maldivian schools, particularly in classroom activities (McNair, 2009). The constraining influence of parents that can be exerted in Maldivian schools has been reported by Di Biase (2010) and Wheatcroft (2005). Parents can limit innovation when reform objectives and processes are not communicated. Yet, it was also noted that when a school takes the initiative to harness the full support and resources of parents and the wider community in a collaborative and mutually beneficial manner, the resulting level of community support and participation was encouraging (UNICEF, 2010, p.10). Therefore, greater community participation provides an opportunity for key stakeholders to engage productively in the reform process (Di Biase, 2009).

National Curriculum Framework

A current and major reform is the implementation of a new curriculum (NIE, 2015). A major revision of the curriculum was undertaken in 2007 with a number of drafts of the new National Curriculum Framework (NCF). This is an outcomes-based curriculum, promoting a holistic approach to education and has been described as 'child-centred' (UNICEF, 2010, p.16). It is structured around key competencies, key learning areas and specific pedagogical approaches (Figure 7). The NCF is seen as a major pedagogical change, including changes in the way subjects are assessed (UNICEF, 2010).

After several delays, the first stage of implementation, due in part to recent changes in government, began in 2015 for Key Stage 1 (Grades 1-3). As the NCF is rolled out, a new assessment policy will put more focus on formative assessment than has currently been the case. There will be concurrent changes to the report card format so that marks will be de-emphasised, instead promoting a system focused on using a range of evidence in an effort to promote

assessment for learning. The NCF is a recent policy development that, once implemented, will create what Schweisfurth has called 'an enabling framework' for LCE (Schweisfurth, 2013b, p. 150). Its integrated framework is a distinct and deliberate shift away from the fact-based objectives described by Fittell (2014) in the existing schemes of work. The key competencies and pedagogical approaches in the NCF align with active learning approaches. Great hope is invested in the implementation of the NCF and the greater flexibility it allows and encourages (UNICEF, 2010).
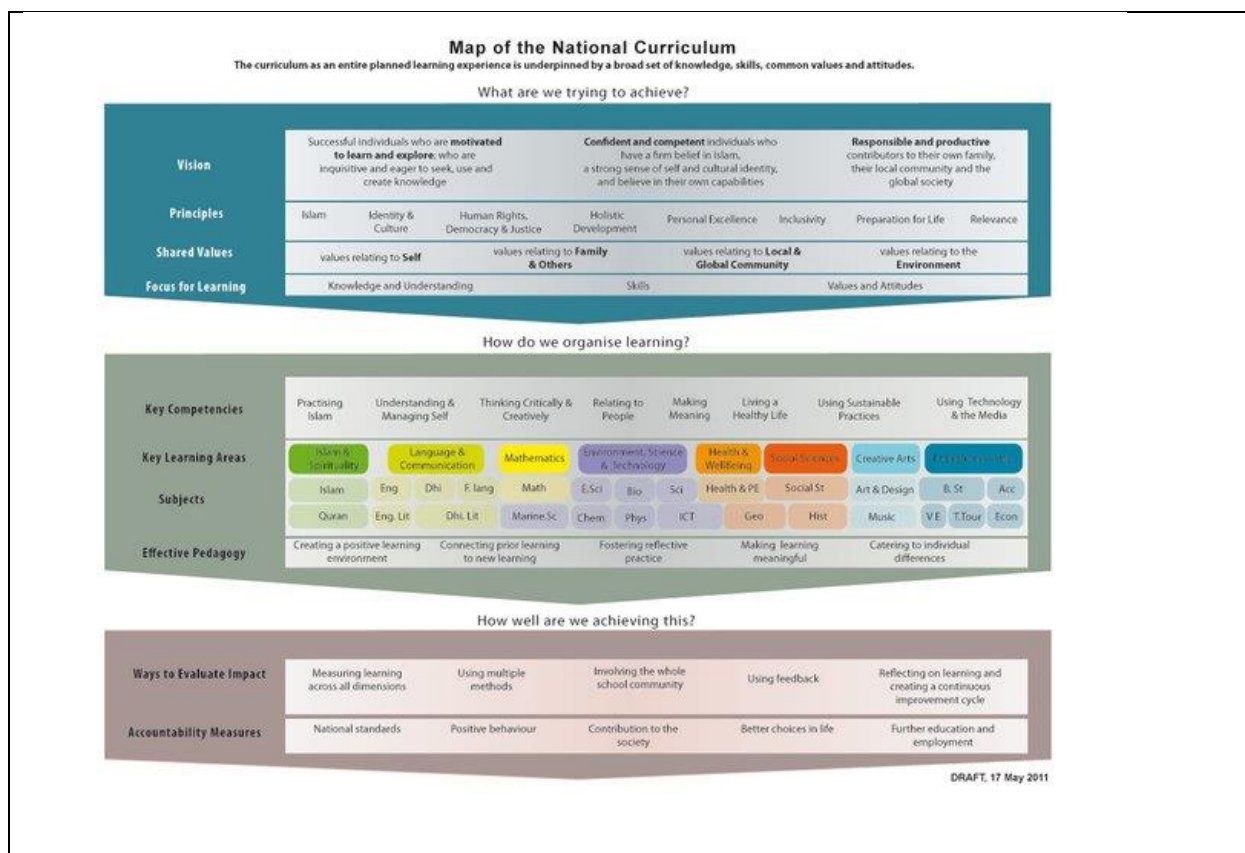
Figure 7: Map of the National Curriculum Framework (Source: Ministry of Education, 2015)

Implications for the study

As a small state the Maldives faces a range of challenges based on its small size and dispersed population. However, impressive gains have been made in the provision of education across the inhabited islands. Adopting CFS, in an effort to improve the quality of education, has focused attention on reforming traditional classroom practices and moving to adopt active learning approaches. Whilst challenges remain, this program has brought change to the system, particularly in terms of organisational and physical changes (UNICEF, 2010). In 2009 McNair

(2009) wrote of CFS in the Maldives that 'it is now at a stage where local ownership and sustainability are critical'. Supporting this view, O'Shaughnessey (2009), in her report on improving the quality of education for island schools, proposes that it is necessary and important to build on Maldivian strengths and not simply adopt ideas from the West. Drawing on earlier studies of CFS implementation and the raised profile on active learning, this study aims to develop a contextually relevant pedagogical model.

Recognising the clear barriers in this small islands state with its geographical dispersion and young education system which has resulted in a history of unqualified and underqualified teachers, the challenges of reform, as seen through the CFS project, can also be attributed to the reform itself. The CFS project, starting from a small pilot project based on the GSS model from Bangladesh was transported without adequate adaptation to the particular contextual realities of the Maldives. Yet, it has focused attention on a preference for active learning pedagogy in Maldivian schools, as CFS has developed and spread across the country. Active learning are is now embedded in the NCF. The CFS program has challenged the traditional structures in the target grades with positive attitudes to CFS being reported, particularly with parents and teachers. Yet its roll out was unplanned and expansion progressed without learning the lessons from previous stages of implementation (UNICEF, 2010). The UNICEF CFBS indicators, (Ministry of Education, 2010b) indicate that broader community participation needs to be encouraged to facilitate Maldivian ownership of such an innovation.

As signalled in Chapter One, design principles are derived from an analysis of the local context. In recognising both key contextual factors of the Maldives and recommendations relating to the introduction of CFS and active learning to Maldivian schools, implications for the design of this study are presented in Table 1.

Table 1: Implications for the study design, known as design principles

Mobilise island school communities to facilitate local ownership
• Recognise the disparity between Malé and island schools and undertake the study in an island school.   • Foster school-community collaboration and mobilise community involvement through the reform process.   • Encourage participation of local stakeholders to develop a locally grounded model of active learning that is contextually relevant.
Develop a clear vision for active learning
• Develop a vision of active learning that fits with the context and aligns with the CFBS policy framework – standards and indicators. Utilise CFBS to underpin intervention within a policy framework relevant to local community   • Articulate a vision of active learning relevant to the particular island community's needs and priorities consistent with the wider policy context.   • Move beyond the emphasis on organisational changes already noted and specifically attend to the cognitive dimension of active learning
Teachers' preparation for active learning
• Focus on learning activities that expose teachers to new ideas and concepts and provide practical ideas and demonstrations   • Cater for teachers' need for support to plan and teach lessons and help teachers translate ideas into practice. Consider the opportunities of peer support where teachers can share experiences and ideas.
Material resources and organisational conditions
• Acknowledge that any model must fit with existing infrastructure and resources.   • Work within the existing infrastructure realities of the Maldivian school and utilise the available resources for teaching and learning activities, including textbooks.   • Access and use library resources.   • Work with existing schemes of work in ways that promote active learning.

Chapter Summary

Small states have distinctive challenges in delivering education for a small number of students from a restricted institutional base and across geographical dispersion (Crossley et al., 2011, p.8). The need for educational innovations is seen as critical to the development of small states. Yet as Crossley et al. (2011, p.32) contend, international agendas have often dominated educational policy formation, at the expense of local input and appropriate sensitivity to contextual factors at national, provincial and school levels. Therefore, care is needed to ensure that curriculum and pedagogic reforms are consistent with local cultural, contextual and

professional realities in striving for successful implementation (Crossley et al., 2011) p.31). A series of design principles, have emerged to provide input into the research design. This discussion around context is continued in the next chapter in a review of active learning reform in a range of developing and middle income countries.

CHAPTER 3: REVIEW OF THE LITERATURE

Action to bring about educational change usually exceeds people's understanding of how to do so effectively (Lieberman 2005, p. viii)

Introduction

A good qualitative literature review is not exhaustive, it is situated, partial and perspectival (Lather, 1999). With this in mind the previous chapter situated the study by providing the context for implementing active learning in the Maldives. The key social, economic and cultural features of the country were considered and situated within a small states framework. In this chapter, attention is given to the wider global context of active learning, elaborating on the well-documented implementation challenges, across developing and middle-income countries, and the role of teachers in the reform process. Particular attention is given to how these implementation challenges might be overcome. I acknowledge, as Lather attests that the literature reviewed is partial and perspectival. Particular emphasis is placed on the design-based research intent of extricating relevant guidelines from the literature that have the potential to provide a framework for the design of a pedagogical intervention (Shattuck & Anderson, 2013). Drawing on principles from previous research, the chapter concludes by identifying design principles that have implications for the design of the study's pedagogical intervention.

Active learning as a reform initiative

In Chapter one a definition of active learning was provided which aligns with the agenda for change in the Maldives discussed in chapter two. This definition of active learning represents the contextual pedagogical goal for the study, respecting the features of active learning encompassed in Maldivian documentation and the vision being sought in the Maldivian education system. As shown in the previous chapter, the implementation of active learning in the Maldives has been problematic. The challenges of active learning reform are now considered more globally. Their acknowledgement is 'a call to be cognizant that implementation of such a pedagogy poses formidable challenges' (Dembélé, 2005, p. 171) and that we need to better understand these challenge in order to move beyond them.

Like the Maldives many developing and middle-income countries are promoting active learning or learner-centred pedagogy. In fact, Schweisfurth (2015) writes that it would be difficult to find a low-income country untouched by LCE and this vision of good practice. At The Jomtien World Conference on Education for All (1990), and later reinforced at the World Forum in Dakar (2000), governments and various organisations pledged support to improve access to education and the quality of education known as the Education For All (EFA) goals. Since then many developing and middle-income countries have embarked on curriculum and pedagogical reforms in their effort to meet these targets. Focus on the quality of education has turned greater attention to the classroom and the acknowledgement that to improve educational quality it is necessary to reform classroom pedagogical processes (Hardman, Ackers, Abrishamian, & O'Sullivan, 2011; Hardman, 2015; UNESCO, 2004a, 2015). Within this context LCE has found extensive support from governments and donor organisations (Sriprakash, 2010; Westbrook et al., 2013). Despite widespread endorsement (Altinyelken, 2010), it has been difficult translating the concept of LCE into practice (Hopkins, 2002, p. 280). What is unequivocal is that promoting LCE is a challenging process (Schweisfurth, 2013b).

Whilst educational change is generally a complex endeavour (Hopkins, 2002), O'Sullivan (2004, p. 594) asserts that there 'has been a huge underestimation of what is involved in learner-centred education'. This is borne out in the findings of a review of 72 LCE studies in which Schweisfurth (2011, p. 425) reports 'that implementation of LCE in different contexts is riddled with stories of failure grand and small'. LCE policy implementation has proven to be extremely problematic in developing and middle-income contexts (Schweisfurth, 2012). Likewise Chisholm and Leyendecker (2008) write that implementation (or lack of) has shown notable similarities in the challenges experienced across Sub-Saharan Africa. It is, therefore, necessary to learn from both reform efforts and the process of change, as well as to highlight the particular considerations that are relevant to low and middle-income country contexts in which LCE is being promoted.

Active learning is a concept originating from western education systems (Hopkins, 2002) and researchers have documented the globalisation of education policy and reforms (Dimmock, 2000; Hallinger & Kantamara, 2001; Hopkins, 2002). According to Dimmock (2000, p. 40), 'certain countries tend to lead while others tend to follow or 'clone'' where English speaking

Western countries tend to be policy exporters with non-Western countries being policy importers. Small states, in particular, tend to be outward looking and influenced by global policies (Crossley et al., 2011) and consequently become policy importers. In a climate of rapid dissemination of information and policy borrowing (Phillips & Ochs, 2004, p. 776), many countries are on the receiving end of a 'smorgasbord of imported educational reforms' (Hallinger & Lee, 2011, p. 402) such as LCE. Yet, there is widely documented evidence that imported reforms, such as LCE, have not necessarily received acceptance amongst users at the school level (Hallinger & Lee, 2011). As reported by Lall (2011), policy borrowing is problematic when it is not adapted to context. In these circumstances, she claims it is not so much borrowing as unthinking application.

Likewise, Schweisfurth (2013b, p. 69) states 'pedagogies which are not in harmony with the cultural context are bound to face implementation difficulties'. Lall (2011) analyses the 'policy flow' of LCE from the west to Myanmar and argues that little attention has been paid to local voices so despite the promise of LCE in Myanmar, it has created a host of new problems. Without adaptation, Dimmock (2000) labels this implementation as 'policy cloning' where there is minimal local engagement with the imported concept, thus it remains an alien notion, compounding the gap between policy and practice. The validity and usefulness of LCE is questionable in these circumstances, as can be seen in the multiple studies reporting implementation difficulties. Similarly, the recent Global Monitoring Report (UNESCO, 2015, p. 207) exposes the implications for reform when teachers are 'disempowered by a top-down process', and advocates that teaching strategies should be tailored to local contexts.

In acknowledging the importance of context, Bronfenbrenner's ecological framework (Figure 8) provides a way of conceptualising how teacher's practice is influenced by multiple layers of context. This nested model acknowledges that factors operating outside the immediate classroom setting impact the use of active learning methods by teachers inside the classroom. These layers include: the mesosystem—the school and local island context; the ecosystem—the Ministry of Education representing the policy environment; and the macro-system—the broader Maldivian society. Schweisfurth suggests another layer can be added—the global system, to represent active learning as a global reform. In this way, active learning, as an innovation, can be analysed as part of a complex whole and thus 'enhanced or limited by the social ecology of

the interacting systems' (Jónsdóttir & Macdonald, 2013, p. 276). As such, recognition is given to the multiple factors that influence the implementation of innovations in school settings (Fullan, 1982; Jónsdóttir & Macdonald, 2013). In sum, 'to implement active learning pedagogy, there need to be favourable contextual conditions' (Casale, 2010, p. 27).

SMALL STATE NATION
(Macrosystem)

MINISTRY OF EDUCATION
(Ecosystemm)

SCHOOL AND ISLAND CONTEXT
(Mesosystem)

TEACHERS' CLASSROOM TEACHING
(Microsystem)
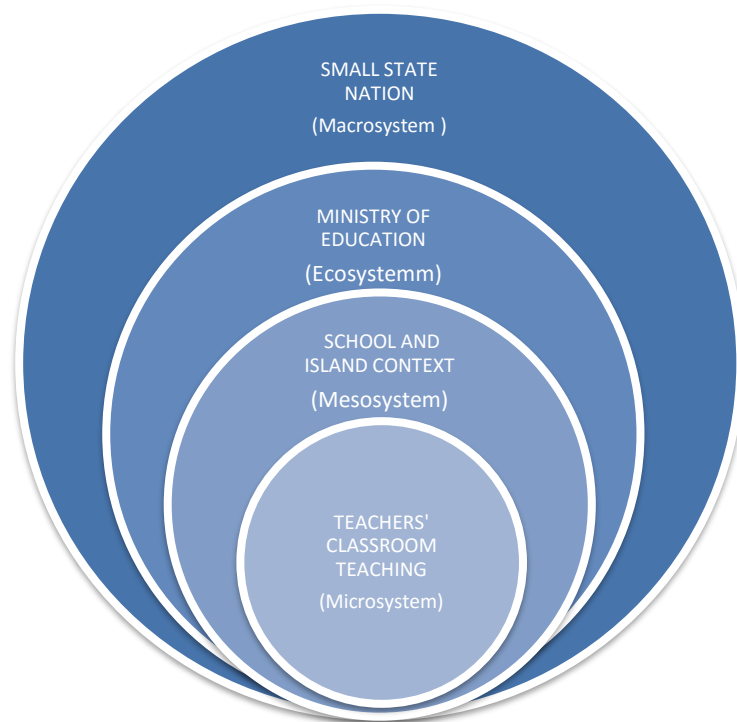
Figure 8: An adaptation of Bronfenbrenner's ecological framework showing levels of influence on classroom teaching

Recognising how teaching practice relates to the context in which it is embedded is a key theme in Alexander's (2001) seminal work on culture and pedagogy when he considers practice, policy, classrooms and systems in his analysis of five countries. Like Alexander's study, where data was collected from three levels—the system, the school and the classroom—Bronfenbrenner's (1979) ecological model draws explicit attention to the interaction across the different levels of context. Similarly, Jónsdóttir and MacDonald (2013), in exploring innovation studies, emphasise the importance of understanding education and change as part of a complex whole. Their study aimed to identify characteristics of the settings that support or hinder the innovation, an objective of this study. Likewise, Johnson, Hodges and Monk's (2000) study of teacher change in South Africa, recognise teachers' practice as part of an ecological project and determine that teachers make selections in their teaching practice according to what their work

environment will allow. Hence, Bronfenbrenner's framework provides a conceptualisation for understanding the 'contextual conditions necessary for active learning' (Casale, 2010, p. 43).

Placing LCE reform, within the global context of the EFA goals, Mtika and Gates (2010) ask how far does this international discourse resonate with the local context? Design-based research, as the overarching methodology for this study, embraces rather than ignores the context and explicitly considers the systems surrounding the immediate context (McKenney & Reeves, 2012). Acknowledging the importance of contextual factors can also determine elements of the design in DBR (McKenney & Reeves, 2012). Thus Bronfenbrenner's (1979) framework affords a means for conceptualising the influence of the different contextual layers on both the design of an instructional model (of active learning) and its enactment.

Conceptualising active learning pedagogy

LCE has been promoted as an antidote to the limits of traditional transmission models of teaching and passive learning which stifle critical and creative thinking (Leyendecker, Ottevanger, & Van den Akker, 2008). Education systems in many developing countries are criticized for being 'authoritarian, transmittive, 'syllabus driven' and 'textbook-centred' with 'examinations, the yardstick of success, [that] do little more than test memorized facts' (Mohammed & Harlech-Jones, 2008, p. 39). Likewise, Coxon and Munce (2008) detail, in relation to the Pacific island nations, that curricula is overcrowded with factual content and focuses on exam preparation and a pedagogy that limits rather than enhances learning opportunities. As observed in India, such pedagogic renewal seeks to reform dominant modes of textbook-based rote learning and authoritarian and didactic instruction, with the promise of more child-friendly, democratic learning environments (Sriprakash, 2012). As discussed in Chapter One, the definition of active learning encompasses a deliberate shift from memorisation and the conception of knowledge as a product passed from teacher to student, to one where learners have opportunities to construct their own understanding. The teacher's role changes from being the provider of knowledge to being active in lesson design, focusing not only on what to teach but how students learn, thereby becoming more aligned with the role of a facilitator of learning. The students' role also changes as they become more active, with greater emphasis on their learning becoming visible (Leyendecker et al., 2008). This pedagogical shift, often referred to as LCE, encourages the individual construction of knowledge and creates

spaces for children's abilities to develop (Mohammed & Harlech-Jones, 2008, p. 39). It recognises and acknowledges the prior knowledge that children bring to the classroom and that 'teachers and students engage in dialogue with and teach each other' (Gordon, 2009, p. 739).

Discussions of active learning reform are often polarised as teacher-transmission and student-centred pedagogies (see for example Hardman et al., 2009; Schweisfurth, 2011). In particular, Barrett (2007) argues that we need to move beyond the polarisation of pedagogy and this over-simplified conceptualisation if we are to address the challenges of reform. Adopting a polarized view of pedagogy 'fails to do justice to the educational values and teaching practices of many teachers working within contexts of scarcity' (Barrett, 2007, p. 274). Moreover Vavrus, Bartlett and Salema (2013, p. 6), referring to the work of Barrett and Tikly (2010), assert these approaches represent the extremes of a continuum and that teachers will move with 'greater or lesser ease depending on their education, training and experience'. Conceptualising pedagogy on a continuum, rather than an either/or proposition, provides a means of developing a more nuanced understanding of pedagogy. Farrell (2008, p. 382) advocated a number of core pedagogical aspects as a series of continua rather than discrete categories, contrasting teacher-centred versus child-centred, active learning versus passive learning, rote learning versus constructivism and considers them as points along the continua. More recently, Schweisfurth (2013b, 2015) proposed the idea of several continua from less learner-centred to more learner-centred approaches — encompassing classroom relationships, learner motivation, the nature of knowledge, curriculum, and teacher authority — as a more helpful analytic tool. Representing LCE as continua is useful in framing the debate beyond an either/or discussion and as articulated by Hardman et al. (2009, p. 68) helps promote 'a better balance of teacher-led interaction and pupil-centred activities'.

Misconceptions around constructivist approaches

Gordon's (2009) analysis of the uses and misuses of constructivist approaches to teaching, whilst referring to the USA, sheds light on understanding some of the challenges of active learning reform. He asserts that constructivism is misconstrued when it is based on the belief that 'the educator should intervene as little as possible with the natural development of the child' (2009, p. 739). This focus on the role of the teacher is a critical one. Whilst teachers may be seen as facilitators, highlighting the shift in their role as no longer simply transmitting

knowledge, teachers may also have a limited understanding of what facilitation actually entails (Altinyelken, 2010). Gordon (2009) emphasises that teachers should have a clear and active role in the learning process and this includes formal teaching. Therefore, he contends that within a constructivist classroom there should be a balance between teacher and student-directed learning where the authority of knowledge still rests heavily on the teachers' own knowledge and experience. In fact, he asserts that constructivist teaching places great demands on teacher knowledge.

Hattie's (2009, p. 25) syntheses of over 800 meta-analyses of studies related to achievement highlights the importance of visible teaching and views 'teachers as activators, as deliberate change agents and directors of learning'. He clarifies that this does not mean teachers are didactic – 'effective learning is not the drilling and trilling to the less than willing' (Hattie, 2009, p. 25). This view of teaching 'combines, rather than contrasts teacher-centred and student-centred learning and knowing' (p. 26) and may help address some of the misconceptions in the shifting role of the teacher. Like Cuban (2009), Hattie advocates for moving beyond contrasting direct teaching and constructivism, instead arguing the benefits of visible teaching where students know what to do and how to do it. This puts responsibility on the teacher to manage the learning of students. Gordon concurs with Hattie in reconciling the teachers' role within traditional transmission models and constructivist approaches that 'in the former, teachers make 'deposits' of information into a passive group of students, while in the latter teachers and students engage in dialogue with and teach each other' (Gordon, 2009, p. 739).

How active learning has been understood by teachers has been documented as a challenge where there is confusion about the meaning and content of the concept and the intended changes. Nykiel-Herbert (2004) draws attention to issues that may arise when teachers are not adequately prepared and do not understand the new pedagogy. She reports a series of misconceptions found with South African teachers implementing LCE that align with Gordon's (2009) discussion of the misuses of construction, particularly in the critical role of the teacher and teacher knowledge, and the misconception that learners should only learn from each other. In particular, she reports that the teachers' role was misconstrued to mean 'teachers must not teach actively, but only help the learners learn' (Nykiel-Herbert, 2004, p. 255) and where

learners should be kept busy, learn through hands-on activities and learn from each other. The teachers' role may be perceived as something akin to baby-sitting rather than teaching (Nykiel-Herbert, 2004, p. 258). In such classrooms, she concludes 'bits of information may be exchanged in such discourses and pupils may be actively participating, [yet] hardly anything new is taught or learned'. Gordon (2009) likewise, raises concern about such conceptualisations of constructivism when students are left to create their own interpretations and perceive there are no incorrect answers.

Whilst student participation is highly prized, this raises the question as to 'what counts as participation' (Anderson-Levitt, 2008, p. 361). Conceptualisations of active learning may highlight activity and participation yet retain fundamental elements of a teacher transmission pedagogy (Vavrus & Bartlett, 2012) where students are denied opportunities to engage with learning by actively constructing meaning. Gordon (2009), in pinpointing misuses of constructivism, stresses that learning is not entertainment where the goal is to keep students amused or active. In these cases teachers may be compromising students' learning. Instead, teachers should not lose focus on academic rigour and the in-depth exploration of a topic. Student enjoyment may increase motivation but not necessarily improve learning. Emphasis on student activity and participation raises an interesting distinction between the form and substance of active learning (Brodie, Lelliott, & Davis, 2002; Leu & Price-Rom, 2006). Increased activity and the appearance of active learning (form), does not necessarily mean that students are involved cognitively in the constructivist notion of building understanding based on previous knowledge (substance). As such, the participation of students may be understood in procedural terms rather than as an aid to learning (Leyendecker et al., 2008) where activity may be more 'muscular rather than cognitive', and practical work may emphasise manual practice rather than investigative work (Leyendecker et al., 2008).

Lessons from the research

With this in mind, my study draws attention to the implications of misconstruing LCE. Nykiel-Herbert (2004, p. 256) asserts that 'some misconceptions are more damaging than others because they undermine the core educational beliefs: that learning involves acquisition of new information; and that learners, by definition, generally possess less knowledge than teachers'. Likewise, how group work is incorporated into teaching can illustrate the ways by which some

of these misconceptions play out. Teachers may equate the use of group work with active learning (Leu & Price-Rom, 2006) and may then perceive their role as simply putting students together in groups based on the misconception that students will learn from each other without considering the teachers' role in promoting learning when using this strategy. Consequently group tasks can 'become unchallenging, meaningless and boring' (Nykiel-Herbert, 2004, p. 261). Altinyelken (2010) reports a similar observation in Uganda, which she refers to as the formalistic adoption of group work (Altinyelken, 2010), where group work is adopted with little attention to the quality of the task and is devoid of the cooperative learning elements (D. W. Johnson & Johnson, 1999). The participatory elements may add to students' involvement in the lesson but not necessarily be used to aid learning; a form of naïve constructivism, where activity is equated with learning and reinforces the misconception that students can 'structure their own learning' (Prawat, 1992, p. 369). In this way, Hattie's notion of teacher as activator defines the central and active role of the teacher in organising learning, essential in constructivist classrooms.

A further consideration in conceptualising active learning is articulated by Hopkins (2002). In his analysis of a series of Aga Khan Projects, he proposes that there are two ways in which child-centred learning can be conceived. One offers a particular ethos that prizes the individuality of the learner and creates conditions where the learner feels accepted and secure. The other view focuses more on cognitive development and views the child as an active learner who plays a role in the active construction of meaning. Within both conceptualisations of LCE the role of the teacher is central. Yet these two perspectives are not necessarily mutually exclusive. Westbrook et al. (2013), in their rigorous literature review of teaching practices in developing countries, report positive teacher attitudes towards their students as a key finding and in particular the need for teachers to create a safe learning environment, reinforcing the first view proposed by Hopkins (2002).

Further, Westbrook's study (2013) deliberately moves beyond labels such as student-centred or active learning to report on effective pedagogical practices from a systematic review of 489 studies and an in-depth analysis of 54 empirical studies conducted in developing countries, including marginalised communities. The findings identify a number of strategies and practices that showed positive outcomes, using both indictors of student learning and measures of

learning outcomes. The study highlighted the importance of an interactive pedagogy within a supportive classroom using informative feedback, inclusive communication and drawing upon students' knowledge and experience, all of which align with active learning pedagogy. Effective teaching practices were identified including flexible use of whole-class, group and pair work where students discuss a shared task, the use of materials beyond the textbook, questioning that expands students' responses, and the use of a variety of structures in lessons (Westbrook et al., 2013, p. 2). Alexander (2015, p. 256) refers to these findings as supporting his notion of dialogic teaching and the importance of classroom interaction as 'the pedagogical key' Westbrook at al. (2013) also report these same practices could lead to negative outcomes if implemented poorly and lacked the communicative aspect. The authors assert that effective teachers give students a central role in the teaching-learning process and 'recognise the need to provoke a positive response in students and do so in more interactive, communicative ways, so that students engage, understand, participate and learn' (Westbrook et al., 2013, p. 2).

In conceptualising active learning, for the intervention in this study, several pedagogical principles underpin the design of the model of active learning. Active learning as a label is used to denote not just student-centred learning but a range of effective pedagogical practices. As noted in Chapters One and Two, for Maldivians this has primarily meant a shift from the dominant transmission model where the teacher is the source of knowledge to one in which the teacher is the facilitator of learning experiences that are tailored to meet student needs. Yet, as discussed in this chapter, pedagogical reform is more than fun and entertainment or simply greater participation for students. It is participation with a purpose for learning where teachers retain the role of 'directors of learning' (Hattie, 2009, p. 25) which does not mean that the teachers' role is uncritical acceptance of what students know or believe.

Drawing on the lessons from these misconceptions of LCE, Leu and Price-Rom (2006) report that many systems find themselves pulling back from earlier, more open-ended or less structured forms of active and discovery learning. Therefore, conceiving of active learning as a continuum may help overcome the polarisation of pedagogy and provide a more promising way forward. Cuban (2009) argues for a blended approach that he calls teacher-centred progressivism in his book. *Hugging the Middle,* which essentially captures the sentiment. These hybrid practices, he argues, help explain how U.S. teachers reconcile conflicting pressures and

organisational demands within the system (Cuban, 2009). Such a hybrid approach may help address the well-documented challenges of active learning reform, particularly when it is consistently reported that the concept itself is often too far removed for teachers to implement effectively. A continuum, as a way of conceptualising a shift from rote transmission models of teaching to active learning may be a useful framework for keeping the focus on improving students' opportunities for learning.

Implementing active learning: a challenging endeavour

The transition from transmission models of teaching to more learner-centred approaches has been well-documented as a challenging process. The policy rhetoric around LCE undermines the scope of the task with the implementation of LCE indicating that LCE has not taken root in classrooms in the way intended through policy (Leyendecker et al., 2008). What is envisaged at the policy level is 'generally unrealistic in the goals they set for changing practice' (Schweisfurth, 2012). LCE is often promoted as a 'policy panacea' (Sriprakash, 2010) where reform efforts may be more focused on what is desirable, rather than what is feasible (Schweisfurth, 2011, 2012). This focus on a kind of utopianism fails to take into account the practical and professional realities of teachers, leading to defective implementation (Mohammed & Harlech-Jones, 2008). Mohammed and Harlech-Jones (2008) point out that LCE promotes participation and flexibility but is often implemented in a directive and unilateral manner calling into question the nature of the change process. Moreover ,such centrally driven, top-down, educational change programs rarely work (Farrell, 2002).

Research on LCE identifies a number of recurring challenges now discussed under the following categories: lack of operational clarity; contextual relevance; lack of system coherence and professional working conditions; availability of teaching and learning resources; and teacher capacity and preparation for active learning. There is a need to better understand these well-documented challenges of active learning in order to turn these recurring challenges into potential opportunities for better informed implementation strategies.

Lack of operational clarity

Confusion for teachers about the meaning and content of the LCE concept and intended changes is a further challenge for reform. Well-meant intentions do not necessarily translate into

changed classroom practice, particularly when the language and complexity of the reform lacks meaning and relevance for teachers (O'Sullivan, 2004). Hopkins (2002) determines that the difficulties of translating this concept into practice points to a lacks of operational clarity for teachers. The example of Namibia, explained by Chisholm and Leyendecker (2008), provides a useful analysis. They determine that the reform did not fail because of a lack of resources but the 'main obstacle seems to have been the unclear nature of the understanding and the actual application of learner-centred education and the scope of intended change that focused on the high pedagogical ideal'(Chisholm & Leyendecker, 2008, p. 201), which failed to transport the understanding of learner-centred education into classrooms. The reasons for this failure, they determine, were that the instructional methodologies were not consistent with local, culturally determined classroom practices. In short, the Danish ideology did not fit with the Namibian version of LCE. Like Anderson (2002) in his review of a series of Aga Khan projects, the bridge between existing practice and the reform expectations was too large to be achieved in a single step (Chisholm & Leyendecker, 2008), reinforcing the necessity to view this reform as a continuum rather than an either/or proposition.

Uncritical transfer of inappropriate models

Williams and Cummings (2005) assert that reform does not start with a blank slate but occurs within the context of people, history, traditions and memory. Learner-centred education as a 'global travelling policy' (Schweisfurth, 2013b) originates in contexts quite different to those where implementation challenges are found. LCE has been imported to contexts where 'the realities of governance and resources of schools have not historically accommodated it' (Schweisfurth, 2013a). Further, Schweisfurth (2013b, p. 69) states that 'pedagogies which are not in harmony with the cultural context are bound to face implementation difficulties'. Any innovation is challenging but LCE is particularly demanding because of profound shifts required in teacher/learner power relations (O'Sullivan, 2004; Schweisfurth, 2011), which may conflict with the local understanding of authority structures (UNESCO, 2015).

Lall (2011, p. 220) analyses the 'policy flow' of LCE from the West to Myanmar and argues that little attention has been paid to 'local teacher and parent voices'. Despite the promise of LCE in Myanmar, this lack of dialogue has created a host of new problems. Without adaptation to the context, Dimmock (2000) labels this 'policy cloning' where there is minimal local

engagement with the imported concept compounding the gap between policy and practice and it remains an alien notion. Its validity and usefulness is questionable in these circumstances as can be seen in the multiple studies reporting implementation difficulties. Likewise, Mohammed and Harlech-Jones (2008) contend that reformers often devalue the accumulated knowledge and experience of teachers (despite promoting this with children) and together with a lack of understanding of the context often fix on a desired state while ignoring practical realities. This has implications for the intended instructional practices not being consistent with local classroom cultures and realities. Good plans, they argue, take into account the realities of situation (Mohammed & Harlech-Jones, 2008).

Inconsistencies within the system

Teachers are faced with different discourses that compete alongside each other, (Schweisfurth, 2011) and even for teachers committed to LCE, they are confronted with competing pressures:

> Teachers juggle the demands of a misaligned system: When teachers reach their classrooms, they often face contradictions. The crowded and rigid curriculum and textbooks, filled with information that must be memorized for examinations, may be at odds with what teachers have learned about active-learning practice ... It raises questions about how teachers should practise in the midst of such an apparent misalignment (Barrow & Leu, 2006b, p. 6)

These pressures highlight the paradoxical context in which teachers work (Akyeampong, Pryor, & Ampiah, 2006). Not only are teachers trying to manage the expectations of LCE, which they may not fully understand, they face contradictory messages from competing pressures within the system. Moreover, at the receiving end of accountability mechanisms within the system (Schweisfurth, 2013b), teachers 'will try to find coherence across forces of change' (Schweisfurth, 2012, p. 179). For example, many governments have introduced LCE while maintaining high stakes examination regimes in which teachers are held accountable for results by parents and other stakeholders (M. Ginsburg, 2009; Schweisfurth, 2012). Exams often privilege memorisation over active learning strategies, such as conceptual thinking and problem solving (M. Ginsburg, 2009; Mohammed & Harlech-Jones, 2008) so unless a clear impact on student achievement can be seen in exam results the reform is unlikely to be implemented (Altinyelken, 2010). In this way, assessment becomes a form of policing (Akyeampong et al., 2006). Consistent with this view, Hopkins (2002) argues that a threat to

LCE reform is a narrow definition of student learning aligned to test scores. Thus assessment practices and exams can serve as disincentives for teachers to use innovative pedagogical approaches, leading to teaching to the test, rather than focussing on the broader goal of developing active learners.

A related constraint is the effect of an overcrowded and content-focused curriculum. Mtika and Gates (2010, p. 402) highlight a mismatch between LCE and a 'curricular orientation towards passing examinations and acquiring a certificate that promotes rote-learning and regurgitation'. Textbooks serve as a further barrier when aligned with a lengthy syllabus and where a teacher is judged by the number of textbook pages completed (Mohammed & Harlech-Jones, 2008). Farrell (2002) also determines that traditional textbooks do not serve LCE well. If active learning is not shown to be of value in the way assessment takes place, there is a clear tension between the demands of the reform and the accountability mechanisms within the system.

Professional working conditions

Low salaries and administrative demands are also reported as a disincentive for teachers (Vavrus & Salema, 2013), particularly when teachers feel 'underpaid and underappreciated' as well as 'regimented and constrained' (Mohammed & Harlech-Jones, 2008, p. 42). Teachers may feel they lack power within the wider system when they have minimal involvement in decision-making. (Mohammed & Harlech-Jones, 2008, p. 43). Time is a further issue with teachers reporting that planning time is unrealistic given the additional demands of LCE (Altinyelken, 2010; Casale, 2010), and that class time is also insufficient to cover the syllabus (Chiphiko & Shawa, 2014). Time is also tight when schools run double shifts due to a lack of classrooms (Lall, 2011). Finally, large class sizes can also be a disincentive in using active learning methods (Westbrook et al., 2013). Teachers faced with 70-100 students may find it impossible to apply innovative strategies in these circumstances (Leu & Price-Rom, 2006), particularly given crowded and traditional seating arrangements.

Teaching and learning resources

Teachers in low-income countries face concerns about the availability of infrastructure and a lack of material resources (S. Johnson et al., 2000; Schweisfurth, 2011). The need for adequate

resourcing for LCE has been widely acknowledged (see for example, (Dembélé & Lefoka, 2007; Mtika & Gates, 2010; Price-Rom et al., 2010). As noted by Chisholm (2008), implementation of LCE often happens with little regard for available resources and capacities, further evidence of not tailoring the reform to local circumstances and contextual realities. Specifically, teachers cite the physical environment, class size and lack of teaching materials as obstacles to using active learning methods. Given that LCE originates in resource rich contexts, far removed from the lived experience of most teachers in the developing world, this presents another mismatch between the policy intentions and teachers' circumstances (Schweisfurth, 2011).

Whilst LCE does require extra resources (Hopkins, 2002, p. 296), having them raises other challenges, such as storage and maintenance, especially when there is minimal furniture (Altinyelken, 2010). Materials may then remain unopened based on the rationale they may get damaged (Di Biase, 2009; Ottevanger, van den Akker, & de Feiter, 2007). In Indonesia it was found that the availability of resources was less important than how they were used in class (van der Werf, Creemers, De Jong, & Klaver, 2000, p. 351). It was noted that some schools had ample resources and did not use them, while others had a paucity of resources but found ways to improvise. The provision of ICT infrastructure was seen to have direct connection to improved quality of teaching, yet the focus was on having the equipment rather than how it is used to support active learning. Subsequently, even when materials are available they are not always put to full use (Ottevanger et al., 2007).

What is evident is that the relationship between access to resources and LCE is not a linear input- outcome process. Resources are important, but how resources are used is a key consideration. A further dimension in this debate is that the focus on resources externalises the problems with teachers, placing the issues of implementing LCE outside of themselves (Schweisfurth, 2013a). Yet, the working conditions of teachers in low-income countries does make this a valid concern. Johnson et al. (2000) argue that the classroom environment has a strong bearing on what teachers can do and influences what practices survive in the classroom. Traditional teaching requires little more than a textbook and chalk (Schweisfurth, 2012); therefore when resources are scarce resorting back to transmission methods or relying on the textbook can become the path of least resistance (Schweisfurth, 2011). It is not only the

availability of a range of resources that is important but the way in which they are used that will determine whether active learning is supported.

Teachers' preparation for active learning

Issues around teachers' implementation of LCE, may be less one of resistance and more one of preparation (Dembélé, 2005). Teachers are often unprepared and lack much needed support to enact new practices (Dembélé, 2005). Whilst hope is invested in various modes of training, these are often inadequate or inappropriate (Schweisfurth, 2011; Schwille & Dembélé, 2007), particularly given that teacher education itself is rarely learner-centred. Teachers may indeed learn the language of LCE without developing an understanding of core concepts (Schweisfurth, 2013b). As such, not all forms of teacher development are equally effective (Schwille & Dembélé, 2007). For instance, cascade forms of training dilute the message (Schweisfurth 2013b) and the dominant form of a one off workshop is unlikely to change teachers' behaviour (Schwille & Dembélé, 2007). Altinyelken (2011) also reports that training is often too theoretical and abstract and lacks practical guidance. In addition, professional development workshops are themselves often teacher-centred (Vavrus & Bartlett, 2012) where trainers frequently explain rather than model the pedagogy, denying teachers an opportunity for practical experiences (O'Sullivan, 2004). This is particularly important when most teachers have not experienced LCE themselves in their education (Vavrus & Bartlett, 2012). In the absence of other meaningful input and knowledge (Akyeampong et al., 2006), the practices that teachers have observed as students tend to persist (Altinyelken, 2010). Furthermore, the use of teacher-centred training methods sends ambiguous messages about the importance and validity of the new pedagogy (Di Biase, 2009; Lewin, 2004). Undoubtedly a lack of support following workshops is a further issue resulting in teachers returning to schools with no opportunity for feedback or follow-up to support the application of the new practices (Schwille & Dembélé, 2007). The context for change is the classroom itself, not an off-site venue where in-service is typically held (Schwille & Dembélé, 2007).

Villegas-Reimers (2003) cites a lack of time as a further challenge for teachers' professional development. Schools may not schedule time for professional development, meaning that workshops and seminars take place after school or during holidays (Villegas-Reimers, 2003).

Teachers also need 'time or 'mental space' for their professional development' (Villegas-Reimers, 2003, p. 126).

Teacher agency

Teacher motivation is a key factor affecting implementation of LCE (Altinyelken, 2010) and the importance of teacher agency cannot be underestimated. Schweisfurth (2011, p. 430) writes:

> …teachers have considerable agency to thwart policy objectives, either as a conscious reaction against the reform, or more subtly as a manifestation of their identities, priorities, and perceived limitations.

Similarly, Mtika and Gates (2010, p. 400) found that teachers' 'individual stances or dispositions were significant in appropriation and application (or lack) of learner centred' in Malawi. Watkins (2000) reports specifically that unmotivated teachers are unable to sustain a child-centred approach. The need for stronger incentives for teachers to improve their instructional practices in Egypt was reported by Megahed et al. (2012). Indeed, teachers' personal motivation is a crucial consideration that 'cuts across the factors of culture, training, identity and resourcing' (Schweisfurth, 2013b, p. 67).

How feasible is active learning reform?

The considerable challenges of implementing active learning raise the question as to whether it is LCE implementation per se that is the problem or the conceptualisation of LCE, which sets the bar out of reach and is inappropriately contextualised for teachers in developing countries. Schweisfurth (2013a) posed that the problematic uptake of LCE in developing countries can be conceptualised in two ways. First is to consider LCE as being fundamentally unsuited to the developing world, as argued by Guthrie (2011). He favours the promotion of better forms of formalism, which he contrasts with ill-suited discovery teaching styles that he argues continue to be promoted, despite research pointing to its lack of effectiveness. Second, given that there is some evidence of success when implementation is well-managed and teachers and students have favourable attitudes towards LCE, Schweisfurth (2013a) points to the problem being one of management and governance. Similarly, Hallinger (2010), writing on reform in Asia, observes that whilst many obstacles to change were shared with Western societies they can take on a distinct character in a given region. Whilst much of the debate has been framed as an

'impossible dream' (Hallinger & Lee, 2011), they conclude that reform in Thailand is possible if a vision for change is realistic in its expectations and builds upon cultural characteristics. Whilst the 'evidence of problems is compelling' (Schweisfurth, 2012, p. 176), they continue to be overlooked in the implementation of LCE. The contention of this study is that acknowledging the well-documented challenges is a necessary step in moving forward and addressing these barriers to change.

Addressing implementation challenges: An overview of promising solutions

Despite the 'largely bleak picture' of LCE reform, Schweisfurth (2011, p. 71) and Mohammed and Harlech-Jones (2008) contend that there is a wealth of knowledge about conditions needed for successful implementation, yet this is often ignored. Likewise, Williams and Cummings (2005, p. 68) assert that the empirical basis underlying many reforms is limited, resulting in interventions based on something akin to faith. According to Schwille and Dembélé (2007, p. 123), there is work in a range of places that is 'impressive and a cause for cautious optimism'. They also write that there is much we can learn from what is possible and what is not to strengthen future learning reform efforts. As such, the next section considers what can be learnt from relevant research, from successful interventions, and research-based recommendations to address the well-documented implementation challenges of active learning reform and to offer potentially promising solutions. This 'wealth of knowledge' (Mohammed & Harlech-Jones, 2008) subsequently provides valuable input into the design of the intervention for this study. What can be learnt is not presented as a panacea (Hardman et al., 2009, p. 83) for the implementation challenges, but instead potential contingencies for success are considered. The central role of teachers in the reform process and the nature of teacher professional development as teachers grapple with innovation and reform are now discussed.

A distributed model of active learning

The problematic implementation of LCE raises particular difficulties with more open-ended, discovery based approaches (Altinyelken, 2011; UNESCO, 2004a, p. 153). This has led to some researchers suggesting more structured approaches that mix teacher-centred and student-centred pedagogies may be more viable (Altinyelken, 2010; Leu & Price-Rom, 2006).

> In the spectrum between traditional chalk-and-talk teaching and open-ended instruction, some educators advocate structured teaching, a combination of direct instruction, guided

practice, and independent learning…Discovery-based pedagogies have proved extremely difficult to implement on a national scale. Moreover, their success relies heavily on appropriate levels of physical resources, strong support and well-motivated, enthusiastic teachers….With an approach to structured teaching that leaves space for individual discovery, good teachers can create a child-centred environment even in adverse circumstances. (UNESCO, 2004a, pp. 153–154)

Consistent with this view, Leu and Price-Rom (2006, p. 10) promote the use of a more 'distributed model' that mixes teacher and student-centred learning approaches 'without losing the valuable conceptual dimension of active learning'. In addressing the concerns of Gordon (2009) on the misuses of constructivism and the lack of success with open-ended discovery models, a more distributed model respects Cuban's (2009) hybrid pedagogy, and attends to Hattie's (2009) notion of teachers as activators that, like Leu and Price-Rom (2006), combines rather than contrasts teacher and student-centred approaches. Such an approach also helps address misconceptions around active learning and the role of the teacher.

Advocating more structured approaches is supported by researchers (Altinyelken, 2010, 2011; Dembélé & Lefoka, 2007; Mtika & Gates, 2010; O'Sullivan, 2004; Vavrus, 2009). For example Altinyelken (2010) contends that a combination of direct instruction, guided practice and independent learning may be a more viable alternative. Vavrus (2009) coined the term 'contingent constructivism' which weaves together direct instruction with participatory teaching methods. Referring to Sub-Saharan Africa, Dembele (2005, p. 174) suggests in relation to structured instruction that 'one possible course of action may be to engage in experimenting with this kind of teaching'. This hybrid approach is summed up by Scheerens (2001, p. 51) who writes that 'structured versus 'active' and 'open' teaching is probably better conceived as a continuum of different mixes of structured and 'open' aspects, rather than a dichotomy'.

Gauthier and Dembele (2004, p. 33) address the notion that some may see such structured approaches as a return to a teacher transmission model. However, they argue that 'the difference between explicit teaching and traditional teaching is considerable'. The confusion, they suggest, lies in seeing a direct or explicit instruction model as synonymous with drill and practice. They argue that it is the guided practise phase that distinguishes this model from transmission teaching as teachers have the opportunity to check students' understanding and attend to misconceptions. Explicit teaching, therefore, is not focused on the transmission of content but

on students developing understanding with support and feedback during the learning process. Teachers also seek the active participation of students in contrast to traditional teaching and didactic pedagogies that can lead to inertia among students and develop attitudes of acceptance with a heavy stress on memorisation, often without regard to understanding (Moegiadi & Gardener, 1994, p. 57).

If the focus is on learning-centred rather than learner-centred, as proposed by O'Sullivan (2004), a distributed model fosters the use of a wider range of teaching approaches. Learning-centeredness focuses on supporting students to learn more than unconnected facts and to create intellectually challenging learning situations (Dembélé, 2005, p. 175). As endorsed by Dembele (2005, p. 175), 'teaching as mainly information delivery is not effective' and a distributed model aims to move beyond the limits of transmission teaching. As Hopkins (2002, p. 73) puts it, 'teaching is more than just presenting material, it is about infusing curriculum content with appropriate instructional strategies that are selected in order to achieve the learning goals the teacher has for her students'. Teachers need a repertoire of strategies that they use selectively (Barrett, 2007; Dembélé, 2005; Lampert, 2009). Furthermore teachers need to have high expectations, create a safe learning environment, plan for instruction, and use instruction time optimally (Dembélé, 2005, p. 175). A mix of whole-class teaching, guided instruction, small group work and individual learning may be appropriate and provide input into more culturally appropriate pedagogies (Akyeampong et al., 2006; Altinyelken, 2010).

A distributed model encourages the use of participatory methods which involve discussion, role play, pair work or group work (Mtika & Gates, 2010, p. 403). As noted by Moloi, Morobe and Urwick (2008), group work proved a useful strategy in promoting learner-centred pedagogy in Lesotho. It enables pupils to discuss and share ideas, thereby enhancing understanding of some concepts and promotes communicative competence. Likewise, O'Sullivan (2006) observed that teachers in Uganda used group work to provide all children with an opportunity to engage with lesson material. In selecting from a variety of strategies teachers have the responsibility to build bridges to adapt instruction to the variations in ability and background presented by their students (Dembélé, 2005, p. 175). This is a salient point that provides a promising solution for this study.

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Developing operational clarity

Reformers need to consider the complex demands of change and 'articulate a more realistic long-term vision as well as realistic short-term goals for successful implementation' (Hallinger & Lee, 2011, p. 156). In the words of Fullan (1996, p. 420) clarity must be achieved on the receiving end more than on the delivery end. Both O'Sullivan (2004) and Raval, McKenney and Pieters, (2014) report success when concrete strategies were used as starting points for teachers to develop alternative approaches to traditional teacher directed approaches. This 'stepping stone approach' (Raval et al., 2014, p. 92) builds upon existing practice, leading teachers away from traditional approaches. It allows LCE to be broken down into simple, achievable learner-centred approaches (O'Sullivan, 2004). Raval (2010) reports para-professional teachers were able to shift from rote whole-class teaching to include group teaching with practical activities and to engage cooperatively with students.

Whilst this 'stepping stone approach' may retain elements of a traditional approach it is potentially more achievable. This gradual approach to reform is encapsulated in the notion of the zone of feasible innovation (ZFI) (Rogan & Grayson, 2003; Rogan, 2007). The concept 'seeks to gauge the appropriateness of an innovative practice in a given situation—to identify those practices that can be successfully implemented at a given point in time' (Rogan, 2007, p. 448) as Figure 9 demonstrates. This approach comprises teaching strategies that go beyond current practice but are realistic in the given context (Rogan & Anderson, 2011).
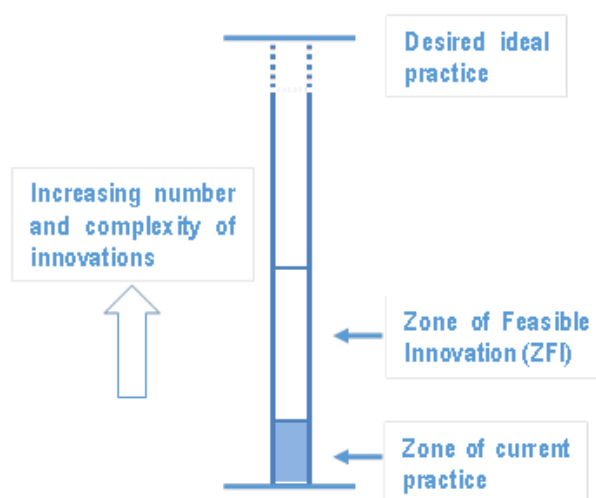
Figure 9: The ZFI encouraging new practices toward a desired ideal practice (source: Rogan, 2007)

The ZFI structures reform in small steps, stepping stones towards a defined goal (Rogan & Anderson, 2011), providing a balance between stagnation and unrealistic innovation (Rogan, 2007). It addresses the question of how much innovation is possible and distinguishes between the ideal and the possible (Rogan, 2007). The concept of feasible innovation can be understood in terms of LCE and the well-documented challenges to its implementation. The ZFI offers a structure whereby the pedagogical approach can be clearly and simply articulated (de la Sablonnière, Taylor, & Sadykova, 2009). It also acknowledges the context and practical realities within teachers work (S. Johnson et al., 2000). Change is encouraged in modest steps moving from what teachers can do to new practice (O'Sullivan, 2004; Schweisfurth, 2011); thus addressing the difficulties of translating this concept into practice (Hopkins, 2002).

Adapting and adjusting to context

Chisholm and Leyendecker (2008, p. 203) draw attention to the interface between education, curriculum, context and culture as an important consideration in understanding the implementation problems with LCE. Successful policy initiatives reflect a 'goodness of fit' between the aspirations and implications of the policy being implemented, and the values of the school and beliefs of teachers (Hopkins, 2002, p. 294). Similarly, curriculum changes work best when developers acknowledge existing realities, classroom cultures and implementation requirements. There must also be an understanding and shared meaning of educational change that provides for adaptations to cultural circumstances, local context, and capacity building (Chisholm & Leyendecker, 2008, p. 203).

Schweisfurth (2011) recommends that new practices need to be mediated to fit a particular context and acknowledges the need to move beyond the crude dualism of LCE by 'de-polarising pedagogy and contextualising it' (Schweisfurth, 2013b, p. 142). Tan (2010), referring to policy that endorsed a shift to LCE in Cambodia and Singapore, draws on Johnson's (D. Johnson, 2006) metaphors around policy borrowing. She proposes moving away from the 'politics of telling' to the notion of 'gelling' as a way of reconciling global and local sources of knowledge, allowing for borrowed policies to be adapted locally. The notion of policy cloning, discussed earlier, affirms the necessity for reforms to be tailored to the local context that acknowledges teachers' circumstances and the contextual factors impacting teachers' practice.

The different ways in which LCE has been understood and the fluidity of the concept can potentially become its strength. The elasticity of LCE means it has 'the flexibility to be adapted to different contexts' (Schweisfurth, 2013b, p. 143), allowing local preferences to be accommodated. Alexander (2001) in his analysis of culture and pedagogy raises concern when LCE is introduced without regards for local cultural and educational circumstances. Further, Barrett (2007, p. 274) reports on the need to appreciate indigenous forms of progressive practice where they do exist. Such adaptation can ensure that the introduction of new pedagogical approaches takes into consideration the realities within which teachers work (S. Johnson et al., 2000; O'Sullivan, 2004).

Drawing on available teaching materials

Recognising that in many developing countries, typical classrooms are under-resourced (Schweisfurth, 2013b, p. 48), the new pedagogy needs to be tailored to any constraints or limitations in the physical environment and available resources. Johnson et al., (2000, p. 189) argue that the 'environment selects against activities that are a poor fit'. Teachers draw upon their knowledge and make selections according to what strategies are workable in their setting according to available resources and the physical environment (S. Johnson et al., 2000). Limited teaching materials can also encourage the use of strategies, for example pair work as a way of managing a lack of resources (Price-Rom et al., 2010), or group work that can be conducted without extra materials (M. Ginsburg, 2010). The lack of teaching materials may be overcome by finding ways of developing teaching resources from locally available materials (Farrell, 2008; Hopkins, 2002), and helping to provide options for teachers to teach beyond the textbook (Farrell, 2008). However, textbooks can be used as a useful learning aid when the content is enriched (Mohammad & Kumari, 2007). They often provide useful pictures, diagrams or explanations which can be used in innovative ways as teaching and learning resources (Mohammad & Kumari, 2007).

Implementation strategies and cultural considerations

Acknowledging that educational change is a diverse and complex issue (Chisholm & Leyendecker, 2008), it is clear that pedagogical reform cannot simply be mandated from above (Dembélé, 2005). Mohammed and Harlech-Jones (2008) highlight two paradoxes in regard to how LCE reform has been implemented. Whilst LCE promotes participation and flexibility the

reform itself is often implemented in a directive and unilateral manner, calling into question the nature of the change process. They also note that reformers often devalue the accumulated knowledge and experience of teachers, despite promoting this with children and, together with a lack of understanding of the context, often fix on a desired state while ignoring practical realities. This has implications for the intended instructional practices not being consistent with local classroom cultures and realities.

In cultures where questioning authority is discouraged, this may work against the central tenets of LCE. Acknowledging the limitations of Hofstede's framework (Hofstede & Hofstede, 2005), Schweisfurth (2011) draws on it to highlight the cultural dimensions of 'high power distance' and 'collectivism' as two cultural characteristics that may impact on how LCE is understood and enacted. In posing the question of what affects buy-in of LCE in different cultures (Schweisfurth, 2011), Hallinger's (2010) analysis of reform in Asia offers some insights. In cultures where status is respected, Hallinger (2010, p. 414) refers to the 'supreme law strategy', a top down implementation approach, that may result in superficial compliance yet may ultimately lead to a failed reform.

Hallinger (2010) also concludes that the cultural characteristics of power, distance and collectivism do not need to be obstacles to change. Instead he asserts:

> [if]f the interests of relevant social groups in collectivist societies can be engaged, the group can provide even greater momentum for chance than might be the case in individualistic societies. However the reverse is also true. Failure to tap into the interests of relevant stakeholder groups will create an even higher degree of resistance. (Hallinger, 2010, p. 414)

Such a culturally sensitive approach could help address the particular challenges of LCE, where cultural characteristics may work against its successful implementation. Hallinger and Lee (2011) explore the lack of alignment of reforms (including LCE) with Thai culture, particularly noting the cultural dispositions in Thailand to treat change as an event rather than a process. Hallinger and Kantamara (2001) provide an illustration of how LCE, as an imported concept, can interact with Thai culture and help create ownership of the reform (Hallinger & Kantamara, 2001). They suggest that 'it may be possible to craft change strategies that build upon characteristics of Thai culture to bring about more rapid and lasting change' (Hallinger &

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Kantamara, 2001, p. 406). For example, Thais are known for their appreciation of 'sanook' - feeling of enjoyment or pleasure. In the absence of 'sanook' it is difficult to sustain the motivation of Thai staff. Their analysis shows how the change process can be tailored to blend in greater harmony with cultural traits. Also, recognising the group oriented nature of the society may result in firmer implementation if this collective dynamic is effectively harnessed. Therefore, blending the process of reform with cultural characteristics is highlighted here as an important consideration when implementing an innovation.

School-community links

The need for better school-community links has been found to better support change (Dembélé & Miaro-II, 2003; Farrell, 2008; Hallinger & Kantamara, 2001; Hopkins, 2002). A lack of awareness and involvement by parents and the school community can inhibit teachers' use of new teaching methods (Dembélé, 2005). Importantly, involving parents in the process renders a better chance of successfully implementing policies (C. Brock & Crossley, 2013; Farrell, 2008; Sottie, Dubus, & Sossou, 2013). Specifically, positive attitudes from parents in the use of new methods was found to be a facilitating factor (Westbrook et al., 2013). Hallinger and Kantamara (2001), in their Thai study, maintain it is important to build support and interest among stakeholders. Likewise, de la Sablonniere et al. (2009, p. 633) affirm the need for mechanisms that allow every stakeholder in the education process to 'be fully informed about the processes arising from educational reform' to help develop a reform-minded community.

Teachers and their professional development

Teachers' professional development holds a key role in pedagogical reform, yet not all forms of teacher development are effective (Schwille & Dembélé, 2007). The dominant approach of the 'one-size-fits all, one-shot, top-down model' (Dembélé, 2005, p. 187) has been shown to have limited effectiveness, resulting in a lack of transferability of ideas to the classroom. Nevertheless, teachers need to develop new knowledge, skills and understanding if they are going to embrace new pedagogies. Megahed et al. (2012, p. 64) report on their study in Egypt that teachers were:

> … unable or reluctant to even begin implementing active-learning methods without formally organized professional development activities and they were not likely to

deepen and sustain such reform pedagogies without ongoing guidance and support at both the interpersonal and policy/system levels.

Pedagogical renewal is a 'challenging endeavour primarily because of its inseparability from teacher professional development' (Dembélé & Lefoka, 2007, p. 534). Consideration of the nature of professional development that best supports teachers in the context of pedagogical renewal to move beyond the deficit discourse and the notion of 'teachers failing to change' (Hallinger & Lee, 2011, p. 140) and to focus on potentially enabling conditions (Dembélé & Miaro-II, 2003) is now explored.

The key role of teachers

Teachers are generally on the receiving end of policy and typically their role is to implement the dictates of government (Schweisfurth, 2011). Yet, it is important to recognise that 'ultimately it is the teachers, acting either as individuals or in groups, who are the arbiters of what innovation will occur in the classroom - who make the decisions on what is appropriate and feasible' (Rogan, 2007, p. 444). Therefore, it is important to 'enlist and honour teachers as the key people in reforming schooling' (Tyack & Cuban, 1995), rather than coerce them as illustrated in the Hallinger's (2010, p. 414) notion of the 'supreme law strategy'. However, according to Villegas-Reimers and Reimers (1996), teachers have been largely ignored in the reform process in developing countries. Teachers have often been blamed for implementation problems, but it is necessary to move beyond this 'deficit discourse' (Schweisfurth, 2013b, p. 68) and consider how well teachers have been supported in changing their practice (Dembélé, 2005). The changes required through LCE demand substantial changes to the teachers' role. According to Schweisfurth, 'the transitions demand[ed] a reframing of role of professional role and identity, from teacher to facilitator: is itself a substantial change, as in any context' (Schweisfurth, 2012, p. 180). This change is a fundamental component of LCE, and as such, cannot be ignored if teachers are to embrace active learning. Instead of blaming teachers for implementation issues, they could instead be enlisted as agents of change (Dembélé & Lefoka, 2007), recognising the strategic role they do hold and moving the debate beyond the deficit discourse.

Teachers as learners

Teachers' experiences as students mean they come to teaching with preconceived ideas about teaching and learning, sometimes referred to as the 'apprenticeship of observation' (Lortie, 1975) which serves as 'filters for any change initiative' (Dembélé & Lefoka, 2007, p. 534). This becomes more pertinent when teachers, as products of a traditional system, have been unable to see new images of teaching (Mtika & Gates, 2010). Similarly Tharp and Dalton (2007, p. 59) contend that 'it is difficult to teach using methods by which one has never learned', arguing that teachers need to experience the pedagogy as learners if they are to embrace it as teachers. Hence teachers need to experience professional development programs that not only advocate but also use and model these methods (Leu & Price-Rom, 2006, p. 7). This view is supported by Westbrook et al. (2013), who in their recent rigorous literature review, found that training needed to match the kind of pedagogy being advocated. Quite often teacher education replicates the traditional pedagogy that it seeks to replace (Leyendecker et al., 2008). Mtika and Gates (2010, p. 400) refer to this as a 'system contradiction' and argue that in such circumstances, teachers are likely to mimic the traditional methods used in their training. Therefore, teachers need to see, experience and trial new teaching methods (Schwille & Dembélé, 2007). Importantly, the message and medium of LCE need to be consistent (Schweisfurth, 2011, p. 430) and teachers, themselves, need to experience the new pedagogy as learners.

School-based professional development

School-based training offers the most potential for changing teachers' practice, particularly where teachers are under-qualified or under prepared (Hardman et al., 2009). They also advocate the school as the best site for intervention. Teachers need 'continuous, localized and school-based' PD (Leu & Price-Rom, 2006, p. 15) to support them in developing strategies that deal with pedagogic change relevant to the context (Hardman, 2015; Hardman et al., 2009). Hardman et al. (2009) reported that after a school-based training program in Kenya the use of group and pair work had increased significantly, with evidence that two-thirds of the teachers were using a mix of whole-class and group work structures, which involved students interacting and exchanging ideas. The teachers also altered organisational elements such as classroom layout 'to meet the requirements of different learning tasks' (Hardman et al., 2009, p. 81).

With greater student involvement being seen as a core component of active learning (Leyendecker et al., 2008), teachers need to learn new forms of classroom dialogue (Alexander, 2008). In contrast to the typical teacher dominated discourse and lengthy student recitations, Hardman et al. (2009; 2008) refer to the need for teachers to learn new forms of initiation-response-feedback (IRF) patterns:

> Therefore managing the quality of classroom interaction is seen as the single most important factor in improving the quality of teaching and learning, particularly in contexts where learning resources and teacher training are limited. (Hardman et al., 2008, p. 56)

Likewise, Westbrook et al. (2013) confirmed the importance of classroom interactions, what Alexander (2015) calls dialogic teaching. In short, teachers need to learn how to transform classroom talk to purposeful and productive dialogue (Hardman et al., 2009).

This move away from the domination of teacher talk and delivering content reflects the changing role of the teacher as one of 'motivating, facilitating and structuring' learning so students have a more active role (Altinyelken, 2010, p. 153). Consequently teachers need to learn new ways of activating learning from delivering knowledge to facilitating class discussion and activities and managing group work and individual student interactions. School-based professional development opportunities need to help teachers to demystify LCE (O'Sullivan, 2004) and learn a repertoire of strategies that they can use selectively to meet learning goals (Hardman et al., 2008). Thus, teachers need to both learn new strategies as well as learn how to use them (Dimmock, 2000).

Acknowledging the knowledge-practice gap

Whilst opportunities to learn are critical they do not necessarily translate into good practice (Leu & Price-Rom, 2006). Consequently, just having knowledge about a new practice is not sufficient (Chapman, Mahlck, & Smulders, 1997; Hammerness, Darling-Hammond, & Bransford, 2005). Teachers' participation within in-service programs and their willingness or ability to put new ideas into practice are very different things (Leyendecker et al., 2008). A common assumption is that new knowledge leads to changed attitudes and that attitude change leads to behaviour change (Patton, 2008). This has been referred to as the knowledge or theory-practice gap (Dembélé & Lefoka, 2007). Likewise, Johnson et al. (2000) argue that knowledge

alone is not enough to change practice. They maintain that teachers have more knowledge than they use and make choices about what knowledge they will use. This view is supported by Schweisfurth (2011) who contends that teachers' decision-making is informed by the influences of the system in which they practice.

Teachers' motivation is recognized as a key determinant in actions teachers take (Mtika & Gates, 2010; Schweisfurth, 2011). As such, it is necessary to prepare and support teachers in finding meaning in the desired change (Dembélé & Lefoka, 2007, p. 541). Rogers (2003) asserts, in his discussion on the diffusion of innovation, that people need to perceive that the innovation has some advantage over the preceding idea it replaces. Likewise, Chapman et al. (1997) in their analysis of education reform programs, conclude that people need to see the benefits to themselves of adopting new methods and that those benefits need to outweigh the personal cost of taking on a new approach. The innovation needs to take on meaning within the levels of the individuals 'whose actions determine its success' (Chapman et al., 1997, p. 297).

Hallinger and Lee (2011) distinguish between teacher motivation and teacher skill in their discussion of reform in Thailand. They suggest that finding ways to engage the interest of teachers (i.e., making these reforms matter to them), as well as developing their capacity to implement the changes, continues to present challenges in bringing about reform. Further, Chapman et al. (1997) reinforces the need of developing a shared meaning among those involved in the reform process. Hallinger and Lee (2011, p. 156) report a critical finding, stating 'Our data indicated that skill development actually lags behind teacher interest in putting these reforms into practice'. Interestingly then, the lack of skills among teachers was viewed 'as a greater impediment to change than staff attitudes' (Hallinger & Lee, 2011, p. 150). This highlights the nature of the change process in harnessing teachers' motivation while at the same time engaging in a process that adequately addresses the new skills teachers require.

The issue of the knowledge-practice gap is referred to by Kennedy (1998) as 'the problem of enactment'. Many traditional forms of training tend to produce knowledge and skills that remain inert in classrooms (Hammerness et al., 2005) so teachers need to learn to enact what they know. Addressing the separation between theory and practice, Grossman, Hammerness and McDonald (2009) propose the inclusion of 'pedagogies of enactment' in teacher education courses. Specifically, this comprises the use of 'approximations of practice', which provides

teachers with opportunities 'to rehearse and enact discrete components of complex practice in settings of reduced complexity'(Grossman et al., 2009, p. 283). In reference to LCE, Mtika and Gates (2010) advocate the advantages of this approach for pre-service programs in Malawi. For in-service training 'approximations of practice' can likewise be used to create opportunities for teachers to practise using discrete components of learner-centred education with school-based support and feedback (Mtika & Gates, 2010, p. 403).

School-based support

What has been shown to work with regard to teacher professional learning is sustained and coordinated support for teachers in contrast to one-off sessions (Schweisfurth, 2011, 2013b). Accordingly, school-based follow-up is required that ensures individuals are supported through the inevitably difficult and challenging process of altering their ways of thinking and doing (Hopkins, 2002). This includes school-based support where mentoring and guidance is provided to teachers when they trail new practices (Hardman, Abd-Kadir & Smith, 2008). Villegas-Reimers (2003, p. 119) also underlines the need for a 'culture of support', particularly drawing attention to the role of school leaders in assisting teachers to building a collaborative school culture. As such, the role of school leaders needs to go beyond 'the traditional role of administrator to include the leading of pedagogic change' (Hardman et al., 2009, p. 81). Similarly Schweisfurth (2013b, p. 71) confirms the need for 'supportive support' distinguishing this from punitive accountability, that in-school support and mentoring are designed to assist teachers to find meaning in the classroom for the desired change (Dembélé & Lefoka, 2007). Teachers need to feel well-supported, which can also be found through peer collaboration (Westbrook et al., 2013).

Joyce and Showers' (2002) model of teacher professional development establishes an integrated theory-demonstration-practice feedback approach. Their model encompasses four components: (1) the introduction of new knowledge; (2) the modelling of new skills; (3); practising the skill over an extended period; and (4) peer coaching to solve problems in the workplace. These four components are designed to address the knowledge-practice gap outlined earlier. Further, Joyce (1992) differentiates between the workshop and the workplace where an idea may be introduced and modelled in a workshop but this, in itself, is not enough. To apply new ideas to the workplace, or their classrooms, teachers require classroom-based support (Hopkins, 2002).

Recognising practical realities

As already noted the lack of material resources cannot be ignored. Therefore, the nature of any professional development needs to take into account the practical realities of teachers' work. Johnson, Hodges and Monk (2000) write 'the environment in which teachers − physical, social and political − act to select a more limited repertoire of behaviour than those providing in-service might imagine' (p 179). As O'Sullivan (2004) attests, utopian vision of active learning that does not acknowledge the environment in which teachers work, will have limited impact. Where success has been reported teachers have been scaffolded to learn new practices within their capacities and circumstances (Schweisfurth, 2011, p. 428). Hopkins (2002) proposes an adaptive approach to LCE implementation that is more responsive to local circumstances and allows the new pedagogy to be tailored to the realities within which teachers work. Consequently starting with teachers' current practice, whilst taking into account the realities of the working environment, is recommended as a more productive way forward (Hardman et al., 2008; O'Sullivan, 2004; Schwille & Dembélé, 2007).

Implications for teacher preparation

Teachers and their professional development is embedded within a context, influenced by complex mediating factors that will either help or hinder the process (Leu & Price-Rom, 2006, p. 19). As such, professional development opportunities need to acknowledge the everyday realities of teachers as well as their motivation and capacity to enact the reform. Craig, Kraft and du Plessis (1998), having considered a range of evaluations and undertaken a review of the literature, see teacher development as contextually based.

> Long term goals for excellence in teaching should be ambitious, but short and mid-term goals must reflect the reality of the everyday working situation for teachers. Even if only very modest changes are produced…this represents progress. (Craig et al., 1998, p. 1)

Acknowledging teachers as learners, Hammerness, Darling-Hammond, and Bransford (Hammerness et al., 2005) use the label 'adaptive expertise' to explain two dimensions of expertise—efficiency and innovation. Adaptive experts develop an understanding of new practices followed by trialling them in practice, which leads to 'expertise' and the ability to adapt and apply knowledge to complex situations such as the classroom (Hammerness et al., 2005). The dimensions of professional development, discussed in this section, have been

identified from the literature pertaining to particular needs of low and middle-income countries and offer ideas for overcoming some of the identified challenges of teachers' preparation for LCE. They propose potentially enabling conditions for pedagogical reform with the goal of supporting teachers to learn and enact innovative practices in a shift to LCE. As teachers learn new strategies that add to their repertoire of skills, hopefully they also develop adaptive expertise, allowing them to make informed selections, according to their students' needs and the contexts in which they work.

The context for change

Teachers' practice is always situated. In fact, the contexts in which 'teachers teach and professional development occurs…have a serious impact on the teacher, their work and their professional development' (Villegas-Reimers, 2003, p. 121). Bronfenbrenner's model, outlined earlier, provides a framework for conceptualising the influence of the various layers of context and how these may impact on the enactment of active learning pedagogies. Using this nested model, the various contexts for change are now explored.

Teachers: context for change

In contrast to Guskey's (1986) linear model of teachers' professional growth, Clarke and Hollingsworth (2002) propose a non-linear model. This model identifies a number of alternative change sequences, allowing for the varied and idiosyncratic nature of teacher change. In this interconnected model, change may be initiated in any of the following four domains: personal domain (teacher knowledge and beliefs); professional experimentation; salient outcomes; and external sources of stimulus and support. Recognition that there are multiple pathways to change, this model provides a concept of change that may have application in different contexts. Hallinger and Kantamara (2001) in their discussion of the nature of change in Thailand, referred to previously, present an approach that seeks to harness the collectivist dynamic of Thai culture. Applying this idea to the four domains suggests that, in Thailand, there is a greater likelihood of change occuring if professional experimentation takes place in a group. In high-power distance cultures, where authority is highly respected, the domain of external sources may well provide a catalyst for professional experimentation and potential change in the personal domain, or in salient outcomes. Worth noting is whether this external source, in the form of top-down change,

can jump-start innovation, or whether it simply leads to what Hallinger (2010, p. 411) refers to as 'surface compliance'.

In the Maldives, most teachers work in island schools. The geographic isolation of these schools means that teachers do not have easy access to other school communities beyond their islands. Since most islands only have a single school, resulting in a discreet community of teachers, they are geographically isolated from other island communities. Therefore acknowledging the close-knit island communities and embracing change through the collectivist dynamic may be a viable and effective approach to change and introducing innovation within Maldivian schools.

School system: context for change

In recognising the influence of context, Villegas-Reimers (2003, p. 275) writes that 'another element of context is the stage of development of a school or education system' (2003, p 275) referring to Beeby's (1966) seminal work on the quality of education in developing countries. Beeby outlined a typology of four stages of the development of an education system. Whilst the limitations have been acknowledged (for example see Guthrie, 2011), they do present a conceptualisation of school systems that recognises varying stages of development. As described by Villegas-Reimers (2003), they are:

1. The unskilled stage where teachers are staffed by mainly untrained teachers.
2. The mechanical stage in which most teachers have received limited training and complete work in a mechanical manner.
3. The routine stage in which teachers teach in a routine but have repertoires to select from.
4. The professional stage where teachers are autonomous professionals.

Each stage has 'distinct features of teaching practice and organisation' (Barrett, 2007, p. 275). The lower stages are characterised by teachers who stress rote learning, memorization and examinations. In contrast, the higher stages have better trained teachers who draw on a wider range of teaching strategies with greater attention given to individual student needs. This typology draws explicit attention to teacher ability as being integral to educational improvement (Barrett, 2007). According to Villegas-Reimers, (2003, p. 124) the stage of development is a critical context variable that should be considered 'when planning and implementing professional development'.

My experience is that Maldivian teachers typically work in a mechanical manner, following given structures provided through textbooks and schemes of work as 'recipes' for teaching. Returning to Dembele's (2005) earlier point that greater structure for teachers may well be the key to pedagogical renewal, this typology offers a framework for understanding teachers' practice within this context of school system development. As argued by Johnson et al. (2000, p. 190), the mechanisms of change at one stage may be inappropriate at another stage, reinforcing the need to tailor the innovation to the contextual circumstances.

The possibility of change

In a growing body of literature documenting reform in developing countries there are a number of success stories demonstrating 'that child-centred active pedagogy, with heavy involvement of parents and the general community, 'works'' (Farrell, 2008, p. 383). These projects seek to transform traditional models of education through different arrangements of community schooling, adapted to local conditions and traditions. Success is documented in improvements to student access and retention, along with an increase in learning outcomes using formal assessment tools (Farrell, 2002, 2008; Leadbeater, 2012). Farrell also notes that all programs use the standard national curriculum but alter the pedagogical model in fundamental ways. This is a pivotal point, since these programs challenge traditional models of schooling and work in resource poor circumstances in developing countries with even the poorest and most 'disadvantaged' children (Farrell, 2002, 2008). The Bangladesh Rural Advancement Commission (BRAC), working with less qualified teachers, provides a highly structured training program and directive supervision (see Haiplik, 2005 for research on this program). Similarly in the Colombian *Escuela Nueva* program, students are self-directed, active learners working with highly structured materials (Dembélé, 2005, p. 172). Importantly, what these alternative programs demonstrate is that traditional forms of schooling can be changed in 'poor places with very limited resources and with strong learning results' (Farrell, 2008, p. 383).

Implications for the study: generating promising solutions

This chapter has outlined the well-documented challenges of LCE. In acknowledging, rather than ignoring, the literature on the compelling challenges that have been documented, Schweisfurth (2011, p. 430) asserts there is a need 'to move the debate beyond ready-made solutions and the all-too-predictable problems', implying the need for new research directions.

As noted in Chapter One, DBR, as an interventionist approach, relies on recommendations and findings from prior research to generate promising solutions to a known problem (Schoenfeld, 2009). These are not 'recipes for success' but are used principally 'to help others select and apply the most appropriate substantive and procedural knowledge for specific design and development tasks in their own settings' (McKenney, Nieveen, & van den Akker, 2006, p. 73).

The limits of 'uncritical transfers of inappropriate models' (Akyeampong et al., 2006) have been discussed in this chapter yet, as noted by Elliot (2014, p. 39), 'it would be folly to ignore good practice wherever it is located'. Instead, he refers to the value of 'policy learning', a notion put forth by Raffe (2011) whereby:

> …the educational experiences of other countries are examined in order to help us identify the challenges and difficulties that are common to all nations, understand the strengths and weaknesses of our own educational system, and devise policy strategies that are tailored to our unique needs, goals and circumstances. (Elliott, 2014, p. 39)

As such, the 'wealth of knowledge' expressed by Mohammed and Harlech-Jones (2008) and their contention that much is already known about what works underscores this study and the 'promising solutions' outlined. These are labelled as design principles, as explained in Chapter One and provide valuable input into the design of this study and are summarised in Table 2.

Table 2: Summary of design principles, as drawn from the literature, which have implications for the study design

Developing a reform-minded school community
• Foster school–community links (Dembélé & Miaro-II, 2003; Farrell, 2008; Hallinger & Kantamara, 2001; Hopkins, 2002) to render a better chance of reform success (C. Brock & Crossley, 2013; Farrell, 2008).
• Build interest and support amongst stakeholders (Hallinger & Kantamara, 2001).
• Keep stakeholders fully informed (de la Sablonnière et al., 2009).
• Engage interest of relevant social groups (Hallinger, 2010).
• Consider cultural considerations such as high-power distance and implications for the role of school leaders in supporting and leading change (see Hallinger, 2010).
Mediating a contextually relevant model of active learning
• Promote a 'goodness of fit' between the policy and the beliefs and values of schools and teachers (Hopkins, 2002, p. 294).
• Reconcile global and local knowledge in a process of 'gelling' rather than 'telling' (Tan, 2010).
• Acknowledge the contextual conditions (S. Johnson et al., 2000) and adapt LCE to the contextual circumstances.

Creating a distributed model of active learning
- Move beyond the polarisation of pedagogy (Barrett, 2007) and adopt a distributed model of active learning (Leu & Price-Rom, 2006) or hybrid approach (Cuban, 2009) that helps teachers reconcile competing pressures and organisational demands.   - Recognising that open-ended approaches have met with limited success utilise a structured approach (Dembélé & Lefoka, 2007; Mtika & Gates, 2010; O'Sullivan, 2004).   - Build on existing practice (S. Johnson et al., 2000) yet recognise that teaching is more than delivery of information (Dembélé, 2005; Hopkins, 2002; Little, 2006) and that there is a need to facilitate interaction and new types of dialogue between teacher and students (Gordon, 2009; Hardman et al., 2009).
Develop a staggered approach to reform
- Break LCE into simple achievable approaches (O'Sullivan, 2004).   - Specify concrete strategies for teachers (O'Sullivan, 2004; Raval, 2010) in a stepping stone approach (Raval, 2010) with change occuring in modest steps (O'Sullivan, 2004; Schweisfurth, 2011).   - Use the ZFI (Rogan & Grayson, 2003) as a framework to help determine how much innovation is possible to balance stagnation with unrealistic innovation (Rogan, 2007).   - Articulate the model clearly and simply (de la Sablonnière et al., 2009).   - Practise a mix of whole class teaching/group work and individual work (Akyeampong et al., 2006; Altinyelken, 2010; Hardman et al., 2008).
Focusing on teachers and their professional development
- Recognise that knowledge alone is not enough for teachers to change their practice (Chapman et al., 1997; Leu & Price-Rom, 2006; Leyendecker et al., 2008).   - View teachers as learners who need to see, experience and trial the new pedagogy (Schwille & Dembélé, 2007) e.g. a knowledge-demonstration-feedback model (B. Joyce & Showers, 2002).   - Develop PD programs where the message and medium are consistent (Schweisfurth, 2011).   - Provide teachers with 'supportive support' (Schweisfurth, 2011) in terms of sustained and coordinated support; mentoring and guidance (Hardman et al., 2008); within a wider school culture of support (Villegas-Reimers, 2003).   - Recognise school leaders have a role to support teachers and lead change (Hardman et al., 2009).   - Provide opportunities for teachers to develop a repertoire of teaching strategies (Barrett, 2007; Dembélé, 2005; Lampert, 2009) that they learn how to use selectively (Hardman et al., 2008) developing adaptive expertise (Hammerness et al., 2005).
Acknowledging the physical environment and conditions of teaching
- Adapt new practices to fit with teachers' circumstances (Schweisfurth, 2011) and the practical realities within which teachers work (Hardman et al., 2008; S. Johnson et al., 2000; O'Sullivan, 2004; Schwille & Dembélé, 2007).   - Draw on available resources and acknowledge existing reality (Chisholm & Leyendecker, 2008).   - Focus on pair work and group work to help manage limited resources (M. Ginsburg, 2010; Price-Rom et al., 2010).

Chapter Summary

This chapter has provided an overview of active learning reform globally; the challenges of such reform and how these can potentially be addressed, in accordance with recommendations in the literature. With many education systems perceived to be overly focused on the memorization of facts, active learning has been promoted as an antidote to traditional models of teaching. Considering the limitations of a polarised view of pedagogy of teacher-centred versus learner-centred, a discussion of the concept of active learning was explored with consideration given to the critical role of the teacher and the potential misconceptions of how active learning can be interpreted. The well-documented challenges of active learning reform were discussed; broadly encompassing the nature of the reform itself, how it is implemented and whether teachers are adequately prepared to implement the reform. Acknowledging, rather than ignoring these challenges, the chapter then explored contingencies for success, noting the wealth of knowledge that is already known, but frequently ignored. The chapter concluded with a summary of these 'promising solutions' across four broad areas: fostering school-community links; mediating a contextually relevant model that goes beyond the polarisation of pedagogy; developing a staggered approach to reform; focus on teachers and their professional development; and acknowledge the local conditions for teaching. These 'promising solutions' have implications for the research design, consistent with DBR and scanning the field for plausible solutions to the well-documented problem being investigated. In the next chapter, the DBR methodology is explained and justified along with an details of how the qualitative data was collected.

CHAPTER 4: METHODOLOGY

> *How people actually experience change as distinct from how it was intended –*
> *is at the heart of the spectacular lack of success of most social reforms.*
> (Fullan, 1991, p. 4)

The aim of this study was to investigate active learning reform in the Maldives and the conditions within which it can be implemented. To pursue this investigation I conducted a qualitative study using a design-based research[1] approach. The research questions introduced in in Chapter One are reiterated here as they determined the methodological decision-making.

The overarching research question of this study is:

How can teachers enact active learning pedagogy within the Maldivian education system?

The three sub-questions that supported this study are:

1. What form does active learning pedagogy take in the Maldivian context?

2. What are the enabling conditions that support the use of active learning pedagogy?

3. What are the factors that hinder the use of active learning pedagogy?

The purpose of this chapter is to outline the research methodology. It is presented in two parts. Part I provides an explanation of the qualitative methodology and a rationale for the choice of design-based research. In Part II, I outline the research process dealing with the practical and procedural issues associated with the study. The site of the study, the participants involved, the choice of data sources and the data collection processes are then detailed. The final section discusses the data analysis methods. I conclude by articulating the research limitations and challenges and address the trustworthiness of the study.

Part 1: Design-Based Research

A design-based research (DBR) approach was chosen to explore how active learning can be enacted within the Maldivian education system. DBR is a methodology examining under what

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[1] Design-based research is known under a variety of labels, design experiment, development research, design research and design-based research. For this study the label design-based research (DBR) has been used.

conditions educational innovations work in real-life practice (Kelly et al., 2008). It has been explained as:

> the systematic study of designing, developing and evaluating educational interventions, - such as programs, teaching-learning strategies and materials, products and systems- as a solutions to [real-world] problems, which also aims at advancing our knowledge about the characteristics of these interventions and the processes to design and develop them. (Plomp & Nieveen, 2007, p. 7)

An intervention is central to DBR, which is then studied in its naturalistic setting (Design-Based Research Collective, 2003, p. 9). In this study an intervention, in the form of an instructional model based on active learning principles was designed, implemented and studied within the context of a Maldivian island school.

The evolution of DBR is attributed to landmark papers published by Brown (1992) and Collins (1992) exploring the study of innovations within the complexity of the classroom. Collins (1992) advocated that design research was a means for researchers to benefit from the experience and wisdom of practitioners, whereas Brown (1992) advocated that design research was a way to connect theory to practice. Both papers highlight the role of theory in informing design and the role of design in refining theory (McKenney & Reeves, 2012).

Within this research-practice nexus, DBR is focused on both developing useable knowledge (McKenney & Reeves, 2012, p. 8) and making a theoretical contribution of value to those outside the setting (McKenney & Reeves, 2012, p. 28). As such DBR represents an approach that seeks to 'increase the relevance of research for educational policy and practice' (McKenney, Nieveen, & van den Akker, 2006, p. 4). It is an attempt to address the research-practice gap (McKenney & Reeves, 2012) through the collaborative effort of teachers and researchers as they work toward achieving the pedagogical goal of the intervention (Bradley, 2004, p. 2). Bradley and Reinking (2011b, p. 307) point to a fundamental dissatisfaction with limitations of more conventional approaches to educational research. They contend that although naturalistic studies may document complexities of the context, typically they 'do not address how a teacher might manage those factors to implement effectively an instructional intervention'. DBR attempts to addresses these limitations and not only takes into consideration

the contextual complexities of a classroom, but also aims to reveal factors that enhance or inhibit an intervention (Bradley & Reinking, 2011b, p. 306).

In serving the dual purpose of refining locally valuable innovations and developing more globally useable knowledge (Design-Based Research Collective, 2003), DBR is a multi-faceted complex endeavour (McKenney & Reeves, 2012, p. 1). It is promoted as a series of methods rather than a fixed single-approach (Design-Based Research Collective, 2003; McKenney & Reeves, 2012). The following characteristics are considered to be defining and essential features of DBR (McKenney & Reeves, 2012).

- Theoretically oriented: design based on theory and makes a contribution to theory building based on field-testing.
- Interventionist: design of intervention in authentic settings.
- Collaborative: requires collaboration between teachers and researcher.
- Responsively grounded: structured to explore and adapt to the complexities of the learning context.
- Iterative: incorporates cycles of design, evaluation and revision.

The outputs of DBR are therefore both practical and theoretical. These characteristics feature the interplay of theory and practice within DBR and highlight the collaboration between researcher and participants.

Phases of design-based research

The flexibility of DBR allows for rich variations in approach and interpretation in the application of this approach (McKenney & Reeves, 2012). The following examples of DBR, presented in Table 3, show a range of models with a process orientation. They provide input into the overall framework for this study.

Table 3: Different models of design-based research

Schoenfeld (2009)	Reeves (2000)	Plomp and Nieveen (2007)	Cobb and Gravemeijer (2008)
1. Generating promising ideas/products 2. Exploring conditions under which intervention seems to work 3. Large scale testing	1. Analysis of practical problems 2. Development of solutions within a theoretical framework 3. Evaluation and testing of solutions in practice 4. Documentation and reflection to produce design principles	1. Preliminary research 2. Prototyping phase 3. Assessment phase	1. Preparing for the experiment 2. Experimenting in the classroom 3. Conducting retrospective analysis

The framework for this study combined aspects from these process models. Ma and Harmon (2009, p. 90) propose in their adaption of Reeve's model that it be used as a general guide rather than a lockstep linear process. In proposing the following framework their recommendation resonates with this study as there were overlaps in the phases. The specifics of the phases are outlined in more detail in Part II but are presented in Table 4 to elucidate the overall framework of the study.

Table 4: The phases of design-based research used in this study

Phase	Characteristics	Implications for this study
Contextual analysis	Analysis of a practical problem	• Investigate the problem • Document the current status of active learning in the setting
Generating the intervention design	Generation of a promising a solution	• Generate a promising solution from the literature (Chapters Two and Three) • Refine the solution to particular needs of the local context • Prepare for operationalising the intervention
Operationalising the intervention	Exploration of conditions under which the intervention seems to work Experimentation in the classroom	• Implement the intervention as an instructional model of active learning in a Maldivian school setting • Document teachers' use of the instructional model
Retrospective analysis	Documentation and reflection to produce design principles	• Analyse use of instructional model • Identify emergent supporting and inhibiting factors • Produce design principles

Underpinning the various phases of the study are participatory principles, designed to harness non-academic local knowledge to better understand issues of importance within the community (Bowd, Ozerdem, & Kassa, 2010). This involved collaboration with a range of stakeholders from the Maldivian island school community. Informing the decision to frame the research in participatory terms is the belief that the collective experience, knowledge and skills of participants and researcher adds strength to the study by tapping into different knowledge forms. In implementing the intervention, researcher insights are augmented by participants (McKenney et al., 2006) as they work together to address a practical problem. A participatory approach also seeks 'to increase local ownership, local capacity and local control' (Pamphilon, 2006, p. 1). The collaborative process to design, use, and do research on educational interventions in real settings can help promote the adoption of innovations (Design-Based Research Collective, 2003, p. 8). Since a collaborative effort is required, in the design and implementation of the intervention a participatory approach is important within DBR (McKenney et al., 2006).

A rationale for Design-based Research

Whilst acknowledging its flexibility, The Design-Based Research Collective (DBRC) also advocate that this does not mean that 'anything goes' in DBR (Design-Based Research Collective, 2003). The essential characteristics of DBR have implications for this study. In this section I outline why DBR is an appropriate methodology for addressing the research questions and how the essential characteristics have been embedded in the research design. The Design-Based Research Collective (2003, p. 9) propose that DBR is of 'value in addressing research questions related to the enactment of interventions in varying contexts'. They also propose that educational research must develop better theories regarding the elements of context that matter for the nature of learning, which has implications for policy and local educational practices (Design-Based Research Collective, 2003). As the research question is focused on teachers' enactment of active learning within the Maldivian context, DBR provided a framework to investigate this. As indicated in Chapter One, Van den Akker (2002) specifically advocates the use of DBR for educational development in developing countries because of its specific acknowledgement of context, its flexibility and potential for capacity building. In seeking to investigate how teachers can enact an instructional model within this developing country context, DBR provided an appropriate methodology.

DBR seeks to address complex real world problems and is particularly suited to chronically difficult problems. As indicated in Chapter 2, reports of LCE reform across contexts 'is riddled with stories of failure grand and small' (Schweisfurth, 2011, p. 425), highlighting the ongoing and widespread nature of the challenges facing LCE reform across developing and middle-income country contexts. In acknowledging these well-documented challenges, Chisholm and Leyendecker (2008) call for more research on the gap between policy and practice and the conditions needed in different contexts for successful implementation of LCE. Schweisfurth (2011), in her review of studies related to LCE, calls for a move beyond bland statements to a more detailed analysis of what works, for whom and how. Likewise, Rogan and Grayson (2003, p. 1171) detail how 'all too often the attention and energies of policymakers and politicians are focused on the 'what' of desired educational change while neglecting the 'how'. In the disparity between policy and practice in the area of LCE reform, DBR provides a methodology that explicitly studies 'how' an innovation works. Specifically, DBR seeks to 'understand how, why, and under what conditions interventions work' in real-world contexts (McKenney & Reeves, 2012, p. 171). The following discussion outlines how this study adheres to the core characteristics of DBR, with particular focus on the implications for the study.

Interventionist – addressing practical problems

Interventionist methodologies seek to bring about change through research (O'Toole & Beckett, 2009, p. 65). Using the definition proposed by McKenney and Reeves (2012, p. 14) an intervention 'encompasses the different kinds of solutions to real problems'. In confronting real problems in practice, DBR is a methodology that seeks to address the research-practice gap therefore and have practical usefulness. Reeves (2000) argues that the influence on the practice of traditional empirical approaches is based upon the optimistic assumption that practitioners can or will, apply the theories derived from empirical investigations. Similarly, Ma and Harmon (2009, p. 76) suggest that practitioners need 'detailed guidance on choosing and implementing instructional methods under specific situations'. DBR addresses these limitations. Through the study of an intervention the contextual complexities of the classroom and surrounding context are taken into account with the aim of revealing the factors that enhance or inhibit the intervention (McKenney & Reeves, 2012). This study is centred around a pedagogical intervention – developing an instructional model of active learning collaboratively with teachers and then investigating the enabling conditions and inhibiting factors in teachers' use of the

model. The investigation can then document what teachers actually do as they engage in their work not just what they say (Zawojewski, Chamberlin, Hjalmarson, & Lewis, 2008).

Design-based research, therefore brings together different agendas (Akkerman, Bronkhorst, & Zitter, 2011, p. 423). Researchers see the significance of research in terms of its implications for understanding far-ranging repercussions, 'whereas teachers usually want research results to bear directly on their classroom practice' (Eisenhart & Borko, 1993, p. 79). This can make participation in the study more attractive to teachers. The potential for capacity building for participants is a potential benefit of DBR, meaning there is reciprocal benefit for both researcher and participant. More directly, Reeves (2000) argues that research should specifically consider the benefits for participants. Research is done with, not on participants.

In considering curriculum reform from a DBR perspective, McKenney et al. (2006, p. 72) describe three levels of outputs: (1) the resulting knowledge that is generated; (2) the development of particular products or programs of value to an education community; and (3) the professional development of participants. These multi-level outputs apply in this study through the pedagogical intervention which has practical implications for both teachers and the school. In using this model the teachers were focused on experiencing new strategies in their own classrooms, and had the opportunity for professional development. The potential benefit for the school community, into which I was welcomed to conduct the study, was an important consideration for me in the design of this research.

Responsively grounded - Context is acknowledged

Design-based research is grounded in context and 'structured to explore, rather than mute, the complex realities of the teaching and learning contexts' (McKenney & Reeves, 2012, p. 15). Hence the intervention is studied within the 'messiness of real-world practice' necessitating the need for the context to be richly delineated (O'Toole & Beckett, 2009, p. 72). Numerous studies (for example, Johnson, Hodges, & Monk, 2000; O'Sullivan, 2004) outline the need to acknowledge explicitly the realities of the context in developing countries in studying educational reform. Hence, McKenney et al.'s (2006) assertion that the acknowledgement of context in DBR makes it particularly useful in developing countries is pertinent. DBR addresses

the call for research on LCE reform that provides a more detailed analysis of what works, for whom and how (Schweisfurth, 2011).

Further, neglecting the fit of innovation can be a common cause for failure (McKenney et al., 2006). McKenney, Nieveen and van den Akker (2006) discuss DBR efforts to change learning from traditional to more activity-based, highlighting gaps between the intended and implemented curriculum. As raised in Chapter One, Alexander (2001) points to a lack of coherence in the education system, resulting in an unproductive blame game. In contrast, DBR embraces the 'harsh realities of the systems in which educational interventions operate' and thereby offering a high degree of ecological validity (McKenney & Reeves, 2012, p. 171). This makes it particularly suitable for the study of LCE reform as the documented challenges are acknowledged, and the impact of context on the viability of LCE is acknowledged given the learning environment must be respected in DBR (Bradley & Reinking, 2011b).

DBR gives specific consideration to the conditions under which the innovation is effective or not (Bradley & Reinking, 2011a). Researchers study not only the immediate context, but the surrounding system as well (McKenney & Reeves, 2012, p. 171). In this study, both the local setting as well as the policy system level context are examined. Implications from MoE policy are not ignored in documenting the factors that inhibit or support use of the intervention. Figure 10, drawing on Bronfenbrenner's (1979) ecological framework introduced in Chapter Three, provides a conceptualisation of the research setting.
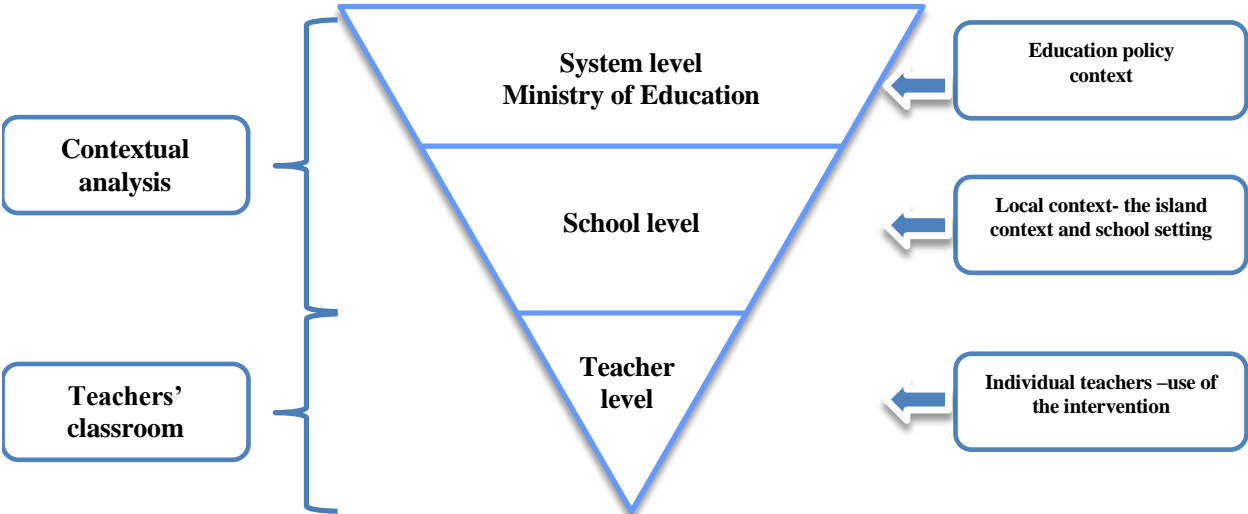
Figure 10: A conceptualisation of the research setting and surrounding system

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The characteristics of DBR provide a framework for not only addressing the identified problem but also acknowledge the various layers of influence impacting teachers' practice. This study, therefore, seeks to investigate the complexity and influence of the interacting education system (Zawojewski et al., 2008) and any local environmental constraints (Hjalmarson & Lesh, 2002).

Collaborative

Long term collaboration is required between researcher and practitioners in DBR (Design-Based Research Collective, 2003; Ma & Harmon, 2009) so they can work together to produce meaningful change in the context of practice (Design-Based Research Collective, 2003). As well as developing a professionally productive relationship, the researcher relies on teachers' knowledge and expertise to assist in the identification of factors that can enhance or inhibit an instructional intervention's effectiveness (Bradley & Reinking, 2011b). Yet this does not necessarily mean that teachers and researchers have equal roles and responsibilities for conducting the research (Bradley & Reinking, 2011b, p. 308). Rather, the collaboration is a negotiated and mutually agreed upon process.

The involvement of practitioners is critical in the identification of relevant contextual factors, aiding identification of mechanisms that support or hinder the intervention, and enriching our understanding of the nature of the intervention itself (Design-Based Research Collective, 2003). Within this investigation a number of participatory tools were used in the contextual analysis to explore viewpoints across stakeholder groups within the school. These strategies were also designed to establish the initial conditions in the school and identify attitudes and priorities towards active learning methods. Further, in adhering to the participatory underpinnings of the study, I set out to construct myself and teachers as partners in the research process. The goal was for teachers to have an explicit voice in defining their needs during the intervention phase, and specifically to have direct input into the intervention design. Further discussion on the nature of this collaboration is outlined in Part II.

Theoretically-oriented

Design-based research has multiple outputs – creating practical solutions and developing more globally useable knowledge for the field (Design-Based Research Collective, 2003) and is deemed appropriate when existing knowledge falls short (McKenney et al., 2006). A plausible

solution (Reeves, 2000) is developed by scanning the field for similar studies and designing interventions 'based on principles derived from prior research'(O'Toole & Beckett, 2009, p. 71), as outlined in Chapter Three. Design principles, as a theoretical outcome of DBR are generated following the intervention. Therefore, DBR is not just about what works in practice but is intended to 'generate evidence-based claims about learning that may be transferable to similar contexts'(O'Toole & Beckett, 2009, p. 72). A challenge then for DBR is to develop flexible research trajectories that meet these dual goals.

Whilst DBR was chosen to investigate a clearly articulated practical problem of relevance in the Maldives, it also has implications beyond the Maldivian context in the seeking to investigate the well-documented challenges of LCE reform, particularly in low-income countries. An output of trialling the intervention is to yield 'theoretical understanding that can inform the work of others' (McKenney & Reeves, 2012, p. 7). Thereby, the theoretical outputs or design principles generated by DBR are intended to inform future research with similar pedagogical goals in contexts beyond the Maldives.

Iterative

In DBR the intervention generally evolves over time through a number of stages and iterations. The intervention undergoes investigation, development, testing and refinement (McKenney & Reeves, 2012) and quite often involves a team of researchers. As a doctoral project, this study was carried out with one researcher also having responsibility for teachers' professional learning throughout the intervention phase. Notwithstanding the iterative nature of DBR, Ma and Harmon (2009) outline a single-iteration model which they argue fills a gap in the literature. Drexler (2010, p. 36) reports that 'practically speaking, a single-iteration design condenses the dissertation into a manageable timeline with well-documented results to inform future iterations and provide implications for further research'. As an individual study and given the particular contextual factors in the Maldives, a single-iteration was adopted. Therefore, like Ma and Harmon (2009), this study reports on a single-iteration with particular reference to reporting evidence about the effectiveness of the intervention within the context, while also making 'explicit the influence of factors that support and constrain effective practice' (Kelly, Baek, Lesh, & Bannan-Ritland, 2008, p.12). In his three phase model of conducting DBR, outlined in Table 3, Schoenfeld (2009) guards against rushing to stage 3, large-scale testing, without

adequate attention to stages 1 and 2. This study focuses on the tenets of stages 1 and 2; trailing a promising solution and exploring the conditions under which it seems to work. This knowledge can then be used to inform any future iterations.

Role of researcher in design-based research

In DBR, researchers typically have a variety of roles. This is particularly acute in small projects where the researcher may juggle multiple demands at once (Akkerman et al., 2011; McKenney & Reeves, 2012). McKenney and Reeves (2012, p. 44), referring to Bradley's study (2004) note that the researcher, as in this study, 'was the vehicle through which these [instructional] processes were introduced to the teachers' thereby having a central role within the intervention. Bradley (2004) was explicit about her personal stance and how her background revealed certain subjectivities that influenced this investigation. Accepting that 'research is never purely neutral' (O'Toole & Beckett, 2009, p. 117), I have outlined the following key experiences and beliefs that I believe are relevant to this study and reveal my assumptions underpinning the study.

1. *Beliefs about effective teaching and learning*

As noted in Chapter One, I bring to this research a belief that students should be more than passive recipients of knowledge and should have an active role in the learning process. I have always favoured constructivist views of learning that accord with the definition outlined in Chapter One.

2. *My experience working at the Faculty of Education, Maldives*

My experiences working at the Faculty of Education (FE) meant I was privy to discourse about the need for change in the Maldivian system. Maldivian teacher educators frequently lamented the shortcomings of the local schooling system and despaired at having to send their own children to local schools. Being part of such conversations reinforced my perspective that the passive transmission model, which was dominant in Maldivian schools, had undesirable limitations. However, I believed that any changes needed to be contextually and culturally relevant. I had witnessed well-meaning volunteers and consultants bringing their own practices to the Maldives, and they were not adapted to the context their usefulness was limited.

3. *CFS, active learning and school adaptations*

My role at FE was linked to the CFS program. Specifically my role was linked to how the ideas of active learning could be incorporated into teacher education courses. The predominant model of CFS at the time was centred on learning corners. In my observation this structure was an approach that was 'more of a sharp and deliberate break from previous practice' (Moegiadi & Gardener, 1994, p. 57) and consequently the model seemed too remote to implement in one step (Anderson, 2002; van der Werf et al., 2000, p. 353). There was much criticism of this CFS model and how it was being enacted. Despite this, my view remained that CFS still had merit. I was able to visit two island schools identified by UNICEF for their progress in implementing CFS. Each school had adapted the CFS framework to their school context and were proud of promoting their version as no longer was CFS something that had been imposed on them. It was during this visit that I saw the potential of CFS if it was adapted to the needs of the school, if parents were included in the process, and if teachers were given a voice. These principles underpinned this study.

4. *Observation of Maldivian classrooms*

Through my work at FE I was privy to a wide range of Maldivian classrooms. Through these classroom observations I witnessed teachers consistently using group work structures. However, this often involved placing eight students in a group, with only a small worksheet to be completed. The form of group work was evident but the cooperative elements of group work were absent. I recognised that these teachers were willing to make changes to traditional didactic structures and displayed favourable attitudes to the use of group work in their attempts to incorporate active learning into their teaching practice.

In outlining these assumptions and the implications from my previous experiences in the Maldives I have endeavoured to make explicit my views regarding the focus of the study and the relationships that existed between the participants of the study and the researcher. Describing the researcher's perspective in this way helps to achieve auditability (Guba & Lincoln, 1994).

Fieldwork can be difficult as we have to actually go out there and do it. (Punch, 2012, p. 8)

Part II: Data collection process

DBR is methodologically creative and uses multiple methods to study the phenomena within its natural setting (McKenney & Reeves, 2012, p. 8). Working in these real-world complex systems gives studies using DBR a high degree of ecological validity (McKenney, Raval, & Pieters, 2012, p. 8). In this study, context covered both the local setting and the policy context and data was collected to document both. An explicit concern in DBR is using methods that link processes of enactment to outcomes (Design-Based Research Collective, 2003). Therefore the qualitative methods outlined in this section were chosen to provide rich descriptions consistent with the DBR purpose of understanding how and why an innovation works within a setting over time, and to signal the potential implications for other settings (Design-Based Research Collective, 2003). The particular features of DBR mean it is usual to collect data from multiple sources (Bradley & Reinking, 2011a). Bradley and Reinking (2011b, p. 313) contend that 'because contextual factors and variations are of concern, it is essential that qualitative data be collected'. Thus, a range of qualitative data were collected to investigate (1) the characteristics of the intervention, (2) the contextual factors impacting on use of the intervention, and (3) any incremental improvements in performance or consequences arising from implementation of the intervention.

Initial steps and access to sites

Data collection was carried out in 2012 from March to November. The research project was officially endorsed by the Ministry of Education (MoE) during a scoping visit in September 2010 (see Appendix A). A pilot study was undertaken in September 2011 during which discussions took place with both the incumbent Deputy Ministers of Education and the State Minister of Education at the time, who all expressed their explicit support for the research. I was also fortunate to have been assisted by the Maldives National University in terms of visa arrangements and a space to work while in Malé during 2012. This was extremely useful as I was familiar with the campus and it provided a much needed base when in Malé. During the pilot study I not only tested some data collection tools, but I was also able to visit three schools in preparation for the fieldwork in 2012. The implications of pilot study activities are discussed in relevant sections throughout this chapter.

My arrival coincided with a period of political instability after a controversial change of government occurred in February 2012 (Lang & BBC, 2012). The political situation meant the Ministers I had met during the pilot study were no longer in their roles. Over the year, I worked to establish contact with the new Ministers. These conditions upon arrival set the tone for some ongoing challenges during the course of the fieldwork. In a place where events often take place at a moment's notice, there was a need to be constantly flexible and despite the best laid plans it was often necessary to adapt and respond to events as they arose.

Sites and sampling

Initially I had intended to include three school sites in the study using purposive sampling, based on the assumption they would 'yield the most information' (Patton, 2002, p. 236). The first decision was that the selected schools would be 'rural' or island schools. This decision was made in recognising the differences between Malé and island schools (Aturupane & Shojo, 2012; McNair, 2009; Zameer, 2010) and wanting to focus the study in the specific context where most teachers worked. The following criteria guided school selection:

School A – intervention implemented under optimum conditions
School B – intervention implemented under typical conditions
School C – refine intervention with view to scalability (if time allowed).

A school principal, supportive of active learning, was also a precondition, as I believed this strategy would have the 'greatest impact on the development of knowledge' (Patton, 2002, p. 236). Two potential school sites had been identified for School A and School B during the pilot phase. School A was known to me from my earlier work in the country as a school that had been proactive in its uptake of CFS. This was one of the two schools I had visited with UNICEF staff to view their model of CFS. School A was chosen as an information rich case for studying active learning because of their proactive uptake of CFS, an approach that Altinyelken (2011, p. 144) suggests is aimed at moving the debate beyond the obvious and exploring practices in the best possible circumstances. In this study, it meant implementing the intervention under optimum conditions. A potential second school site had also been identified during the pilot study when I met with the enthusiastic principal and visited the island. However, I learned early in 2012 that the principal had left the school at the end of 2011 to take up work in Malé,

meaning I was faced with the need to find another school, or at least to revisit this school to ascertain the interest of the new principal.

School A had confirmed their participation in the study prior to my departure from Australia. Its location in a northern atoll resulted in travelling time to Malé varied from 45minutes on a tourist seaplane to nine hours on a traditional Maldivian dhoni[2]. Sea travel can be unreliable and is subject to the vagaries of the weather. Despite the best will and planning, confirmation of travel was typically a last minute arrangement depending on availability of service, seats and weather conditions. To charter a boat was extremely costly so being able to travel meant fitting in with pre-existing arrangements and the necessity to act quickly should an opportunity for travel arise. Scheduled passenger boat services did not operate from this island so 'hitching a ride' on either the local cargo ferry or boats passing through was a possibility, but difficult to confirm until the last minute. Seaplane travel was on a stand-by basis and only confirmed the night before travel. These travel arrangements meant planning travel to and from Malé was extremely difficult. In seeking a new site I had the added dimension of then having to arrange further travel to a new island once I had arrived in Malé.

These transport realities had implications for being able to secure a new site for School B. It was also apparent that I needed adequate time to establish myself in a new school and develop rapport with the teachers. These challenges would prove to be critical contextual factors. Therefore, in responding to these on-the-ground realities, I decided to remain in School A and expand the study within the school to incorporate two distinct groups of teachers. Instead of implementing the intervention under optimum and typical conditions in different schools, the approach was adapted to implement the intervention under optimum and typical conditions with two distinct groups of teachers within this school. The first group of teachers (Group A) were CFS class teachers (grades 1-3) already introduced to the idea of active learning through the CFS framework. The second group of teachers (Group B) were primary grade subject teachers (grades 5-7) who tended to rely more on traditional teaching methods, so active learning ideas were less well known.

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[2] A dhoni is a traditional Maldivian boat, typically made from wood with a distinctive curved prow.

This decision to remain on one island had its benefits. I believe that through my extended time living on the island for eight months offered me, as a researcher,

> vital perspectives on educational process, particularly since they highlight the kinds of everyday activity and interaction in classrooms, schools, and other learning settings that may not be captured by more experience-distant approaches to research (Hoffman, 1999, p. 468).

In specifically discussing research in international settings, Stephens (2009, p. 83) raises the benefits of doing less more thoroughly. He proposes a rationale for focusing on a particular group of participants and considering the type and quality of knowledge to be sought rather than focusing on breadth of field. Staying on one island and working with one school community, also helped with another logistical challenge of DBR− developing productive collaborative partnerships (Design-Based Research Collective, 2003). In fact since DBR relies on committed relationships between teachers and researcher the Design-Based Research Collective (2003) contend that successful examples of DBR are often 'conducted within a single setting over a long time' with success hinging on being able to sustain these partnerships. This is particularly acute on small islands, given the highly personalised nature of relationships (Farrugia & Attard, 1989).

School A, referred to throughout this thesis as the Research School, was situated on an island with a population of almost 2000 people living on approximately one square kilometre, an average size Maldivian island. The island school was a government school with 412 students from grades 1 to 12 (A-level). English is the medium of instruction in Maldivian Schools in all school subjects except for Dhivehi and Islam classes. It was possible to converse in English in daily interactions on the island. A number of Indian expatriate workers (teachers and health care workers) lived on the island, reinforcing the necessity for some English to be spoken on the island in daily activities. The school was managed by a Principal, an Assistant Principal and a number of leading teachers. I had frequent interactions with the two leading teachers responsible for the teachers participating in the study.

The school which was selected as the site of this study has some distinctive features, relevant to characteristics of the Maldives outlined in Chapter Two. The island is located in an atoll in the mid northern area located in a region of four atolls where the per capita income is the lowest in

the country. The region also suffers from poor accessibility and connectivity and consists of highly dispersed small islands with a low concentration of tourism. The mean years of schooling of the region also fares badly at 4.21 compared with the national average of 4.62 and the Malé average of 6 years. The World Bank (Aturupane & Shojo, 2012) reports the atoll as having the lowest learning outcomes in the country as measured on national assessments. Malé results are more than double those of this atoll.

The Research School, as the Atoll Education Centre, is the education hub for the atoll, offering A-level education and hosting the TRC for the atoll. This means in the description of 'richer' and 'poorer' island schools, portrayed in Chapter Two, this school is 'richer' in terms of education facilities, and has a well-respected tradition of education within the island community and its location next to the only resort in the atoll, thus providing employment opportunities for islanders.

The school day was conducted in two sessions due to a shortage of classrooms with classes split over the two sessions as shown in Table 5. CFS classes were timetabled for 45 minute lessons while primary grades and high school classes initially ran for 35 minutes until a change took place in the middle of the year and lessons were extended to 45 minutes. My involvement with both morning and afternoon session teachers meant spreading my time, availability and energy over the two school sessions.

Table 5: Class distribution over the double session school day

Morning session (6.45-12.30)	Afternoon session (12.55-5.30)
Grade 1 – 1 class (1a)	Grade 1 – 1 class (1b)
Grade 2 – 1 class (2a)	Grade 2 – 1 class (2b)
Grade 3– 1 class (3a)	Grade 3– 1 class (3b)
Grade 4– 1 class	All Primary school classes (Grades 5-7)
Secondary classes (Grade 8 - A level)	

Participants

Within this island setting participants were drawn from the school community at different phases of the study. Different stakeholder groups across the school community were invited to participate in the contextual analysis phase, the initial phase of research activities on the island. They included parents from CFS grades, primary grades, teachers across the school and the

senior management team. All CFS class teachers in the school agreed to participate in the intervention phase of the study (Group A). Once the decision to remain on the island was confirmed in June, Group B teachers were invited to participate in the study, following the natural break that came after the Term 2 holidays which fell at the end of Ramadan. Teachers who taught lessons in English were invited to attend. I met with the teachers and explained the purpose of the study and the expectations for involvement prior to their acceptance.

Table 6 and **Error! Reference source not found.** provide details of the teachers who participated in the study. These included seven CFS class teachers, the CFS leading teacher who taught one class, and six primary subject teachers who taught classes in English, but excluded the Dhivehi language and Islam teachers who taught lessons in Dhivehi. Table 6 outlines the CFS class teachers (Teachers 1-7) who were involved in the intervention phase of the study from May through to October, and Table 7 shows the primary subject teachers (Teachers A-F) who agreed to participate in the second phase of the intervention from August to October. Participant codes have been used to protect the anonymity of the teachers.

Table 6: Group A CFS teachers (as at 30/8/2012)

Teacher	Years of teaching	Years at the school	Qualification
1	9 years 6 months	1.1.2003	Diploma of teaching (Primary)
2	9 years 6 months	1.1.2003	Diploma of teaching (Primary)
3	11 years 6 months	1.1.2000	Diploma of teaching (Primary)
4	3 years	28.10.2009	Diploma of teaching (Primary)
5	8 years	15.4.2004	Advanced Certificate teaching (Primary)
6	13 years 8 months	1.1.1999	Advanced Certificate teaching (Primary)
7	10 years 8 months	1.1.2002	Diploma of teaching (Primary)
8[3]	16 years 8 months	1.1.1997	Bachelor of Education (Primary)

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[3] Teacher 8 is the leading teacher who was teaching one class during the intervention phase and participated in the study. In later chapters he is coded as a member of the senior management team (SMT 3) but for clarity he is counted as a participating teacher.

Table 7: Group B Primary teachers (as at 30/8/2012)

Teacher	Subjects	Years of teaching	Years at the school	Qualification
A	English	3 years 10 months	1.11.2008	Diploma of teaching (Primary)
B	Social Studies	19 years	8.5.1993	Diploma of teaching (Primary)
C	Science	1 year 6 months	1.1.2011	Diploma of teaching (Middle school)
D	English Science	7 years	1.8.2005	Advanced Certificate teaching (Primary)
E	Maths	7 years	1.8.2005	Advanced Certificate teaching (Primary)
F	Maths Dhivehi	8 months	11.1.2012	Diploma of teaching (Primary)

A number of participants, drawn from the wider education sector, were also included in the study in seeking to understand the 'context and surrounding systems' (McKenney & Reeves, 2012, p. 169). They included a number of Ministry of Education officials, UNICEF education personnel and MNU academic staff. Further details are provided later in the chapter. Purposive sampling was used, targeting 'key informants who are particularly knowledgeable' (Patton, 2002, p. 321) about CFS, active learning reform and teacher education. These participants were largely based in Malé and were part of an investigation into the surrounding system that contributed to understanding the complex whole and how 'the constituent parts interact' (McKenney & Reeves, 2012, p. 171).

Data collection: Methods and procedures

Due to the nested, layered and overlapping (Patton, 2002, p. 300) nature of the study, the methods and sources of data are described in the way they unfolded. Outlining the events in this way is designed to elucidate the procedures around both planned and unplanned (Patton, 2002) activities. Specifically I provide details on the data collection process and to what extent planned activities were adapted, when and how activities took place simultaneously, and how serendipitous opportunities arose. I also outline the decisions that took place during the data collection process, demonstrating the need to remain flexible to the realities of island life and long-term immersion in the field.

The Maldivian school year operates from early January to November and I timed the data collection activities to maximise my time in the field during the school year. Teaching stops sometime in mid-October in preparation for scheduled terms tests. I arrived in the country in March and with the end of Term 1 approaching I felt it was necessary to travel to the island as soon as possible to establish myself in the school and start the research process before the holidays. I reasoned this would allow me some time over the Term 1 holiday break to do an initial analysis of the data collected from the first phase of the contextual analysis in preparation for the intervention phase. The controversial resignation of President Nasheed in February 2012, a few weeks before my arrival, meant that Malé was heavily patrolled by military personnel and there were frequent political demonstrations.

In the midst of this political instability, the initial period of field work was challenging and, according to Patton (2002) can be frustrating and give rise to self-doubt. Whilst it was good to be away from the frequent demonstrations and political upheaval centred in Malé, the early weeks in the school were full of uncertainty as I adjusted to the realities of living on a small island. Isolation was a real challenge. I was also struggling with basics such as diet with the limited availability of fresh produce. Managing the multiple roles within the DBR process compounded the intensity of this early phase. I was trying to plan a clear research strategy appropriate in the setting, establish relationships within the school, become actively involved in school life and determine teacher education procedures, in line with the introduction of the intervention - the instructional model. I was fortunate that the school assigned me a space to work which helped immensely with establishing my presence in the school. My designation was proposed by the school to be 'consultant', but I suggested 'researcher' was more accurate (Figure 11). This room was an important location throughout my time in the school as a focal point for research activities and a private place to carry out interviews. Having this base within the school also meant that school personnel could 'drop by' and many interesting discussions took place in this room.

Figure 11: My work space in the school

During my data collection activities I kept a fieldwork journal. This was a means of recording actions of participants, as well the researcher's reaction to them (O'Toole & Beckett, 2009, p. 142). I kept this book close at hand and recorded all research activities that took place, allowing for a record of unplanned or spontaneous interactions and observations of school life. I also recorded my reflections on research activities. Punch (2012) makes a distinction between field notes and a field diary. Field notes describe what is happening while 'a field diary records how the researcher feels about the research process' (Punch, 2012, p. 90). My journal covered both. Demands were great and the journal was a welcome source of reflection in a hectic schedule. Not only were there multiple roles within the DBR process difficult to juggle, I was often called upon to assist with school activities. Therefore keeping such a journal was a way of recording details relevant to my research activities. It was also a support mechanism in coping with the isolation on the island and enhanced 'the process of reflexivity' (Punch, 2012, p. 87). Given the need for adaptability in working within the realities of the context and changes to planned activities, this fieldwork journal was also a 'record of the methodological narrative' (Stephens, 2009, p. 96).

Overview of Design

This study was conducted over several phases aligned with DBR process framework, corresponding to the broad purpose of undertaking a contextual analysis and documenting the intervention; its preparation, enactment and reflective activities. Data were collected for each phase, although these activities were not always conducted in a linear timeline as there was some overlap at times. The contextual analysis activities served two purposes: to inform the intervention design; and to understand the local context and the wider policy context at the

system level. The phases of the study along with corresponding participations and data collection tools are presented in Table 8. Alongside the data collected in School A, further data were collected to better understand the surrounding context through a number of interviews with school, island and education sector personnel.

Table 8: Data collection tools that were used in different phases of the study

Study phase	Participants	Data collection tools

Contextual analysis – local island context	Parents, teachers, leadership team	• The World Café:
		  - Photo elicitation activity
		  - Graphic elicitation activities
		• Teacher questionnaire
		• Semi-structured interviews

Generating the intervention design	Group A participating teachers	• Workshop details • Teacher group meeting • Field notes • Classroom observations • Teacher recording booklets
(Operationalising) the intervention	7 Group A teachers – Grades 1-3 (**CFS classes** – Generalist teachers) 7 Group B teachers – Grades 5-7 (**Primary grades**– Subject teachers)	• Record of teacher discussion • Field notes • Teacher questionnaire • Semi-structured interviews
Retrospective analysis	7 Group A teachers – Grades 1-3 (**CFS classes** – Generalist teachers) 7 Group B teachers – Grades 5-7 (**Primary grades**– Subject teachers) Leading teachers for CFS and primary teachers	• Teacher questionnaire • Semi-structured interviews
Contextual analysis - System level policy	MoE officials, UNICEF, MNU	• Semi-structured interviews

Given my original plan to leave the island at the Ramadan break and move to another island (proposed School B) the initial establishment of activities regarding the intervention took place with Group A teachers in decisions around the intervention focus and the pattern of research activities. When Group B teachers became involved with introductory activities, the foci and routines had already been established. However, the workshops introducing the intervention strategies, conducted earlier in the year had involved all staff in the school and Group B had participated in them.

Contextual Analysis: Island school context

Design-based research is designed to be grounded in the 'needs, constraints and interactions of local practice' (Design-Based Research Collective, 2003, p. 8). Therefore, data collected in the contextual analysis phase of the study was designed to:

- document community perspectives on active learning;

- establish a picture of existing teaching practice in the school particularly related to active learning;

- determine priorities for active learning reform for teachers and other stakeholders;

- provide input into the intervention design; and

- promote an inclusive process of school-community collaboration, as part the 'promising solutions' discussed in Chapter Three.

During this phase the following methods were used: The World Café; semi-structured interviews; and teacher questionnaires. They are now be explained regarding how they were used and who was involved.

The World Café

The initial analysis of the school context was conducted using a modification of an approach known as The World Café. The World Café is a process that seeks to encourage collaborative dialogue, share knowledge and consider opportunities for action (J. Brown & Isaacs, 2005). It can be viewed within the context of the 'participatory turn' in research and policy-making (Aldred, 2011) and has been successful with island communities in the Pacific (Pamphilon, 2006).

The World Café involved a series of group activities. Chambers (1992), in profiling the rise of participatory methods within the NGO sector, drew attention to the use of groups. He proposed that groups 'can encourage and enable people to express and analyse aspects of life and conditions which they most likely would not otherwise reveal' (Chambers, 2007, p. 27), contrary to some professional beliefs. Group strategies have the added value of being well suited to cultural contexts 'that privilege the communal over the individual' (Stephens, 2009, p. 94) which is applicable to the Maldives. In this study, the use of group strategies enabled greater numbers of participants to be involved in the contextual analysis, thereby, allowing a greater number of voices to be heard in this phase (Chambers, 2007). Whilst being inclusive through increasing the number of participants involved, it can also to be considered be inclusive by giving voice to people and groups that are less powerful (Stephens, 2009, p. 95).

The World Café, as a data collection tool was tested during the pilot study in September 2011. Where two school sites were chosen based on convenience sampling (Patton, 2002) in this instance. A range of participants from within each school community – CFS parents, teaching staff and SMT − were invited to attend. The structure of The World Café worked extremely well, resulting in the active involvement of participants, animated discussions and comprehensive data. Subsequently, I followed the same structure for the design of The World Café for School A in March 2012.

Different stakeholders drawn from the school community for School A were invited to participate: parents from CFS and primary grades; teaching staff across the school; and the senior management team (SMT). This involved approximately 200 people in total (60 school staff members, 80 CFS parents and 54 primary parents). Due to space limitations, the activities took place with each of these groups in three separate two hour sessions for CFS parents, primary parents and school staff. In each session participants worked in groups of 5-6. Teachers and school leadership worked in discrete groups within their session to overcome any potential issues around hierarchy within the staff. The World Café was adapted to include photo and graphic elicitation methods (Bagnoli, 2009; Harper, 2002). These methods were selected to enable communication without solely relying on language 'as the privileged medium for the creation and communication of knowledge' and 'allow us to access and represent different levels of experience' (Bagnoli, 2009, p. 3).

Photo elicitation

The use of photos was chosen as a tool to stimulate discussion. Bignante (2010, p. 2) suggests that photographs can elicit information that 'generates insights that do not necessarily or exclusively correspond to those obtained in verbal inquiry'. Each group was given a set of photos of various classroom activities (Figure 12) and asked as a group to rank the photos according to how well they represented active learning. This stimulated animated discussion in the groups. Each group then recorded their rankings and their reasons for each placement. Harper (2002) argues that photos expand the possibilities in empirical research and produce a different kind of information. In providing a stimulus for discussion and collaboration, he contends this is 'an ideal model for research' (Harper, 2002, p. 13).

Photo A

Photo B

Photo C

Photo D

Photo E

Photo F

Figure 12: Photos used in photo ranking activity

Graphic elicitation (Concept mapping)

Unrau (2001) suggests this technique helps give a picture of the various components of a program and how change is perceived to be achieved by participants. It was selected as a suitable tool for helping to reveal the underlying assumptions of participants (Yampolskaya, Nesman, Hernandez, & Koch, 2004) and in revealing perspectives and priorities related to active learning in the school. The method used in this study involved two stages. First, each participant was asked to brainstorm their ideas about the important features of active learning. Second, group participants were asked to combine and categorise their ideas resulting in the

creation of a unique visual display for each group. The resulting concept map provided useful and rich data to better understand participants' views of the CFS project and active learning.

SWOT analysis/Parking lot

A SWOT analysis (Strengths, Weaknesses, Opportunities, Threats) was included as a way of gaining information on perceived strengths and weaknesses of the CFS project. Owen and Lambert (1998) suggest SWOT analysis as an effective means to gain information about a current situation. In response to time constraints, the four areas were simplified to the following two questions: 'What is going well?' and 'What needs improvement?', using a template known as Parking Lot (Langford, 2003). The purpose was to document how participants view the enabling and inhibiting factors in using active learning methods in the school.

Ten seeds technique

This technique is a participatory method that is designed to explore community experiences in aid projects by removing barriers in communication due to literacy (Jayakaran, 2002). Ten seeds were weighted to represent priorities relevant to the issue under discussion. The purpose of using this tool was to provide another means of non-verbal communication. This technique proved useful during the pilot study to cross-check photo rankings against the seed allocations, serving as a method of data triangulation.

Figure 13: The World Café activities - Photo and graphic elicitation activities

Teacher questionnaires

In preparation for the intervention phase teachers who had agreed to participate in the study were asked to complete a short questionnaire on attitudes to active learning, their perception of

the challenges in using this pedagogy and a general overview about how their lessons were structured (see Appendix B). Questionnaires provide great utility and can be quickly collated (O'Toole & Beckett, 2009), which was important in this study for moving onto the next phase. O'Toole and Beckett (2009) assert that a drawback of questionnaires is the inability to interrogate the answers. The questionnaire was thus used in conjunction with an initial interview in the next section. The questionnaire was adapted from Wolf and Le Vasan (2008) and based on their study of Singaporean teachers' receptivity to change. It included questions in the following categories: attitudes to active learning; lesson structure; use of active learning; and receptivity to change. The questionnaire was tested in the pilot study to trial the tool for its comprehension and usefulness. Several questions were edited to aid comprehension based on reactions by teachers during the pilot study.

Semi-structured interviews

Interviews are a way to find out people's stories, their intentions and what is on their mind (Patton, 2002, p. 341). I used interviews at this stage of the study to determine participants' views on active learning and establish individual priorities regarding active learning reform as distinct from the group process of The World Café. Interview data were triangulated with other forms of data. A semi-structured approach was used following a series of set questions, yet retaining flexibly to accommodate interviewees' particular interests. This approach also allowed for consistency across multiple interviews. All scheduled interviews were recorded and later transcribed.

Teacher interviews

The initial teacher interview was conducted to elaborate answers from the initial questionnaire and to triangulate data collected from other sources. Each interview took about 30 minutes. The interviews began with a ranking activity (Appendix C) adapted from Akyeampong et al. (2006) in which teachers ranked statements about learning. It was a way of establishing rapport as the interview opened with a discussion of their ranking choices and provided information about their teaching and learning priorities. The first two interview questions, also adapted from Akyeampong et al. (2006), asked teachers to reflect on previous experiences in teaching and explain the characteristics of a good lesson. Subsequent questions targeted teachers' experiences

of learning about and using active learning methods (Appendix D). The final teacher interviews were conducted following the intervention phase.

Senior Management team and school context interviews

In seeking to understand the school and island context, interviews took place as time and opportunity allowed. Within the school, the SMT were interviewed to understand the school context from the perspective of each person's respective role (see Appendix E for questions). Some interviews were also undertaken with several personnel outside of the immediate school but provided additional perspectives on the island context.

Current Principal

An interview was planned with the Principal early in this phase. The intention was to document the school principal's vision of active learning for the school. Due to difficulty securing a convenient time, the principal suggested I email the questions to him and he would record his answers. I also subsequently met with the principal during my time on the island, as opportunities arose, and we discussed both school anecdotes and my research activities. Notes from these conversations were recorded in my field notes journal.

Previous principal

I was able to interview the previous principal during a trip to Sri Lanka where he was studying. This was a serendipitous opportunity as one of my previous students from FE was completing the same course in Colombo with him and so arranged the interview. This was very helpful as he was in a key leadership role in the school during the time CFS was initially adopted so proactively.

Leading teachers (CFS and Primary teachers)

Each of the leading teachers for the Group A and Group B teachers was interviewed at the beginning of their respective intervention phases. This was to ascertain the leading teachers' individual vision for the use of active learning to be enacted with their respective group of teachers.

Teacher Resource Centre coordinator

The Teacher Resource Centre (TRC) coordinator, a MoE employee responsible for the atoll's professional development (PD) through the Teacher Resource centre, had been a leading teacher in the school during the initial adoption of CFS. This history, as well as his role in developing professional development opportunities was of interest. In particular, the general principles of how PD is organised, and specifically how active learning is supported in both the school and atoll were explored.

Professional Development coordinator

Each school has a PD coordinator who works in conjunction with the TRC coordinator in the design and delivery of PD opportunities within each school. I interviewed the PD coordinator to better understand his role in the school and both the opportunities and challenges he encountered.

School and Island context information

Two further interviews were conducted to build a picture of the local island's immediate context. The Island Office councillor was interviewed about island characteristics along with his role in the school as a previous deputy principal and a member of the school board. The local resort manager was interviewed as there had been collaboration between the local resort island and the school, for example, supporting the school with resources, engaging in discussions about developing a hospitality stream of study at O level, providing 'fishing island tours' for resort guests and included a tour of the school. The resort had a key role in supporting the island economy as major provider of local employment.

Given the large numbers of Indian expatriate teachers within the school (and within most Maldivian schools), I developed a questionnaire (Appendix F) to better understand the perspectives of this group. This anonymous questionnaire was designed to explore views about learning, active learning and the teachers' experiences of teaching in the school.

Generating the intervention design

The intervention in this study was developed and refined through several filters based on the rationale of what is likely to work in the given context. After exploring the context of active

learning reform in the Maldives, Chapter Two concluded with the implications that were drawn from locally grounded research and reports relevant to active learning. In Chapter three, an overview of 'promising solutions' was presented, derived from literature across a range of developing and middle-income countries. The ideas tendered in these two chapters afforded the first step in the development of the intervention designed to 'render a plausible solution' (Kennedy-Clark, 2013, p. 28) suitable for the Maldivian context. The 'promising solutions' were then refined locally on two levels: to reflect school community priorities and perspectives as documented in the contextual analysis phase; and second as refined collaboratively with the participating teachers in response to their specific needs for their teaching. Therefore, consistent with DBR, the initial and broad features of the intervention evolved from previous research findings (Ma & Harmon, 2009), and were then customised to meet local needs (Hjalmarson & Diefes-Dux, 2008, p. 530). The evolution of the specific intervention is discussed following the reporting of the results from the World Café in Chapter Five.

Adhering to the participatory approach of the study, the teachers and I worked collaboratively to decide on the focus of activities during the intervention phase. My initial participatory focus was centred on teachers and myself being equal partners, bringing different sets of knowledge to the research process. I had planned for teacher ownership in developing criteria for success; however it did not eventuate in the way I envisaged, as the teachers were reluctant to accept this authority. Therefore, the nature of decision-making and collaboration changed during this time, which is discussed more fully in the subsequent section detailing the challenges of the study.

Operationalising the intervention

The purpose of this phase was to operationalise the active learning intervention. Outlined in Table 9 are the multiple data sources used in documenting teachers' use of the intervention during this phase. DBR typically triangulates multiple sources and types of data to connect intended and unintended outcomes of the intervention (Design-Based Research Collective, 2003). A variety of data sources can provide an 'auditable trail of documentation' revealing 'important characteristics of teachers' developing knowledge and abilities' (Lesh, Kelly, & Yoon, 2008, p. 141).

Table 9: Data sources used to document teachers' use of the instructional model

Teachers and classroom focus – documenting use of the intervention	
CFS Teachers	**Primary Teachers**
Recording booklets 1&2 (green)– use of strategies	Recording booklets (red) – use of strategies
Classroom observations (template form)	Classroom observations (template form)
Photographs	Photographs
Co-planning and lesson debrief summaries	Co-planning and lesson debrief summaries
Team teaching notes	Team teaching notes
Lesson plan samples	Lesson plan samples
Record of teacher initiated requests	Record of teacher initiated requests
	Revision strategies questionnaire

During this phase, the fieldwork journal also became a key 'method in its own right'(Stephens, 2009, p. 96) as I recorded details of collaborations with teachers which were outside the planned data collection methods. This provided details of support mechanisms in the process of operationalising the model: workshops; team teaching sessions; co-planning lessons; and key points discussed in debrief meetings. My field notes, which involved a log of activities, daily reflection on events during the day, notes from meetings (both planned and incidental) within the school, and reflections upon challenges were a critical data collection tool at this stage.

Teacher group meetings

Adhering to the participatory approach of the study, group meetings were designed to be a central component of the data collection. These meetings formed the nexus where research and design intersected. The goals were to capture:

- the processes embedded in the design of the instructional model and related professional development activities;
- teachers' thinking around the design;
- teachers' learning arising from professional development activities; and
- teachers' reflection on their efforts to enact active learning in their classrooms.

Like focus groups, these meetings were designed to enable in-depth discussion with a small number of people by focusing on specific topics in detail (Liamputtong, 2010). At the very early stages, a number of teacher meetings were organised; however, with the dual session school day and the overall busy nature of the school week it was not possible to sustain these meetings. In

adapting to this contextual factor, separate meetings with morning and afternoon session teachers were trialled before and after classes for several weeks.

Yet, it became clear that these meetings were consuming teachers' planning and preparation time. Understandably their priorities were elsewhere, so more viable solutions were found. The first solution was that I began attending the teachers' weekly scheduled planning meetings. The second solution was to meet with individual teachers more regularly. Consequently, these new arrangements turned one core weekly meeting into a series of meetings across the week, putting additional pressure on my time but at least allowing me to collect data that fulfilled the purposes inherent in design of the group meeting. Once these arrangements were in place, I felt that my research activities had moved to a new level consistent with what Patton (2002, p. 318) terms the 'routinization of fieldwork'. My presence in the school was now well-known and the communication protocols and data collection procedures were established.

Teachers' scheduled planning meetings

Each Wednesday night a planning meeting took place at 8.30pm with both CFS and Primary teachers meeting separately (Figure 14). There was already a set procedure for the meeting so my presence was an added component. Each leading teacher made general announcements followed by time for teachers to plan in grade levels or subject groups. There was also a social component to the night with food being shared between teachers. Through the sharing of food I was able to get to know the teachers' better in a more informal way. I was also able to use the opportunity to communicate with teachers and organise specific meetings or observations for the upcoming week. I recorded details of each meeting in my field notes journal.

Figure 14: Photos of planning meetings with Group A and Group B teachers

Individual teacher meetings and discussions

Ongoing discussions took place with each participating teacher as the intervention unfolded. These were determined collaboratively with the teachers often in conjunction with classroom observations (see Appendix H for list of activities). Meetings usually related to specific lessons and included planning lessons collaboratively, discussing team teaching sessions and lesson debriefs. A further type of response became evident which was teacher initiated queries and questions about the 'we do' strategies. Collecting this information had not been planned, but I decided this was valuable data and I created a log of queries which included who, when and what type of query.

Teacher recording booklets

Central to documenting teachers' use of the instructional model was the Teacher Recording Booklets (see Appendix H) distributed to each participating teacher. I created these as a way of documenting teachers' use and experience of the intervention strategies each week along with teachers' ideas on implications for any potential further use. These recording booklets served as both a log of intervention activities used in their classes, as well as data on teachers' experience and reflection on using the various strategies. The booklets were designed to allow interpretation and meaning to come from the participants (Stephens, 2009, p. 96). Group A teachers completed two booklets over the fieldwork period – one before Ramadan (May – July) and one after Ramadan (August to October). Group B teachers completed one booklet (August to October). I offered to scribe answers for teachers who requested help to record their responses. Some teachers completed the booklets entirely independently while a few teachers in Group A asked for support. The handwritten booklets were typed up at the end of each block of time into a table as a way of collating responses from all teachers into one document and to back-up the hand written data.

Participant observation – classroom and school context

Observations were included to 'develop a holistic understanding of the phenomena under study' (Kawulich, 2005, p. 4). Classroom observations were planned to serve two main purposes: to collect rich descriptions of the teachers' classrooms; and to observe the use of the intervention in Maldivian classrooms. This was part of the diversity of data collected to capture the character of the setting and the participants, as well as providing another data source in an effort not to

leave any participant unvoiced. Classroom observations were also critical in seeing how teachers' enacted the ideas raised in their questionnaires and interviews.

Classroom observations followed a generalized format (see Appendix I). The researcher stance was one of 'observer as participant' (Gold, 1958, p. 221) where participation in the group was secondary to data collection, but did not exclude some interaction. All lessons observations were decided in consultation with the participating teachers and were always followed up with a discussion. Observation and interviews were combined to 'cross-check findings' (Patton, 2002, p. 306). Interviewing participants and direct observation together can also help reveal tacit theories (Patton, 2002). Over time teachers also made explicit requests for classroom observations to include some form of team teaching, saying that they needed to see the new strategies being enacted in their classrooms. In responding to this request, some lessons during the intervention were co-planned and team taught. At these times, the researcher stance became 'participant as observer' (Gold, 1958, p. 220), where researcher activities are known to the group and the researcher is 'involved in the setting's central activities'. Notes and observations from these activities were recorded in my field notes journal.

Throughout my extended stay on the island I recorded in my journal, observations of school life and reflections on events taking place within the school. As I came to experience the daily rhythm of school life and recorded these observations, I also took notes on 'observing what does not happen' (Patton, 2002, p. 295). Sometimes the absence of occurrence was noteworthy and related to both my observations of school events and teachers' activities.

Photographs

Photographs were used as a means of capturing detail that may be overlooked or forgotten without photographic evidence (Bogdan & Biklen, 2007). I used photographs in this study in combination with classroom observations to build a more comprehensive picture of classroom practice, as well as documenting the physical environment of the school and the practical conditions in which teachers work.

Documents

Documents can reveal considerable information about a program that cannot be observed (Merriam, 2009, p. 141). In conjunction with the data generated from participants, a variety of documents were collected in keeping with generating thick description through the use of a diverse data types. The following documents were collected within the school: examples of textbooks; examples of revision materials created by primary teachers; assessment samples; schemes of work – CFS grades 1-3 and primary grades 5-7; and examples of teachers' lesson plans.

Mid-way questionnaire

A questionnaire (Appendix J) was completed by Group A teachers midway through the intervention phase, just prior to the Ramadan break. This provided an opportunity to gather information on teachers' overall experience in using the active learning instructional model and associated strategies, and to determine the support mechanics that had been most useful.

Retrospective analysis phase

In the final phase of data collection on the island, I gathered post-intervention data for the retrospective analysis phase. I adopted a non-evaluative position in this phase, seeking instead to document teachers' reflections in line with their aspirations and perceptions of their capabilities of applying the active learning strategies. In a final questionnaire and interview (Appendices Q and R), the participating teachers reflected on their use of the active learning strategies over the intervention period. I also conducted final interviews with the leading teachers for Group A and B teachers.

These interviews began in October once teaching for the year had ended. There were a number of challenges arising during this time: multiple interviews to be completed; some practical logistical obstacles; and the pressures around organising my final departure from the island. Power in the school went off for a day when a number of interviews were planned and with a tight timeline I proceeded to hold the interviews outdoors under a tree. There was a domino effect in interview cancellations at one stage due to a virus making its way around the island. With the five day EID holiday approaching, I made a decision to travel to Malé for a few days respite and return to the island to complete the interviews after the holiday. Then, due to a bad

storm I was stranded in Malé, competing with many others to secure travel out of Malé. It took me a week to travel back to the island, including being bumped off a seaplane flight after sitting at the airport all day. Consequently, I had three days to complete the final interviews. Teachers made themselves available on the weekend to aid with the completion of final activities.

Contextual Analysis: System level data

A central tenet of DBR is the necessity to study the wider context in which the intervention is implemented. The context in this study includes both the immediate island context as well as 'systems surrounding the immediate context' (McKenney & Reeves, 2012, p. 171). Therefore data were collected from key personnel from the education sector. Several serendipitous opportunities, labelled 'managed luck' by Stephens (2009), also arose during fieldwork and resulted in some unplanned interviews with MoE officials that provided valuable contextual data.

Key education sector personnel

Semi-structured interviews were organised with a number of key personnel from MoE, UNICEF and MNU (Table 10) to gain an understanding of the policy context in which teachers work. Due to the political events in 2012, some positions were in a state of flux and, therefore, I tried to secure interviews with both serving and current ministers. Interviews were focused on identifying goals for the CFS framework, efforts to promote active learning in Maldivian schools, and teacher education practices. All interviews were audio-taped and transcribed. Most interviews took place in Malé at different times during the year when I was able to be in the capital and times could be scheduled. Although the interview questions were adjusted according to participants' various positions, a list of sample questions is provided in Appendix K.

Table 10: List of system level interviews

System level – interviews	
Ministry of Education	Minister of Education (previous and serving)
	Deputy Ministers (two serving ministers)
	Minister of State for Education (previous)
	Educational Supervision and Quality Improvement Department personnel *
	Education Development Centre personnel*
	Centre for Continuing Education personnel*
	Teacher Resource Centre coordinators*
	(*all sections within the Ministry of Education)
Faculty of Education **Maldives National University**	Vice Rector
	Head of Department - Education and Professional Studies
	Three Deans (previous and serving)
Other	UNICEF personnel

Supervision and Quality Improvement Division personnel

The first serendipitous opportunities occurred during the week April 22-29 when the Supervision and Quality Improvement Division (ESQID), from the MoE, carried out an evaluation in School A. These ESQID visits take place every four years, so this was fortuitous timing for me as I was able to interview ESQID team members about the purpose of their visit. These interviews coincided with the initial CFS teacher interviews so I was also able to document the teachers' perspectives on the visit. Having the opportunity for these concurrent sets of interviews provided insights into the interplay and consistency of perspectives into the Maldives school quality control processes.

Teacher Resource Centre Co-ordinators

A further unplanned opportunity arose in June when an ICT training program was conducted on the island for all TRC coordinators from across the country. Typically, this training is conducted in Malé, so having the TRC coordinators in this outlying atoll provided another unanticipated opportunity. The TRC coordinators agreed to a group interview (18 people) to discuss their observations of active learning pedagogy across the country. A group interview allows for issues to be covered more freely than in a focus group where a clearer procedure is followed (Hurworth, 1996a). I chose a group interview to document perspectives about CFS in schools and insights on the enabling and inhibiting factors in the use of active learning methods. As a

warm up, participants worked in groups of 4-5 to complete the same modified SWOT analysis used in The World Café (Table 11). This was designed to give voice to all participants, plus allow time for discussion with the whole group which was audio recorded and transcribed.

Table 11: Format used for TRC focus group discussion

Active learning in atolls	
+What is going well?	!What needs improvement?

Data analysis and representation

Design-based research, as a long-term endeavour typically involves massive amounts of data (McKenney & Reeves, 2012, p. 201). Referring to DBR, Dede (2004, p. 7) reports 'everything that moved within a 15-foot radius of the phenomenon was repeatedly interviewed, video-taped, surveyed and so forth…' which nicely captures my feeling at the end of the eight month period of fieldwork. As a result, the scope of the data in this study amounted to a rich array of data from a variety of sources and methods. However, what was paramount for me in this data analysis phase was finding a way to sort 'the signal from the noise' (Hjalmarson & Lesh, 2002). The data analysis activities involved consolidating, reducing and interpreting the qualitative data (Merriam, 2009, p. 176).

Data were analysed through qualitative means according to emergent themes (Miles & Huberman, 1994). A particular aspect of DBR is that data analysis does not stand apart from data collection; therefore these two activities became part of the iterative process of DBR within this study. Embedded in DBR is systematic data collection and analysis leading to design of the intervention in the field. Consequently data analysis started in the field, as explained earlier, with the initial analysis of The World Café undertaken during the school holidays (see later discussion of this point).

Qualitative data analysis, according to Miles and Huberman (1994, p. 10), is an iterative enterprise involving three concurrent flows of activity: data reduction, data display, and conclusion drawing/verification. They define data reduction as a continuous process involving selecting, abstracting, simplifying and transforming data collected (1994, p. 10), and data

display as 'an organised, compressed assembly of information that permits conclusion drawing and action'(Miles & Huberman, 1994, p. 11). Drawing conclusions is a process that begins from the start of data collection in making decisions about 'what things mean and noting regularities, patterns, explanations, possible configurations, causal flows and propositions' (Miles & Huberman, 1994, p. 11).

The processes of data reduction and data display were used simultaneously in managing data through an ongoing process both in the field and after the intervention phase through an array of descriptive display formats (Miles & Huberman, 1994). I used matrices extensively as a form of visual display and a way of managing large amounts of data. Hurworth (1996b, p. 63) suggests the use of 'diagrams and matrices will organise data in an efficient way and focus thinking', while Miles and Huberman (1994, p. 239) contend that matrices require the researcher to make full analyses and consider what portions of the data are needed to answer the research questions.

The contextual analysis phase, as the precursor to the intervention phase, necessitated that the first level of data analysis took place in the field. At this early stage, when it is not possible to know what matters most, and thereby meaning that everything matters (Miles & Huberman, 1994, p. 55), I wanted to capture all the participant responses. I did this through a series of matrices in which the responses from each group participating in the World Café were recorded in a grid (Appendix L). From these displays, responses were then coded according to emergent themes. Coding is an inductive process of narrowing data into themes (Creswell, 2005; Merriam, 2009). This can be understood through Miles and Huberman's (1994, p. 249) explanation of the action of clustering; trying to better understand a phenomenon by *grouping* and then *conceptualizing* objects that have similar patterns or characteristics.

So, at this stage I made decisions about which data chunks to code and which patterns best summarised the data across the groups for each of the World Café activities. The data were reduced into an open grid in which the headings of each column represented an emerging theme where overlapping ideas across groups could be conflated. This was an evolving process and these grids were refined over several iterations, an approach endorsed by Miles and Huberman (1994). These grids were then further coded across the three World Café activities in a manual 'cut and sort' procedure, similar to the manual process described by Bogdan and Bilken (1992) where the data displayed in the grids were cut and up organised into a series of overarching

themes (Appendix L). This compilation allowed conclusion drawing and interpretation of the data and was also a means of triangulation. The process of data analysis, in this contextual analysis phase, is represented in Figure 15.

Data

World Cafe data
Photo ranking
Concept mapping
Parking Lot

Data Display

Data display
Data from each group displayed in a grid

Data Reduction

Data reduction
Similar ideas conflated to identify emergent themes within each activity

Conclusion Drawing

Conclusion drawing
Themes across all activities were identified
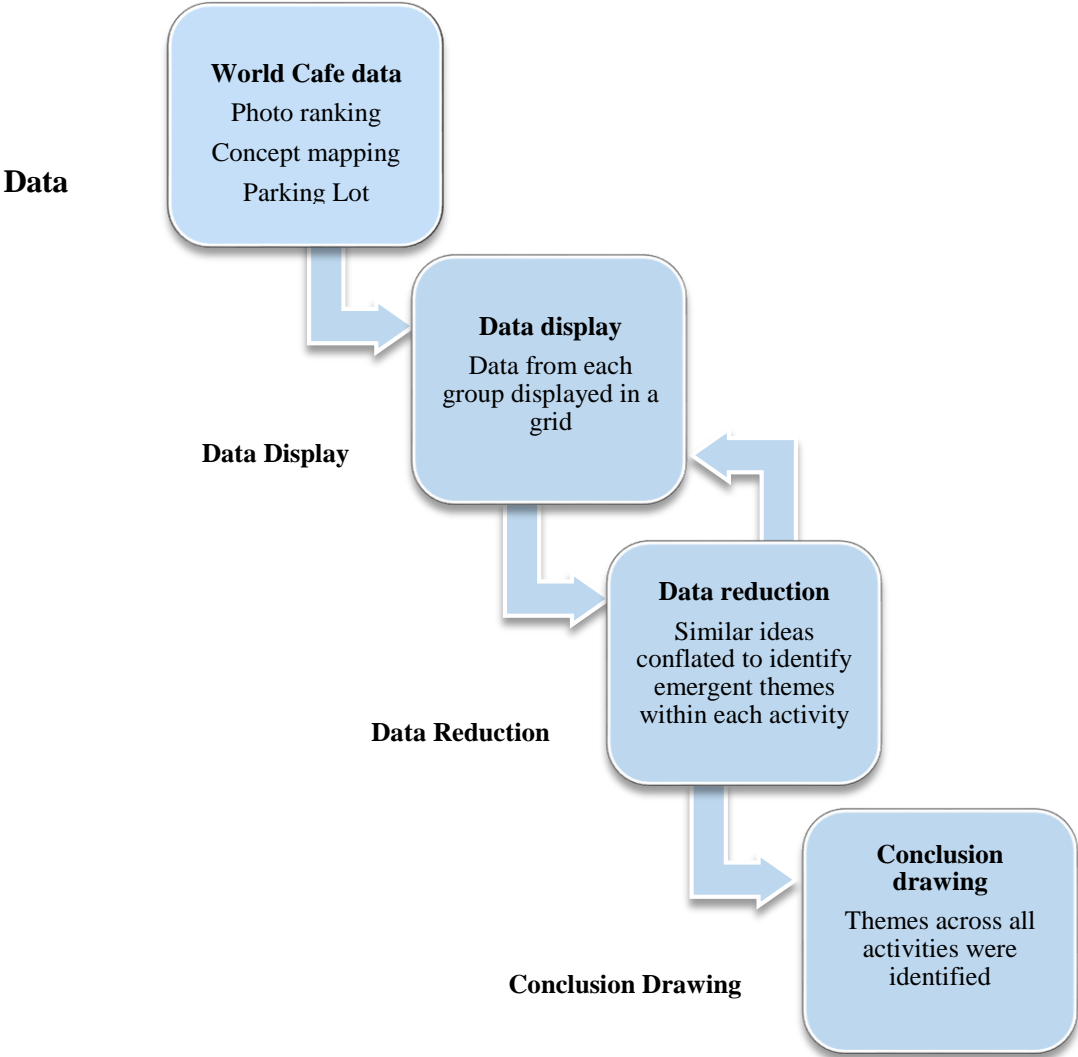
Figure 15: Data analysis process for the contextual analysis phase

The intervention data were analysed as illustrated in Figure 16. The first step was to display all the data from the multiple sources. Where possible this was displayed in grids. Data pertaining directly to the intervention's use were also displayed in grids, apart from the interview

transcriptions which were left as full text at this point. Following this another manual 'cut and sort' procedure was undertaken with the following sets of data.

- Teacher questionnaires – responses for Group A and Group B teachers were collated across questions, including tallies where quantity data was available.
- Teacher recording booklets – responses were typed up into a grid including tallies where this was possible.
- Classroom observations were typed up according to a template.
- Teacher interviews – transcriptions were printed on different coloured paper for each teacher, using a different font for pre and post intervention interviews. Responses for particular questions were collated into a grid, allowing comparison across teacher groups.
- Field notes were typed up from the handwritten journal (which also allowed for key word searches).

Using copies of this data, a further manual 'cut and sort' approach was used with this intervention data, in which data were coded through the same clustering approach of grouping the data according to similar patterns or characteristics (Miles & Huberman, 1994) (Appendix L). Data were analysed across each teacher group separately, allowing for later comparison of the emerging themes and tallies for Group A and B teachers. A similar 'cut and sort' process was also used for contextual analysis interview data for both the local island context and the system level interviews, which provided important contextual details, particularly in identifying the supporting and inhibiting factors arising from the contextual features.

Data

Intervention data
Teacher interviews, teacher questionnaires, teacher recording booklets, classroom observations, field notes

Data Display

Data display
Questionnaire/Teacher recording booklet/Interview questions data collated into matrices

Data Reduction

Data reduction
Emergent themes identified through a "cut and sort" procedure to distinguish patterns through the data

Conclusion Drawing

Conclusion drawing
Themes across all activities were identified

Figure 16: Data analysis process for the intervention phase

Identifying the emerging themes through this inductive process required an interplay between the categories and the data, facilitating a dynamic process which evolved through the layers of analysis and an ongoing interaction between the data display and data reduction activities. As themes emerged, they were consolidated over these cycles. According to Dey (1993), it is this interaction of category and data which is crucial to the generation of a category set or theme.

In approaching qualitative analysis Miles and Huberman (1994, p. 309) write 'The core requisites seem to be a little creativity, systematic doggedness, some good conceptual

sensibilities and cognitive flexibilities'. This calls for good record keeping and the need to be systematic. My record of data collection activities are located in Appendix G.

Challenges of the research

A number of challenges arose during the research. As previously noted, DBR is an inherently complex endeavour (McKenney & Reeves, 2012, p. 1). In exploring the complexities of DBR Akkerman, Bronkhurst and Zitter (2011) argue there are three, sometimes competing, motives embedded in this approach: conducting research, creating a useable design, and establishing change in the field. Juggling these multiple objectives was demanding. The use of a fieldwork journal was a means of keeping perspective and enhancing reflexivity, and also documented the story of my research journey and managing multiple roles.

The insularity of island living

The characteristics of small states being constrained, remote and dependent provides some insight into the challenges of conducting research in a small state setting (Louisy, 1997). Islands being small and bounded, means isolation and peripherality are real problems faced by island populations (Royle, 2001). These were also problems faced during my fieldwork. Being far from the capital, having limited internet capacity, and at the mercy of the weather and good fortune to travel off the island, I frequently felt very isolated. Yet by living on the island for eight months I experienced first-hand some of the challenges of small island living and came to know intimately the context in which the teachers worked. With most Maldivian teachers working in island schools this insight was an unanticipated consequence of my fieldwork. Through my extended period of island living I believe I was better able to stand in the teachers' shoes and understand the daily challenges they faced. I would also experience the particular social ecology of small states and the highly personalised nature of relationships (Farrugia & Attard, 1989). Initially not only was I seen as the 'expert' but also as an outsider to the island. As personal relationships developed in the school over time, the teachers responded more openly, actively and explicitly. Despite this expert role, a familiarity grew through our daily interactions and from my perspective became less hierarchical. This enhanced my opportunities to delve and ask questions about classes in a more relaxed and open environment.

Participation as rhetoric

Participatory research involves researchers and participants working collaboratively to examine a problematic situation, or to engage in some relevant action (Kindon, Pain, & Kesby, 2007, p. 1). Yet a frequent criticism is the danger of simply paying lip service to participation (Stephens, 2009, p. 32). Through the participatory underpinnings of the study I had focused on collaboration and participation in two distinct ways: first through The World Café and the inclusive, collaborative strategies adopted; and second, I set out to construct myself and teachers as equal partners in the research process (Table 12). The goal had been for teachers to have an explicit voice in defining their needs and have direct input into the intervention design. The World Café, as in the pilot study, worked extremely well with all stakeholders. However, the expectation that teachers would be willing or able to voice their needs and provide explicit input into the intervention design required adapting from what I envisaged.

My initial participatory focus was centred on teachers and myself being equal partners, bringing different sets of knowledge to the research process. It was, however, necessary to adapt to the circumstances where I was clearly positioned as expert and acknowledge that establishing an equal partnership with the teachers was more complex than I had anticipated. The conclusions of Mdee (2010), based on her work in Tanzania, resonated with my own experience. She questions whether absolute equality is possible given imbalances in knowledge, power and resources. It was immediately obvious that my wider knowledge and experience with constructivist pedagogies positioned me as an expert. This was made all the more acute as a visitor to the island, where teachers' access to outside resources and expertise was limited, given its isolation and given unreliable internet access and transport difficulties. I concluded that for the intervention to gain impetus it would be necessary for me to provide more guidance than I had envisaged and I would need to lead the process. Once I had adjusted to this expectation, the collaboration took on a new form.

Therefore, participation came through a process that evolved, rather than one that was pre-determined. Dale (2005) distinguishes between participation as contribution and participation as empowerment. Participation in this study shifted from participants contributing to the process of innovation in the early stages to one in which participants took greater responsibility for their own decision-making and involvement as the intervention phase progressed. It also allowed

participants to accept decision-making responsibilities on their terms, rather than according to my timeline. My accepting the 'expert' role was an example of adapting to contextual factors.

Whilst the participatory intentions of the study were modified in response to circumstances in the field, the unintended consequences were beneficial in enabling the empowerment component of teachers' participation to evolve naturally as our relationship developed over time, a definite advantage of staying in one school. A challenge of DBR is being able to sustain relationships in the field for extended periods. I believe that by adapting to the circumstances outlined, the collaboration between myself and the teachers was strengthened, not weakened.

Table 12: Participatory research approach used

Participatory research approach: addressing potential issues		
	The World Café	**Design-based research**
Participation as rhetoric	Use of participatory tools where participants can express views using a range of strategies, including non-verbal techniques	Teachers' priorities were sought in ascertaining the focus of the intervention
Romanticising the notion of community	People of the same status working together in groups	Group process balanced with individual interviews over the course of the fieldwork
Expert-local dichotomy	Minimal interference or feedback from the facilitator during group activities	'Design' based on collective knowledge input – blend of theory, research and practice

Managing time

The dual session day necessitated making myself available across two sessions each day and made for an intense working day. It also limited the time when all teachers could be called together, as discussed earlier. The sheer number of school activities taking place in the evenings or on weekends meant working around this busy schedule to arrange meetings with teachers, either individually or in groups. This was one of the major constraints I had to manage in my research activities and is discussed further in Chapter Six. However, it did personalise for me the nature of the teachers' working week and help develop a better appreciation of the context in which they work.

Cross cultural research: insider-outsider status

Operating in a cross-cultural situation places additional layers of complexity on interactions (Patton, 2002, p. 391). My position as a non-Maldivian was potentially limiting if I was perceived as lacking 'understanding or empathy' or someone who 'misunderstands and misinterprets the behaviours within the community' (Liamputtong, 2010, p. 110). I was cognizant of my insider/outsider status. Clearly I stood out on the island as an Australian white female. From an outsider perspective, there are some potential advantages (Liamputtong, 2010):

- being able to see phenomena that insiders don't see; and
- participants may be more willing to share with outsiders who are beyond the chain of hierarchy.

I did feel as rapport built with the teachers that they were willing to share their experiences in an open and honest way. The way our collaboration evolved, I believe, is an indication that as an outsider to the island I was able to carry out this research in a culturally appropriate and effective manner.

However, my previous experience in the country also positioned me with some insider status, given my understanding of the Maldivian culture and the education system. This was epitomized in an interaction with a SMT member who said in relation to educational practices 'you know how it works'. It is this background, and indeed these insights and work experience that led to the decision to carry out this research.

The use of English may have been a limitation in the context where Dhivehi is the native language. However, English is the medium of instruction in Maldivian schools so teachers are able to communicate in English. The use of the photo and graphic elicitation techniques and ranking activities were also chosen to encourage expression in non-standard ways (Bagnoli, 2009). Being able to communicate in Dhivehi may have been an advantage, but in my daily work with teachers I found that I was able to converse in English particularly as my Australian accent became more familiar to both teachers and students.

Validity

All research is concerned with yielding valid and reliable knowledge (Merriam, 2009). Miles and Huberman (1994, p. 262) raise the concern of the researcher working alone in the field –

what they label a vertical monopoly. They state that emphasis is often on the 'what' and less on the 'how' when reporting research. DBR has embedded within it, a focus on the process, which places a substantial responsibility on a single researcher in juggling multiple roles, as previously highlighted. Yet, the explicit attention to documenting decisions taken in the field helps mitigate against the effects of the vertical monopoly. In fact, the Design-Based Research Collective (2003, p. 7) states 'methods that document processes of enactment provide critical evidence to establish warrants for claims about why outcomes occurred'.

Maxwell (2010) states that validity is not guaranteed by following a prescribed procedure. Instead, specific measures need to be discussed in relation to the purposes and circumstances of the research and show how they worked in practice. There are strategies which Maxwell (2010, p. 282) contends 'are nonetheless essential to the process of ruling out validity threats'. Within the DBR framework and utilising qualitative methods a range of strategies for establishing trustworthiness of the study were employed. These 'validity tests' (Maxwell, 2010, p. 282) are described as they worked in practice.

Long-term engagement

Through the long-term engagement inherent in DBR methodology, a strong feature of this study was the prolonged time spent in the field, particularly given the decision to remain in one site. There were repeated observations and interviews as well as the sustained presence of the researcher in the setting which helped 'rule out spurious associations and premature theories' (Maxwell, 2010, p. 283). Given the particular social ecology of small states (Chapter Two), this was particularly pertinent.

'Rich' data

Associated with this prolonged involvement was the generation of rich accounts derived from the multiple data sources and methods, and extended immersion in the setting, features of DBR (Kelly et al., 2008; McKenney & Reeves, 2012). The multiple methods were specifically designed to capture the character of this setting through rich description, and to leave no participant unvoiced.

Triangulation

DBR typically triangulates multiple sources and data collection methods to capture intended and unintended outcomes of enactment (Design-Based Research Collective, 2003). Importantly, the multiple methods allow for the cross-checking and triangulation of findings (Patton, 2002). Triangulation, through the diverse range of methods employed, reduced the risk of chance association and systematic biases (Maxwell, 2010). Specifically in this study participants were given multiple avenues in which to voice their thinking. It was possible to check for consistency of responses across the range of The World Café activities and look for discrepant examples across the different stakeholder groups. The range of methods used to capture teacher experiences of the intervention, allowed the examination of data for consistencies and discrepancies across individual teachers.

Quasi-statistics

Another way of cross-checking conclusions of qualitative data is to make explicit the quantitative component of the data. Such quantitative analysis is limited to frequency counts and percentage conversions and does not involve statistical analysis and the manipulation of variables. 'Quasi-statistics' can provide evidence to support claims (Maxwell, 2010). Moreover, Miles and Huberman (1994, p. 253) attest there are three good reasons for resorting to numbers: 'to see rapidly what you have in a large batch of data; to verify a hunch or a hypothesis; and to keep yourself analytically honest, protecting against bias'. Used in this way, quantification supported and illuminated the study's qualitative analysis (see Table 30 for an example).Teacher data from questionnaires and recording booklets were collated into tables and tallies were calculated allowing for a comparison of the responses across and between teacher groups.

Member checking

Member checking is a process of seeking feedback on emergent findings from participants (Merriam, 2009). Through the collaborative nature of the research design, data generation was subject to member checking. For example, preliminary results from The World Café were shared and discussed prior to the intervention stage. I also sought clarifications with key stakeholders during the process of data collection. Upon leaving the island I made a presentation to the SMT, providing an overview of my activities and presented my preliminary

data analysis that had been completed to that point. This allowed for dialogue and feedback following the intervention phase and prior to returning to Australia.

Peer review

Regular briefings with supervisors in both Melbourne and Malé provided ongoing review throughout the study. An on-the-ground Maldivian mentor, an ex-Dean of FE, provided feedback during the fieldwork. Further peer review occurred during my fieldwork as I was able to conduct several presentations on my research activities: two conference papers and a presentation to academic staff at MNU in which I gained valuable feedback. These presentations also gave me time to reflect on my activities. Subsequently I generated publications – one during the final phase of my data collection based on the intervention design (Di Biase, 2013) and two subsequent papers (Di Biase, 2015a, 2015b).

Reflexivity

Reflexivity is the 'the process of reflecting critically on the self as researcher, the 'human as instrument' (Lincoln & Guba, 2005, p. 210). This entailed explicitly acknowledging my assumptions as I entered this investigation, outlined earlier in this chapter. My field notes journal facilitated reflection on the multiple roles of DBR, already noted as a challenge of DBR. I also used it to reflect on my role as a researcher and on my daily actions. My journal entries were a vital tool in maintaining an element of distance from the research activities. Consequently, it was an explicit mechanism that acknowledged my active role within the intervention phase. Drawing on Patton (2002), I was seeking to balance my role in the intervention and avoid being too involved or remaining too distant 'which can reduce understanding'.

Ethical Considerations

Ethical considerations cover issues of privacy, confidentiality and informed consent. Measures were taken to safe guard participants and provide an avenue of accountability within the research process. Ethics approval was granted on 12 August 2011 from the Humanities & Applied Sciences committee at The University of Melbourne. Before any data collection activities took place, the principal of each school approved the school's involvement and signed the consent form (Appendix N). Consent forms and Plain Language statements were supplied to

all participants who volunteered to be involved in The World Café (Appendix N). Prior to confirming teacher participation in the intervention phase of the study in School A, a confidential discussion took place with teachers to outline the scope of the study and what their participation would involve. After this discussion teachers gave their permission to participate and signed the Consent Form (Appendix N).

Chapter summary

This chapter presented an overview of this qualitative design-based research study in two parts. In Part 1, the methodology and rationale for its adoption to investigate how teachers can enact active learning in the Maldives education system were discussed. In Part II, an explanation of the research site and the participants, the data collection methods and procedures, and details of the analysis of the data were articulated. The nature of cross-cultural research was raised and my role as an 'outsider' was identified. The challenges associated with design-based research were discussed and the strategies employed to establish the study's rigour and validity were considered. In addition, this chapter provided an introduction to the intervention, which is taken up in the next chapter where the findings of the contextual analysis phase are reported, along with a descriptive explanation of the intervention design.

CHAPTER 5: DEVELOPING A CONTEXTUALLY RELEVANT MODEL OF ACTIVE LEARNING

It is argued that many such policy prescriptions are increasingly seen to be contextually irrelevant and do not reflect the priorities articulated in context.
(Webster, 1997, p. ii)

In design-based research the context is richly delineated (O'Toole & Beckett, 2009) and serves as an integral part of the research (McKenney & Reeves, 2012). This chapter presents findings from the contextual analysis phase of the study, outlining details of the island and school context. It serves three purposes: (1) to provide details of the mesosystem context and the initial conditions in the school regarding the introduction and use of active learning; (2) to identify priorities from stakeholders to provide input into the development of the intervention (an instructional model of active learning); and (3) to reconcile the national agenda with the local circumstances and priorities identified in this study, a critical process for developing an intervention that is both globally informed and locally relevant. This phase of the study was the initial step for the intervention, explicitly involving stakeholders, and providing an opportunity for collaborative dialogue to strengthen school-community links that are fundamental to school reform (for example, Dembélé & Miaro-II, 2003; Hallinger & Kantamara, 2001).

This chapter comprises three parts.

Part 1 outlines the status quo in the school regarding the adoption of active learning; the current situation, and factors that have influenced its use drawing on data collected about the island and school through a series of interviews.

Part 2 reports findings from the World Café method that was designed to build a vision of active learning relevant to the school.

Part 3 provides a description of the active learning intervention.

The chapter concludes with a discussion of the model of active learning that was developed for this study informed by the results of the World Café.

In drawing on findings from the World Café in this chapter, three codes distinguish the particular stakeholder groups from the World Café: 'T' for teacher groups, 'CFS' for parent groups from CFS classes (grades 1–3), 'PR' for parents groups from primary classes (grades 5–7) and 'SMT' for the senior management team. When direct quotes are used to illustrate points, these have been taken from the recording sheets and are indicated by the use of italicised script.

The following codes are used for the interviews referred to in this chapter: SMT 1 – 7 for school senior management personnel, and Official 1 - 11 for MoE/system level officials. Direct quotes from participants are italicised.

Part 1: Contextual analysis: The school and island context

As discussed in Chapter Two, no two Maldivian islands are the same. Each island has its own history, island community, and characteristics influenced by their location, access to Malé and work opportunities, and the extent to which social issues, such as drug addiction, pervade island life. Based on interviews with island and Ministry of Education (MoE) personnel – senior management in the school, island office personnel, MoE visitors and the nearby resort manager – an introduction to the characteristics particular to this island is presented.

Figure 17: Island shot taken from a seaplane

An introduction to the island context

The island is portrayed as a friendly environment with an island community that is very active (Official 11). The majority of the 1900 island inhabitants are aged under 45 years. Concern was

raised around limited job opportunities on local islands and a member of the senior management team (SMT) reported:

> *…there would be a handful of very young ones hanging around, loafing around the island without any jobs. So we are facing that difficulty in the island now there is no job opportunity. It is very limited. (SMT5)*

Yet, the island's proximity to a resort provides opportunities not available to all local islands. Over half of the resort staff in 2012 were Maldivian, with most coming from the research island. The relationship between the school and the resort was reported by their management teams to be of mutual benefit. In 2012 planning commenced for a tourism subject to be offered in 2013 to prepare students for employment opportunities in the tourism sector. Other benefits arising from proximity to a resort include access to foreign currency (through tips/service charge payments to staff and through resort staff and tourists shopping on the island), and availability of air taxi transport to Malé (on a standby basis). There is also cooperation around medical services with the island doctor working with the resort, as required.

Figure 18: Island scenes

Work opportunities include fishing, which has traditionally been the main industry, although the current generation are not interested in following this occupation and carpentry is another option, giving the island a profile for boat building and house making. According to one islander, this island has *a bright future because a lot of young ones are engaged [motivated],* in contrast to other islands where their youth face drug and gang issues (SMT5).

School characteristics

The school is seen as an important facility on the island. It has developed over the years with *great help from the community* (SMT5). As the atoll education centre (AEC), the school offers O and A-level examinations. In the school there were 26 local teachers and 17 expatriates. The

principal articulated a vision to increase the number of local teachers in the school as people return to the island, after upgrading their qualifications.

One participant (SMT6) remembers earlier days in the school when there were *no textbooks so we struggled a lot* and when classroom furniture was limited and inadequate. He articulated that *if you look now, every child has a separate chair, separate desk, which is reasonably good quality*. It was also noted that *this school has a lot of facilities, more than most other schools*. As well as the funding that comes from the central government, the school is well supported by the community and *these parents are fantastic parents, they are ready to do anything for the development of the school* (SMT6). For example, the parents have helped develop a library and more recently helped with raising funds to provide AV projectors in the classrooms. The support coming from the parents indicates the value that parents place on education where *they start knowing that education is very important* (SMT6).

The introduction of The Child Friendly School's model and active learning

Following the 2004 tsunami and the extra funds made available from UNICEF to expand CFS nationally, the school saw this funding as *an opportunity to develop* (SMT2). The process began with a visit to a central CFS school in 2005 by members of the senior management team (SMT) where it was observed:

> *…that the [CSF] model gives more freedom for students to play a more independent and active role in the learning process…we wanted our students to be given similar learning experiences and opportunities.* (SMT1)

This visit prompted a school presentation and *a very big meeting with parents* (SMT4). From this meeting onwards the parents supported the new approach and became part of a proactive consultative process of implementing change within the school. The parents assisted with building furniture and changing the classrooms' physical environment. According to one SMT member, this collaboration *made parents feel part of the school* (SMT2). In 2005, the school began implementing CFS in grades 1 and 2 and in the following year expanded the program to grades 3 and 4. The implementation of active learning was seen as a collaborative effort.

> *Through awareness programs parents were convinced to adopt CFS model at primary level. The hard work and commitment of leading teachers and teacher at primary level played a vital role in changing the learning environment [to be] more interactive and independent.* (SMT1)

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The CFS approach encourages teachers to *apply active learning* because the *set-up is different* (SMT3) and facilitates a *learning atmosphere [that is] is different when compared to other classrooms* (SMT3).

During interviews with school management and some MoE personnel several factors were identified as supporting the implementation of CFS and active learning in the school.

Collaboration with parents

As noted, parents had a pivotal role in supporting the new program being introduced into the school. This is not always the case in Maldivian schools, which a visitor to the school attested:

> *In some of the schools they are not conducting any awareness program for the parents…the problem is, the school management. They don't want the parents to come into the school. The gates are closed for the parents…*

> *But here the school itself has given the opportunity and at the same time parents are ready. That's the reason why the school is having very good rapport with the community.* (Official 11)

Instead, this school and parents worked as a team as one senior management person asserted, resulting in an inclusive process (SMT2).

As discussed in Chapter Two, parents can exert a lot of influence in schools. One SMT member remarked that:

> *…the school, the parents, they force the teachers to use textbook. Even when I was a teacher once I left one of the pages, I know how much parents complaining all day. But when we had a lot of meetings and explain the difference of using that and not using that, now they realize…yeah, the students can achieve their objectives…(SMT5)*

The approach taken in this school to bringing about change with the CFS program has channelled parents' attention into positive involvement, rather than being a constraining influence.

Planning for change

The school planned strategically for the introduction of CFS. The SMT considered a number of factors impacting on their ability to carry out change, as indicated in the following comment.

> *The first thing that everybody must know [is] what it is – what we started … I think another important part is training teachers. If we don't give training I don't think they*

can do things in the classroom, that's another part. And also we have to see how the school budget – whether they can do certain things, so that is one area we thought. And more important part is the school management, I guess. Because if anybody in the management is not supportive in this maybe we can't do it. (SMT5)

The importance of developing a shared vision is a priority within the school with members of the SMT reporting the necessity of working as a team and providing a uniform message to teachers.

Leadership

Support and collaboration from within the SMT was a recurring theme. The school management took several actions that were perceived as enabling the successful introduction of CFS: they collaborated as a team at the senior management level – *whenever we are going to start new things we always discuss so we understand what is involved*; they collaborated with parents – *we worked as a team with parents* (SMT2); and they were supportive in supplying resources where it was possible to do so (SMT2, SMT5). The new AV projectors were obtained with the support of parents led by senior management in the school.

In particular, key personnel can be identified in this school who worked to promote change. For example, one long standing member of the management team (SMT5) was attributed to being the 'mastermind' behind the changes. A SMT member stated, *he is very attentive with that program and he always tries to discuss ideas with me also as well as ideas from the teachers. We work as a team. (SMT2).*

Training for teachers

The need for teacher training and opportunities for these island teachers to access new ideas were widely acknowledged as necessary conditions for both initiating and sustaining change. Further, as one SMT emphasised, the purpose of the training must be made explicit to teachers: *Training yeah, how to plan for this...So all the elements the teachers have to be trained and also they must know why they are doing that and what the purpose is.* He added that in the early stages of implementation *we brought an expert from Malé also and we gave the training for all the teachers, so all the teachers are aware of this [CFS] when we started* (SMT5). Consequently, teachers received training in the elements of the initial CFS model when it was first introduced to the Maldives. During this time a British volunteer was assigned to the island,

offering an additional source of new ideas to the school and in particular to the CFS classes. Teacher training, before implementation, was identified as a necessary precondition. Hosting visitors to the island also provided teachers with an opportunity to share their knowledge and discuss their experiences and successes, which contributed to their professional development.

Adapting the model of CFS

In the process of preparing for implementation, the SMT took the approach that the CSF model needed to be changed to fit in with the school's circumstances (SMT5). With the original CFS model relying on learning corners, as discussed in Chapter Two, the school determined that the learning corners model was inadequate *because [of] the classroom population, lack of resources and the teachers' workload* (SMT5). Consequently the school developed a *different CFS methodology* and their own approach to the innovation. The school has aspired, over the years, to become a model CFS school and has successfully achieved this by hosting visiting international educators who come to witness the progress they have made with adapting the initial CFS approach.

Physical changes

Parents were involved in bringing about changes to the physical appearance of the classrooms by building resources and furniture, as illustrated in Figure 19. These visible changes were signs of a different approach to teaching. Parents could see that established routines were being altered and appeared open to the introduction and application of new methods. The physical changes, it would seem, were necessary at the start of the change process as an indication that the status quo was shifting. One member of the SMT, working with non-CFS teachers noted, *The main thing I found is that the classroom set-up is the main problem* (SMT4). He believed that maintaining the traditional class-room set-up sustains a certain mind set with parents which presents difficulties when implementing active learning.

Figure 19: Classroom resources for CFS classrooms

Considerable pride is taken in the CFS classroom displays, and issues have arisen with double session school days where primary and secondary classrooms are shared as some older students do not respect the classroom displays of younger students (SMT 4). CFS classes share the same classrooms so do not face these constraints. Great hope is placed in a single session school day across the school community.

> *We have planned to change the classroom displays even though the floor is not tiled…we can change the classroom set-up and the grouping [of desk] and more display boards. Then I think there will a change…if we get a single classroom for us.* (SMT4)

During 2012 an extra building was being constructed, funded by the MoE.

The introduction of CFS into this school highlights the importance of communicating and collaborating with parents. From the early stages of its implementation, favourable attitudes towards the CFS approach and active learning were expressed within the school. The physical classroom changes were a visible sign of innovation. Teachers, school management and parents all embraced the new approach. From the early stages parents were invited into the school and included in decision making. As noted, parents are called upon whenever *any delegation comes to visit the school or the CFS program...to help with providing food and accommodation and sometimes to share their experience with visitors* (SMT2). The school and parents are very proud of this program (SMT2).

Part 2: The World Café: identifying stakeholder priorities

…the need for improved awareness of local school contexts and cultures if the implementation of education is to be more successful (Crossley, 2010, p. 424).

The World Café, as discussed in the previous chapter, was designed to give voice to all the relevant stakeholders, and sought to build a vision of active learning that has relevance for this school community. It afforded an effective method for understanding multiple stakeholders' perspectives and priorities regarding active learning reform in this island context. In response to Crossley's argument (2010, p. 423) that implementation strategies are often not well tailored to grass roots realities and thereby prevent ownership of the reform by the local people, this study provides a voice for stakeholders, enabling insights into the local desires and practical realities of the island school community, a recommendation identified in Chapter Three Using a series of graphic and visual elicitation techniques the World Café was conducted with teaching staff, senior management, CFS parents and primary parents to ascertain the views held across the school community about active learning (see Chapter Four).

Figure 20: The World Café

Several themes emerged from the World Café data with respect to what stakeholders perceived as the salient features of active learning, as well as their priorities for the future, through the process of documenting their perspectives. Whilst generally there was uniformity in perspectives across stakeholder groups, there were also some variations, which are highlighted in the relevant chapter sections. The photo ranking results are reported first, followed by a discussion of the salient features of active learning arising from the concept mapping activity and triangulated across the other the World Café activities. This section ends with the results of

the Parking Lot activity that generated an outline of what is going well and where improvement is deemed necessary for implementing active learning in the school.

Photo ranking: Recognising differing priorities

The photo ranking results highlighted the different priorities across the teacher and parent groups. Each participant group was asked to rank six photos according to how well they represented active learning, and to provide comments to explain their rankings (see Figure 21).

Figure 21: Photo ranking activity

Table 13 shows the results across the stakeholder groups. The rankings are colour coded and identify the ranking of the six photos by all groups. The results reveal several clusters, particularly in choices for the highest and lowest rankings for parents and teacher groups. Parents almost exclusively ranked Photo C as their first choice and their comments prioritised teacher-student cooperation, student participation, and the enjoyment of students in explaining this choice. Teachers in grades 1-7 (groups 1-4) ranked Photo A as their highest ranking, emphasising student involvement through group work and the freedom for students to sit anywhere as reasons for their choice of this photo. The secondary teachers' (groups 5-7) highest ranked photos were Photos B and D and their comments referenced student enjoyment and participation and the importance of the teacher's role as facilitator. Interestingly, the highest ranked photos across all groups (Photos A, C, D) all encompass visible changes to traditional classroom arrangements that have taken place with the introduction of CFS in the school – group work, floor work and circle time.

Table 13: Results of photo ranking activity by stakeholder groups

Photo rankings		Photographs					
	Group	A	B	C	D	E	F
CFS Parents	1	4	6	1	3	5	2
	2	2	3	1	4	5	6
	3	4	6	1	3	5	2
	4	4	6	1	2	5	3
	5	5	6	1	3	4	2
	6	4	5	2	3	6	1
	7	4	5	1	2	6	3
	8	4	3	2	1	6	5
	9	5	6	1	3	2	4
	10	5	6	1	3	2	4
Primary Parents	1	2	5	1	3	6	4
	2	3	4	1	2	6	5
	3	3	5	1	2	6	4
	4	4	6	1	2	5	3
	5	3	4	1	2	5	6
	6	2	5	1	4	6	3
	7	4	5	1	3	6	2
	8	3	4	1	6	2	5
	9	5	6	1	3	4	2
	10	2	5	1	3	6	4
	11	2	4	1	3	5	6
Teachers	SMT	1	4	2	3	5	6
	1T	1	3	2	4	6	5
	2T	1	4	2	3	5	6
	3T	1	2	4	3	5	6
	4T	1	2	3	5	4	6
	5T	2	1	5	3	4	6
	6T	3	4	2	1	5	6
	7T	5	3	2	1	4	6

There was some discrepancy between the views of the teachers and the parents. The teachers' role was most often described as one of facilitator. Yet, in the photo ranking activity there were contrasting comments attributable to parents and teachers reflecting some different priorities in the teacher's role. Parents made positive comments on teacher actions in Photo D seeing the teacher as working with the students and stimulating interest in the lesson. In contrast, the following comment reflects the responses made by teachers: *Teacher-centred – because the teacher is sitting and talking and students are listening – not active learning* . The comment confirm the association of certain forms of classroom activity with active learning. A shift in the role of the teacher from transmitter of knowledge to facilitator is clearly articulated in the data but the discrepancy between the parents' and teachers' views in Photo D may point to a lack of clarity around this new role of the teacher, and the different ways in which active learning can be facilitated.

Overall, parents tended to rank more highly the photos in which the teacher is visible, often drawing attention to the teachers' role in explaining and working cooperatively with students. Teachers tended to rank more highly the photos in which students were working in groups or on the floor. The visible activity or inactivity of the students seems to be one of the pivotal points on which groups focused when explaining their ranking choices, highlighting the importance they placed on student involvement and their perceived interest of students in the task. This is indicated by comments such as; *it is the way of passive learning* (T), pertaining to Photo E. The features of active learning identified in the photo rankings and corresponding comments support the findings from the concept map activity which is now reported.

Concept mapping: Identifying the salient features of active learning

Through the concept mapping activity it was possible to identify the salient features of active learning prioritised by the stakeholders. These salient features augment the photo ranking findings, adding to the key themes that emerged from the photo ranking analysis. In reporting the findings from the concept mapping and the salient features of active learning, where there was corroboration across the other World Cafe activities, this is highlighted in the relevant sections.

Student participation

Student participation was reported as an essential component of active learning, as their comments attest, and was a recurring theme across all activities and stakeholder groups.

> *Increasing student participation and student interest* (CFS)
>
> *Study and participate* (CFS)
>
> *Active learning is about making students participate* (PR)
>
> *Let[s] the students participate in all the activities* (PR)
>
> *Students must be involved* (T)
>
> *Good student involvement* (T)

All groups referred to greater student participation and involvement in the lesson, which they associated with an improvement in students' motivation and learning

> *Students fully engaged* (T)
>
> *Seems all children are working with interest* (CFS)
>
> *Students are enthusiastically working* (PR)
>
> *More opportunity to take part in the lesson* (PR)

The emphasis on greater student participation in lessons was identified as a feature of active learning across the World Café activities. The nature of this participation is now explored in other responses.

Practical learning activities

The importance of 'learning by doing' and including practical activities in lessons was most strongly advocated by teachers and primary parents with very few comments made by CFS parents. Table 14 presents variations in how these references to practical activities were described.

Table 14: Practical learning activities

Activity	Sample Participant Responses
Learning by doing	*Active learning includes activity by doing* (T) *Activity-oriented learning* (T) *Students can understand the facts by doing* (T)
Experiential learning	*Using their ideas and experiences to understand the topic* (PR) *Experiential method of learning* (T) *Show them items/stuffs related to the studies* (PR)
Using play and games	*They learn by playing* (T) *Use play in teaching* (CFS) *Include interesting games in the lesson* (PR)

To support practical activities, teachers commented that more modern learning aids were needed and that more materials should be available, such as more books, library resources and reference materials. Teachers' responses tended to be more focused on what resources were needed, whereas parents' responses were more often related to recent improvements such as projectors and internet access that had recently been made available in the school. Parents' responses confirmed the need for books but more often referred to Information Technology resources as the following sample comments indicate.

> *Use modern technology to facilitate learning* (CFS)
>
> *Projectors are there* (PR)
>
> *Students' access to computers* (CFS)

Use of group work

The use of group work and its benefits were raised by all stakeholder groups as a core feature of active learning. There was a strong view that group work provided an opportunity for students to discuss and share ideas, help each other and work together and that these processes assisted students' learning. Specific benefits of using group work are indicated in these comments.

> *It is more interesting to tell opinion and idea in the groups* (T)
>
> *Group work enables all students to work and enhance their development* (CFS)
>
> *Sharing ideas with others improved their knowledge* (PR)

Enhanced participation was strongly linked to the use of group work, allowing students to work together. The positive effects of group work were reported as giving students the opportunity to work with greater independence and encouraging students to take responsibility for their learning. Similarly, the capacity for increased freedom was raised. Comments were made around groups being able choose where they sat, another break with traditional Maldivian classrooms.

The collaborative nature of group work was seen to promote learning, although there was no discussion by any group of the nature of the tasks given to students in group work, or their suitability for promoting cooperative learning. Only one comment was made by a primary parent group about the need for greater cooperation by students, referring to student engagement and cooperative behaviour in lessons in the primary grades. Overall, comments around the use of group work were predominately positive across all the stakeholders.

Equity – inclusive of all students

Building on the earlier discussion about student participation is the idea that active learning can promote greater equity by *giving all students a chance to participate* (CFS) and that *everyone gets a chance to show their talents* (CFS). Specifically stakeholders unanimously highlighted the potential of active learning to improve learning for all students, with particular attention given to low achieving students, as Table 15 shows.

Table 15: Stakeholder views of the concept of equity

Equity	Sample comments
Improving participation for all students	*Weaker ones get more participation* (T) *Weak and slower learners will be active as they discuss each other* (T)
Differentiated tasks	*Activity according to level* (T) *Give tasks according to ability level* (T)
Differentiated teacher support	*Help students depending on the help required* (CFS) *Giving extra help to lower ability* (CFS) *Those who don't understand much should be given extra attention* (PR).

Particular emphasis was placed on the potential for lower ability students to have greater opportunities to participate in the learning activities, but meeting the learning needs of high achieving students was also reported by parents. Parents, in particular, commented on the notion of equity. Their comments called for *more attention for weaker students* (PR) with a number of references to discrimination and a general call for *no discrimination* (CFS, PR), highlighting that *not all students get same opportunity* (PR). The one size fits all model of education was recognised as no longer being relevant, fair, or successful.

Friendly classroom environment

Table 16 reveals that all stakeholder groups highlighted the friendly classroom environment as a key feature of active learning, with some subtle variations, referring to the friendly, safe and physical environments of the classroom. The specific changes from the traditional classroom set-up were identified as a key feature, which supports the comments made in the photo ranking activity and the changes brought about through the introduction of CFS into the school, not surprising given the focus on the physical changes in classrooms.

Table 16: Description of classroom environment

Classroom environment	Sample comments
Friendly environment	*Get opportunity to learn in a happy environment* (CFS) *Create chances for the students to study in a friendly environment* (PR)
Safe environment	*A safe environment for teacher and student* (CFS) *Enhance safe environment* (CFS)
Physical environment	*Student work must be displayed* (SMT) *The classroom is decorated for the students* (CFS)
Classroom set-up	*Having the freedom to sit anyway that they like [in]order to do the work* (CFS) *Students feel happy when seated on floor* (CFS) *Can work at any place comfortable to them* (CFS)

The flexible classroom set-up and seating arrangements were highlighted by many parents and this freedom for students to choose where they worked was identified as another key positive feature benefiting both teachers and students. As previously noted, pre-CFS the students sat at desks in rows, with limited freedom to move around the classroom. This visible change in the classroom is perhaps something that parents, who do not have direct involvement in classroom

activities, are more likely to notice and value. Parents also reported that students were happier in this more child-friendly physical set-up – *an environment that children like* (CFS). Figure 22 reveals how students' work is displayed in CFS classrooms to celebrate their learning, and how the students utilise the classroom's flexible physical configuration. Figure 23 provides a stark contrast with traditional classrooms where the walls serve as notice boards and the seating arrangements mitigate opportunities for flexible use of the learning space.

Figure 22: CFS classroom displays

Figure 23: Primary classroom displays

The benefits of the 'happy' environment and flexible classroom arrangements were voiced by all groups as improving student attitudes towards their learning.

> *More students work in friendly environment* (T)
>
> *So when using whole space in classroom students feel happy (freedom)* (CFS)
>
> *If they are given work on floor encourages students to do their work much better* (PR)
>
> *Seating arrangement encourages students to do their work* (SMT)

The friendly classroom environment was identified as a means to facilitate greater cooperation between teachers and students and was seen to have a positive effect on students' motivation, engagement and capacity to learn.

Teacher as facilitator

Active learning was recognised as expanding teachers' roles to encompass a broader range of responsibilities, highlighting the role of teachers as guide or facilitator. In building a picture of teachers' expanded roles and responsibilities, specific features were identified and categorized in Table 17, along with reported areas for improvement. These comments reinforce the findings from the photo ranking activity, particularly regarding teacher-student interaction, as noted in Photos C and D.

Table 17: Teacher roles and responsibilities

Responsibilities	Sample comments	Areas noted for improvement
Lesson planning	*Well-planned lesson* (T) *Planning lesson to motivate students* (CFS)	*More activities planned* (T) *Teachers need to prepare for lessons more* (PR)
Explanations	*Instructions must be clear* (T) *Explains task well* (CFS) *Explains lessons very well* (CFS)	*Clear instructions and guidance should be given* (T) *When explaining lessons give as many examples as possible that relate to the lesson* (PR)
Guide/Facilitator	*Teacher gives guidance and instructions* (T) *Teachers as a guide* (T) *Teacher guides all students very well* (CFS)	
Motivating students	*Teacher increasing tasks that motivate students* (CFS) *Teacher motivates students* (CFS)	*Always encourage students* (CFS) *Highlight good things rather than bad things* (CFS)
Assessment and monitoring	*Teachers check student work daily* (CFS)	*Continuous feedback should be given* (SMT) *More evaluation methods* (SMT) *Books are not marked* (PR)

The responsibilities highlight elements of learner-centred pedagogy that put greater onus on the teacher to meet the learning needs of students, rather than only focusing on delivering content designated in the schemes of work.

The teachers' role was most often described as one of facilitator, yet, as noted in the photo ranking activity there were contrasting comments between parents and teachers reflecting some different priorities around the teacher's role. Parents made positive comments on photos where the teacher actions were visible. In contrast, teachers' reference to student activity featured strongly in comments and consequently Photo F was ranked low by teachers. Their judgment of the teacher-centredness of this photo reflects Nykiel-Herbert's (2004) discussion of misconceptions around learner-centred education (LCE) and the view that teachers must not teach actively; only help the learners learn.

Parking Lot: Differentiating benefits and challenges

The modified SWOT analysis, simplified to a Parking Lot (Langford, 2003) activity, was included so that participants could voice their perceptions about the process of implementing active learning. Two questions were posed for discussion in groups: 'What is going well?' and 'What needs improvements?'

What is going well?

A positive regard for the overall approach to instruction, and the greater cooperation between teachers and students, was revealed in this activity, supporting findings in the other World Café activities. Comments relating to enhanced learning opportunities made mention of an increase in student skill development, higher levels of student participation in class lessons, improved student motivation, and greater academic achievement. In addition, the improved relationships between both teachers and students, and the school and parents were commented upon by all the stakeholder groups. The CFS parents identified the improvements in classroom displays and all groups referred to the use of ICT as a benefit. Active learning was viewed across all groups as having beneficial learning outcomes for students, Table 18 providing examples of how stakeholders articulated these benefits.

Table 18: Stakeholder views of the benefits of active learning

Type of Learning Benefit	Sample Comments
Increased interest and confidence	*Students have built their self-confidence* (T) *Students enjoy and work with interest* (CFS) *Students come to school with interest to learn* (PR)
Enhanced learning outcomes	*Improve their knowledge and performance* (T) *Students can remember for long time what they have learnt* (T) *Children's knowledge and information get richer* (CFS) *Students understand the lesson* (CFS) *Active learning is about teaching students to make understand* (PR)
Personal development	*Leadership quality has been improved* (T) *Improves confidence level and creativity* (T) *Learn to be responsible* (CFS) *Can see strengthening of bond among students* (PR)

Increased student interest and confidence in their learning were underscored by both teachers and parents. An improvement in students' cooperation with teachers was a key feature associated with students taking greater interest being in their studies. There were many comments made around enhanced learning outcomes, particularly referring to improvements in students' understanding of subject topics and that what they now learn is more likely to be remembered. Personal development was reported in the areas of social and leadership skills with links made to overall self-development. Stakeholder groups were unanimous in reporting positive effects of active learning, with no specific comments raised about negative effects.

What needs improvement?

In response to where improvement is needed, a number of recommendations were made. There were no negative references to active learning itself, rather the recommendations generally pertained to aspects of teaching that were not perceived as embracing active learning:

Don't give too many tests on one day (CFS)

Increase independent learning (CFS)

Don't give tasks students are not able to do (PR)

Teachers speak strongly in front of students (PR)

Need to help weaker students (PR)

Teacher should be friendly with the students (PR)

These quotes provide a range of different responses with many more concerns expressed by primary parents where traditional approaches remain more strongly embedded. Teachers expressed some comments around improving the type of learning activities that were used such as to include challenging activities.

The need for more encouragement and positive feedback was emphasised where teachers should *encourage students* and *highlight [the] good rather than [the] bad* (CFS) as also identified in Table 17 (roles and responsibilities). Some primary parents remarked that the *learning environment [was] not the best* and overall called for better cooperation between teacher and students. The biggest concern was around the need for equality of opportunity. The need to give attention to underachieving students was raised by CFS parents. Primary parents, in particular, highlighted the issue of discrimination and commented that, *Discrimination should be banished from the school*.

Time was cited as a constraint in two ways: first, the time needed to adequately prepare lessons based on active learning principles; and second, the actual lesson time of 35 minutes was not seen as an adequate for using active learning methods. References were also made to: the need for more teaching resources; further professional development opportunities; the need for detailed lesson planning; and more sustained parent communication. These ideas reveal several priority areas, identified by stakeholders, where further development is needed.

One area that spanned both questions was the need for better communication between the school and parents. Whilst the inclusive implementation process of CFS in this school had improved, cooperation between teachers and parents was acknowledged as an area where some improvement was still required. Parents, but not teachers, raised this, specifically requesting opportunities to provide suggestions and feedback to the school.

Discussion: Acknowledging local perspectives and priorities

The findings from the World Café were intended to inform the design of the active learning intervention, necessitating interpretation of the findings prior to the intervention phase of the study. A discussion of the results now links the World Café data to the Maldivian context and

the CFS framework, which was an important vehicle for encouraging pedagogical reform within the country and the school. Moreover, CFS as a global UNICEF approach provides a policy framework for reform whilst also recognising the need for local interpretation in which schools 'are able to establish their own distinctive learner-centred ethos' (Schweisfurth 2013b, p.127).

The World Café results elicited critical insights into how stakeholders prioritise elements of active learning relevant for evolving a localised innovation that is feasible and appropriate for the local context. As an inclusive process, the World Café encouraged stakeholder participation, giving voice to their ideas and experiences, in particular noting the importance of including parents in the process, which has been identified as providing a better chance of successfully implementing policies (Brock & Crossley 2013; Farrell 2008; Sottie, Dubus & Sossou 2013). This was a documented feature in the school's implementation phase of CFS, as noted earlier, and was reinforced in this data as of importance to the school community. The World Café was also an initial step in planning the study's intervention by explicitly involving stakeholders in collaborative dialogue, critical for strengthening school-community links essential to school reform (for example Dembélé & Miaro-II, 2003). In sum, the World Café was an inclusive process that encouraged stakeholders to participate, giving voice to their ideas and experiences.

An overarching feature of active learning, foregrounded by all stakeholders, was the widespread reference to the active participation of students. It is seen as a critical feature, yet the stakeholders often made reference to the *form* of active learning in line with previous findings by McNair (2009). By contrast, there were few examples of explicit attention to the cognitive aspects or *substance* of active learning. This finding is consistent with a study in Ethiopia, where Barrow and Leu (2006) found that teachers emphasised the active participation of students. They differentiated between the affective and cognitive dimensions of active learning and reported that teachers focused on the affective dimension, the inclusion of students, and creating a happy classroom environment (Hopkins, 2002). Whilst increased activity and participation are associated with active learning, as evidenced in Table 14, it is how learners interact with new knowledge to build understanding that lies at the heart of the constructivist principles of active learning. In recognising the need for more attention to the cognitive dimension, Barrow and Leu (2006a) maintain that teachers in their study had begun to expand

their role as educators by adopting a more affective and holistic approach toward their students. This expanded teacher role has been documented in the Research School in reference to changes to the classroom with the introduction of CFS. Barrow and Leu (2006a) suggest this expansion offers a foundation for further improvement in teaching and learning. In support of this view, Brodie et al. (Brodie et al., 2002, p. 555) assert that it 'might be expected that the forms would be taken on together with or before the substance' based on their study of learner-centred education (LCE) in South Africa.

This affective dimension relates to another key element arising from The World Café with strong connections made to the friendly teacher-student relationships and building a happy classroom environment. Whilst Schweisfurth (2011) argues that LCE is particularly demanding because of the profound shifts required in teacher-learner power relations, in the Maldives the shift in teacher-student relations is one of the most prominent features where change has been observed, evidenced by the parent group comments (Table 17). Hopkins (2002), in his discussion of projects in Africa, presents two different interpretations of how the concept of child-centred learning can be understood, one that strives to create a happy, secure and caring learning environment, and the other where the student is actively involved in the construction of meaning. The first interpretation reflects the current prioritisation in the Maldives, as indicated by the contextual data.

However, these two interpretations are not mutually exclusive. Given the nature of the student-teacher relationship is argued as being critical to student learning (Westbrook et al., 2013), these changes present an important shift in power relations and the role of teachers as the custodians of knowledge, transmitted to students through a typically hierarchical process (Mohamed 2006). As a hierarchical culture, these findings in the Maldives context raise an apparent paradox in the fit between the pedagogy and cultural factors. The World Café data confirm a change in perceptions with regards to the role of teacher and teacher-student interactions. In fact the 'friendly' role of the teacher was an important perspective and a clear priority across the parent groups in particular. The changing role of the teacher means their role is longer simply to transmit knowledge that is then replicated in a test, as Harpaz (2005) attests (see Chapter One). The teacher is now perceived as having responsibility for motivating students and tailoring their teaching to the students' needs. The findings of the current study indicate a shift is emerging

from an emphasis on teaching content to a focus on teaching students and acknowledging that students have differing learning needs – one aspect of LCE. This is consistent with the theme of equity which featured in the World Café data (see Table 15). The priorities identified in the contextual data indicate that students are no longer seen as passive recipients of knowledge but are expected to participate actively and work productively with their peers.

The use of group work as an instructional strategy was another strong feature of active learning raised by all stakeholders. This was seen as increasing student participation and providing opportunities for students to work together and share ideas, as highlighted by both parent and teacher comments. In discussing collectivist cultures and learner-centred pedagogy, Schweisfurth (2013a) considers the class to be a collective; so individualising the curriculum may run contrary to this cultural characteristic. By contrast, while recognising that group work is a new instructional approach in some Maldivian classrooms, Nazeer (2006) argues instead that there is a strong compatibility between cooperative learning and Maldivian cultural norms. As a homogenous cultural society that values collectivism rather than individualism, he claims that it is the current competitive, individualistic climate of schools that creates a cultural mismatch between home and school. In the current study, the enthusiastic embracing of group work structures by all stakeholder groups profiles a particular strategy valued by this school community.

The collaboration and cooperation between parent and teachers is raised as a positive benefit of the reform process of this island and strongly aligns with CFS Dimension Five of fostering community partnerships. This may explain the extent of 'gelling' in the school as parents have been included since the initial introduction of CFS and have, therefore, been an enabling influence. In contrast, the constraining influence of parents that can be exerted in Maldivian schools (Di Biase, 2009; Wheatcroft, 2005) was first raised in Chapter Two. As noted earlier, there is a need for strong school-community links to better support change and improve chances of implementation success with reform projects (Dembélé & Miaro-II, 2003; Farrell, 2008; Hallinger & Kantamara, 2001).

Conceptualisations of active learning can highlight activity and participation yet retain fundamental elements of teacher transmission pedagogy (Vavrus & Bartlett, 2012). The emphasis on group work, a form of active learning, without specific reference to the cognitive

demands of the task or the nature of any collaboration, is one example of where emphasis may reside more on the *form* rather than the *substance* of active learning. There may be a positive regard for LCE, as evidenced in the findings of this study, but there may also be a discrepancy between favourable attitudes and what teachers enact in their classrooms (Hallinger & Lee, 2011; Westbrook et al., 2013). Whilst many of the views expressed through The World Café predominately relate to the *form* of active learning, they reveal the school has attended to changes in classroom pedagogy, particularly in CFS classes. The World Café data highlight a shift from the transmission model of teaching and accords with the notion of LCE reform being along a continuum and not an either/or proposition. These findings provide insights into the development of the intervention in the next phase of the study.

Part 3: Designing a contextually relevant model of active learning

> *…it may have been argued that the building upon, strengthening and modification of previous practice would have been a viable alternative in which the children, teachers, community and education system would have been more comfortable and which could have been put into practice more easily.* (Moegiadi & Gardener, 1994, p. 57)

The aim of the contextual analysis was to provide input into the design of a contextually relevant pedagogical intervention. In this section the findings of the World Café are applied to 'design and engineer pedagogical strategies to fit local contexts' (Mtika & Gates, 2010, p. 403). The principles of design-based research, as the overarching methodology of the study, provide a framework for the intervention design bringing together the contextual analysis, the 'promising solutions' derived from prior research and linking theory and practice based on the constructivist underpinnings of active learning. This approach encompasses the participatory principles of the study by embracing the perspectives of the school community. In promoting a contextually relevant model of active learning, which is more than an uncritical transfer of an inappropriate model (Akyeampong et al., 2006), the contextual data provides valuable input for the advancement of a pedagogical model that fits with local circumstances, reflects community priorities and builds upon the initial stages of change already evidenced. Consistent with Lall's (2011) call for a Myanmar-centric model of LCE suitable for the Myanmar setting, the goal is to develop a Maldivian-centric instructional model, as McNair (2009) proposed in her CFS report, that accords with local priorities for the intervention phase of this study.

What can be learnt from the implementation challenges of LCE is that the 'one size does not fit all' (Dembélé & Miaro-II, 2003, p. 65). The particular characteristics of small states demonstrate why contextual factors are so important as their distinctive characteristics mean they also face distinctive challenges. Additionally, small states tend to be policy importers (Crossley et al., 2011). Consequently borrowed policies need to be contextualised to suit their distinctive challenges, highlighting how one size does not fit all and how what can be 'best practice in one context may not be appropriate elsewhere' (Crossley & Sprague, 2012, p. 35). Consistent with this argument, Schweisfurth (2013b, p. 143) underscores the need to reconceptualise LCE 'towards a contextualised learner-centred pedagogical nexus', which brings together local and global sources of knowledge (Tan, 2010). Where policy borrowing has been successful it is because significant elements are shaped and incorporated within models of practice appropriate for the host culture (Elliott, 2014, p. 39).

This process aligns with the DBR phase of drafting and prototyping solutions (McKenney & Reeves, 2012, p. 74). In striving to reconcile global and local sources of knowledge (Tan, 2010) the intervention in this study was informed by several key inputs illustrated in Figure 24.
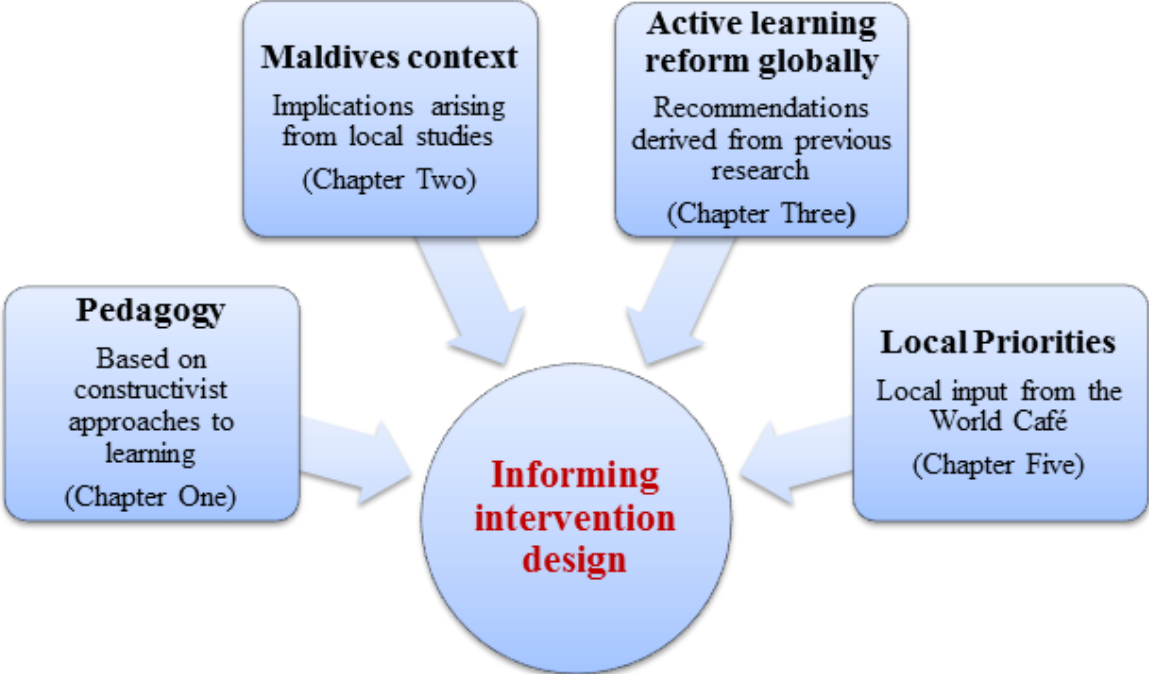
Figure 24: Inputs informing the intervention design

The policy environment was discussed in Chapter Two and the discussion was contextualised within local research on CFS implementation and pedagogical reform. It drew attention to the need for a clearly articulated vision of active learning that accords with the attitudes and priorities of local island communities. The World Café gave voice to stakeholder perspectives and how these reconcile with the intervention is discussed in the next section. Yet, it is important to note that in developing the intervention it not only accords with local needs but moves beyond the emphasis to date on the *form* of active learning and organisational changes, and attends to the *substance* or cognitive dimensions of active learning, as raised by McNair (2009).

Drawing on global sources of knowledge, Chapter Three provided a series of recommendations derived from the literature, that were intended to generate 'promising solutions' to the well-documented challenges of active learning reform globally. In doing so, the intervention design drew on this research in the following key areas:

- the need for a more structured approach to active learning reform, recognising that open-ended approaches have met with limited success, (for example Leu & Price-Rom, 2006);
- the need for a the model that is clearly and simply articulated in language and concepts accessible to teachers (for example, de la Sablonnière et al., 2009);
- the need for a staggered approach to reform (Raval, 2010) consistent with the notion of the zone of feasible innovation (ZFI) (Rogan & Grayson, 2003).

The findings of the contextual analysis provided insight into the 'most promising entry point' (Leu & Price-Rom, 2006, p. 18) for developing a model of active learning, which builds on the valued forms of active learning articulated by the school community in line with the zone of feasible innovation (Rogan & Grayson, 2003; Rogan, 2007). The ZFI provides a pragmatic framework for considering the nature of the intervention as starting with current practice – what teachers know and can do – and then moving forward. As argued by O'Sullivan (2004), there needs to be an adaptive model of LCE that is appropriate to the context and is within teachers' capacities to apply. In designing an intervention that accords with the ZFI requires consideration of 'what the community will accept and what the school can deliver' (Rogan, 2007, p. 452). The World Café provided insights into the fundamental question of what is valued in this particular

setting in seeking to develop a contextually relevant model of active learning, and determine change that is relevant to the context (Hardman et al., 2009).

The intervention: A distributed model of active learning

Moving beyond the simplistic dichotomy of two pedagogical approaches polarised as teacher-centred and student centred, a 'distributed model of active learning' (Leu & Price-Rom, 2006), first introduced in Chapter Three, is proposed as a first step in developing a pedagogical intervention. This draws on research that more structured instructional models may offer a more effective approach to pedagogical reform, as endorsed by Dembele (2005, p. 171), who writes that 'success may depend largely, and perhaps paradoxically on considerable structure'. As previously noted (see Leu & Price-Rom, 2006), many systems are pulling back from more open-ended, less structured forms of active learning in response to the implementation issues of LCE, leading to the recommendation of a more distributed model of learning. Hybrid practices, such as those advocated by Cuban (2009), present a way for teachers to reconcile conflicting pressures and demands from within the system. Conceiving active learning as a continuum recognises that active learning has frequently been conceptualised in terms and practices too far removed from teachers' current practice.

An adaptation of the Gradual Release of Responsibility (GROR) model (Fisher & Frey, 2008), known as an explicit instructional model, was chosen as offering a pragmatic framework for encouraging student participation within a structured teaching model, without losing sight of constructivist principles. Fisher and Frey's book, *Better learning through structured teaching* confirms that structure is central to the GROR model, subscribing to the recommendation that more structure for teachers may well be the key (Dembélé, 2005). This model 'purposefully shifts the cognitive load from teacher-as-model, to joint responsibility of teacher and learner, to independent practice and application by the learner' (Fisher & Frey, 2008, p. 2), addressing the need to focus on the *substance* of active learning. As such, the GROR model encompasses teacher instruction, whole-class interaction, student collaboration, and independent practice where 'teachers gradually do less of the work and students gradually assume increased responsibility for their learning' (Fisher & Frey, 2008, p. 2). Table 19 presents and explicates the four phases and instructional features.

Table 19: An explanation of the key features of the Gradual Release of Responsibility phases

Phase	Key features
Focused instruction	Establishes purpose of the lesson helping students grasp the relevance of the lesson
	Teacher introduces the concept, skill or strategy
	Includes modelling, explanations of how a skill, task or strategy is accomplished
	Opportunity to activate prior knowledge
Guided instruction	Provides an opportunity to address identified needs either by purposeful groups or the whole class
	Teachers prompt, question, facilitate or lead students through tasks that increase their understanding of the topic
Productive group work	Opportunity for students to work together to apply what they know and consolidate their understanding of the topic – put their knowledge into action
	Students are given opportunities to discuss, think and problem solve with their peers
	Nature of task is critical which requires a group function and individual accountability –it provides a natural opportunity for inquiry
Independent work	Provides students opportunity to apply and practice from the earlier phases
	Tasks should provide students with opportunities to use their knowledge in new ways

The GROR model incorporates a specific role for teachers whilst also building in a clear structure for student participation and group work, key features identified in the World Café. The model also responds to the World Café photo-ranking activity concerning the role of the teacher –particularly in the low ranking of Photo F and the apparent lack of clarity about the teacher's role in an active learning classroom. Further, the model provides a clear purpose for group work, acknowledging the receptivity for group work revealed in the World Café data. In addressing the emphasis on the *form* of active learning noted in the changes to date in the Maldives, the GROR model fosters student participation and collaboration within a clear and integrated framework, providing 'an instructional framework for moving from teacher knowledge to student understanding' (Fisher, 2008, p. 1).

Evolving over several iterations, the GROR model was adapted to the school's context after ongoing discussions with SMT and consultations with the teachers. During this process, the model was simplified to avoid any ambiguity and to promote operational clarity for teachers. Teachers were encouraged to consider their lessons in three parts:

- I do (teacher direct instruction);
- We do (incorporating elements of cooperative learning and/or teacher-student interaction)
- You do (independent student work).

A specific lesson plan template, illustrated in Figure 25, was created within the school, in consultation with the teachers (See Appendix M for full page version).

Figure 25: Adaptation of the Gradual Release of Responsibility instructional model

The model was introduced to the school during a specified staff PD day which is elaborated further in Chapter Six. The 'We do' phase became the focus of the intervention in efforts to operationalise the model for two reasons: (1) the participating teachers chose to concentrate

their efforts in this area as they felt it was where they had the least expertise; and (2) Fisher and Frey (2008, p. 12) assert that this phase is often neglected. Therefore, the focus on this phase affirms the intentions of the model to shift the cognitive load from teacher to student. Collaborative learning[4], a key component of the model, draws on research by Johnson and Johnson (1999) who have defined five core elements of cooperative learning. These elements are:

Positive interdependence: The group has a clear task and the success of the group is dependent of the efforts of each person.

Face-to-face interaction: Students encourage and support each other and share resources where appropriate.

Individual and group accountability: Each group member is accountable for contributing to the group and achieving the group goal.

Interpersonal and small-group skills: Students learn the skills to work effectively in a group with their peers.

Group processing: There needs to be open communication where group members discuss how they are progressing toward achieving their goal/s.

The phase of collaborative learning is designed for students to assume increased responsibility for their learning and provide students with 'opportunities to problem solve, discuss, negotiate and think with their peers' (Fisher, 2008, p. 2). All students need to play a role in group tasks, and students need to encounter tasks of sufficient complexity, which incorporate both group function and individual accountability (Fisher, 2008).

In focusing on the 'We do' phase of the GROR model, a series of strategies were introduced to explicitly support cooperative learning as outlined in Box 2.

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[4] Fisher and Frey (2008) distinguish between collaborative and cooperative learning. For the purposes of this study these terms are used interchangeably. The goal is to foster effective group work targeting students' collaboration and cooperation. I have chosen to use this label within the model.

Think-pair-share

In Think-pair-share (Lyman, 1987) students work in pairs on a given problem or question in a series of steps. They think about the question individually and then work in pairs to discuss their responses and finally share their ideas within a larger group or class.

Numbered Heads

Kagan (1989) proposes 'structural approaches' to cooperative learning which are content-free structures for organising social interactions and group work. In Numbered Heads students are allocated a number and then discuss a question as a group. One number is then randomly called and answers on behalf of the group. Numbered Heads necessitates positive interdependence and individual accountability in order for students to complete the task.

Jigsaw

In Jigsaw (Aronson, 1978) each group member has a specific role and unique information for which they are responsible. It is based on positive interdependence, as without the input of all group members the task cannot be fully completed.

Placemat or visual displays

A visual display or graphic organiser is a way that students can both organise and demonstrate their thinking. Fisher and Frey (2008) refer to this as a collaborative poster in which students' ideas and the connections between them are made transparent. It draws on cooperative learning elements, particularly individual and group accountability and face-to-face interaction.

Guided instruction (group work rotations)

Teachers 'prompt, facilitate and lead students through tasks' (Fisher, 2008, p. 2) to increase their understanding of the content and provide targeted attention by structuring the class to enable the teacher to work consecutively with smaller groups.

Guided instruction (group work rotations with differentiated activities)

Through the process of working in groups teachers can modify activities so they are targeted to the specific needs of the group. Groups may work at a different pace or on tasks that are varied according to their needs (Fisher & Frey, 2008).

Box 2: The cooperative learning strategies that were focus of the 'we do' of the instructional model

These strategies were designed to offer clear and scaffolded strategies for promoting cooperative learning whilst building on the receptivity to using group work structures established in the World Café. The aim was to support progress in small, incremental steps consistent with the ZFI and provide a range of concrete strategies (O'Sullivan, 2004; Raval et

al., 2014). The key features of the GROR model, known in the school as 'I do, We do, You do', incorporates a mix of teacher instruction, cooperative learning and independent work. This mix of whole class teaching with group and individual instruction was likewise promoted by Hardman et al. (2009). They found teachers adopted a mix of these classroom practices in their study on pedagogical reform in Kenya. Importantly, the GROR model explicitly endorses the key features of active learning determined from the contextual analysis: the changing role of the teacher; student participation; and the use of group work.

This section brings together key findings from the World Café with this structured instructional approach, as shown in Table 20.

Table 20: How the key findings are addressed in the instructional model

Key features identified in the World Café	Addressed in the instructional model
The role of the teacher	The structured framework incorporates a clear role for the teacher that is related to, not separate from student participation
Student participation	Focused student participation, within a structured framework with specific emphasis on enacting 'we do' strategies
Use of group work	Focused 'we do 'strategies that facilitate cooperative learning – learning to work as a group, not just in a group (ref).
Equity – inclusive of all students	Use of guided instruction to that allows instruction to be varied to the different needs of groups of students

Each of these features is now discussed in more detail.

The changing role of the teacher

The noted friendly teacher-student relationship, outlined in Table 16 and the associated shift in power relations in the classroom aligns with the GROR model in which the cognitive load shifts from teacher to student (Fisher & Frey, 2008). During the different phases of the model, the teacher moves from an instructor role to a facilitator role as students assume greater responsibility for their learning. This puts teacher actions into a structured framework, providing a role for teacher instruction as well as student activity and participation; thereby

addressing the discrepancy in the contextual data between parent and teacher views on the role of teachers, as evidenced in the photo ranking activity (Table 13).

In this structured model, the multiple roles of the teacher are embraced. Building upon the familiar teaching strategy of direct teacher instruction, the model offers an alternative to the transmission model. The teacher releases responsibility over the different GROR phases to create opportunities for student participation that are designed to develop their understanding of new concepts, whilst constantly monitoring students' learning.

The fit between the contextual data and the GROR model seeks to build on changes already in practice by the teachers as well as recognise and reflect stakeholder priorities. The model is intended to offer operational clarity for teachers. It combines practices that teachers are familiar with – teacher instruction and student individual work – with guided instruction and cooperative learning. The expansion in the practices required of the teacher include adopting a facilitator role, or to use Hattie's (2009) term, 'activator', that combines both teacher and student-centred approaches, yet firmly establishes teachers as directors of learning. The GROR model places the teacher in this 'activator' role as they need to embrace various responsibilities over the different phases. It also offers a pragmatic framework for teachers as they expand their practices and adopt these new roles and responsibilities as conceived within the GROR and identified in the World Café.

Student participation and activity-oriented learning

With student participation foregrounded in all of the World Café activities across the stakeholder groups it needs to be prioritised in any model of active learning. Yet, as acknowledged in Chapter Three, participation and activity involve more than entertainment and as such student participation must be purposeful if it is to successfully shift the cognitive load from teachers to students. Fisher and Frey (2008, p. 10) explicitly highlight the shortcomings of teaching models in which 'responsibility for learning is not being transferred from knowledgeable others (teachers, peers, parents) to students' and raise concerns around class structures where students are asked to learn independently day after day, and contend that students have not been adequately prepared to learn in these circumstances. In contrast, the GROR model provides a clear framework for student participation which is purposeful,

intentional and explicit (Fisher & Frey, 2008), thereby attending to not only the *form* but the *substance* of active learning. As 'directors of learning (Hattie, 2009, p. 25), teachers plan and manage purposeful student participation. It addresses the misconception that students can learn for themselves (Nykiel-Herbert, 2004) and helps identify situations where activity may be more 'muscular' than cognitive (Leyendecker et al., 2008).

Use of group work

The 'We do' phase of the model embraces the use of group work, so clearly articulated in the contextual data as a valued feature that promotes active learning. The GROR model locates group work within a purposeful process of instruction, recognising the stakeholders' receptivity towards this approach to student learning as demonstrated in the World Café. Fisher and Frey (2008) advocate for the importance of the collaborative learning phase, which they assert is commonly missing in many classrooms. This is a critical component, as it is in this phase where students consolidate their thinking and understanding (Fisher & Frey, 2008). The World Café also revealed concerns that not all students participate fully in group work tasks. This was noted as an area for improvement – to learn how to manage group work tasks so that all students engage with the task and work more effectively in groups. Therefore, the focus on group work and, in particular, facilitating cooperative learning fits both with the priorities identified by stakeholders and aligns with the principles of the GROR model.

Addressing equity and differentiation

The guided instruction phase of this model is designed for teachers to meet with 'needs-based groups' (Fisher & Frey, 2008, p. 6). The receptivity for group work provides another avenue in which the intervention can support the vision established in the contextual data by embracing the guided instruction component of the model. As noted by Fisher and Frey (2008, p. 6), guided instruction time is when teachers can work with needs-based groups and this is the ideal time to differentiate student instruction. The possibility of providing equal learning opportunities for all students is most apparent in this phase with students working in groups, and when teachers can potentially differentiate content, process or product (Tomlinson, 2001) to meet the needs of different groups of students.

Design-based research and the intervention design

Design-based research specifies that the design of the intervention should respond to the literature as well as those in the local context (McKenney & Reeves, 2012). Therefore the intervention design was not only informed by the priorities identified in the World Café but also drew on previous research, seeking to learn from the successes and recommendations of pedagogical reform in the Maldives and other relevant contexts outlined in Chapters Two and Three. The fit between the contextual data and the GROR model seeks to build on practices already in place, as well as recognise and reflect stakeholder priorities identified in the World Café, as discussed in the previous section.

The model is intended to scaffold teachers to move from 'conceptual ambiguity to operational clarity' (Sewell & Dacre Pool, 2010, p. 89). It draws on Grossman et al.'s (2009) notion of 'approximations of practice' where teachers have the opportunity to use discrete components of more complex practices under conditions of reduced complexity. Supported by the literature that change needs to be in modest steps (O'Sullivan, 2004), the GROR model offers a structured, pragmatic framework where the concept of LCE is clearly and simply articulated (de la Sablonnière et al., 2009). It breaks LCE into concrete strategies, an approach supported by Raval (2014) .

In adapting the model, the guided instruction phase was merged into the 'We do' phase in the interests of operational clarity for the teachers. The initial version of the GROR model – I do, We do it, You do it together, You do it alone – with its additional complexity resulted in a degree of confusion and ambiguity for teachers. Drawing on the ZFI, this adjustment attends to the question of how much innovation is possible in the given circumstances (Rogan, 2007). Therefore, a decision was made in the school to adapt the model to become 'I do, We do, You do' which teachers could more readily understand, as discussed in Chapter Six. The specific 'We do' strategies, that formed part of the intervention, encompass guided instruction and so this component of the model was not lost through this adaptation.

From the familiar practice of explaining or presenting new information through direct instruction methods, teachers were given a framework to expand their practice through the principles embedded in the 'We do' phase thereby providing their students with the opportunity

to interact with others and consolidate their thinking and understanding (Fisher & Frey, 2008; D. W. Johnson & Johnson, 1999). The GROR model provides opportunities for students to make sense of new information, a key feature of active learning that contrasts with traditional transmission models where the focus is on the memorisation of information and placing students in a largely passive role (Gauthier & Dembele, 2004). So, not only do students assume greater responsibility for their learning they also take on a more active role. Fisher and Frey (2008, p. 16) describe the model as 'intentional, purposeful and explicit' and, in particular, stipulate the cooperative learning phase as being critical to its success.

Fisher and Frey (2008, p. 110) acknowledge that implementation of the GROR is not a linear process, instead viewing the various phases as recursive and iterative. Therefore, whilst the model purposefully plans for a 'continuous shift of the cognitive load across time' (Fisher & Frey, 2008, p. 111), its flexibility allows this shift to take place over differing time periods for different teachers with different emphases. Underscoring the model with an 'approximations of practice' approach (Grossman et al., 2009) endorses the conception of change across a continuum so teachers can move in gradual steps toward the desired outcome.

Chapter Summary

This chapter has outlined the results from the contextual analysis phase of the study and detailed how these results informed the design of the intervention in this study. Acknowledging the importance of context in design-based research, the study's contextual analysis serves to describe the features of the island context relevant to enacting active learning in a Maldivian school.

The island and school context were discussed, and the approach taken by the Research school when it introduced the CFS methodology into the lower primary grades in 2006 was then considered. Key elements of the school's approach were revealed; the role of the leadership team and how SMT planned for change, particularly noting the strong collaboration with parents. The physical changes brought to the classrooms were visible signs of change and recognized as an important feature of how change was managed. The need for teacher support was recognised and professional development was a focus of the introduction of CFS into the school.

The findings, from the World Café, highlighted features associated with active learning across the stakeholder groups: the active participation of student; the receptiveness to group work activities; the changing role of the teacher; the learning benefits of active learning; the changing environment of the classroom and the focus on equity; and the need to cater equally to all students. There was general uniformity across the stakeholder groups, although the primary parents, in particular, raised the problem of discrimination where students may be treated differently, highlighting the need to support all students equally. Potential misconceptions around the teachers' role when promoting active learning were identified. This was seen in the photo ranking activity where student actions were prioritised over teacher actions, suggesting a misconception that active learning does not entail explicit teaching; rather teachers must only facilitate opportunities for student learning.

These results informed the intervention, incorporating the priorities of the school community into an instructional model of active learning that addressed the role of the teacher. Drawing on the priority of student participation and receptiveness to group work, the Gradual Release of Responsibility model (GROR) (Fisher & Frey, 2008) was chosen as the intervention in this study, known in the school as 'I do, We do, You do'. Drawing on the elements of cooperative learning, specific strategies were also incorporated into the model, to facilitate the 'we do' phase of the model, that responded to teachers priorities for implementing the model.

The next two chapters outline the teachers' adoption of the instructional model. Chapter Six discusses teachers' views, of their adoption of the GROR model. Chapter Seven considers the factors influencing the take-up of model.

CHAPTER 6: ENACTING THE MODEL OF ACTIVE LEARNING

Change where it counts most – in the daily interaction of teaching and students – is the hardest to achieve and the most important (Tyack & Cuban, 2009, p. 10)

Introduction

The previous chapter, revealed results from the contextual analysis phase of the study and description of the intervention – an instructional model of active learning – that was developed and operationalised within the context of a Maldivian island school. Drawing on Tyack and Cuban's (2009) claim that change in the classroom is 'the hardest to achieve', this chapter reports findings from the intervention phase. The Gradual Release of Responsibility (GROR) instructional model was enacted with two groups of teachers: Group A, the CFS teachers (Grades 1-4) and Group B, the Primary grade subject teachers (Grades 5-7). Reporting on teachers' use of the instructional model this chapter is divided into four parts.

Part 1 outlines teachers' aspirations for their teaching practice.

Part 2 details teachers' use of the instructional model during the intervention phase, including teachers' explanation of the instructional model, and teachers' attitudes towards the instructional model and their enactment. This section also summarizes the researcher's involvement and experience during the intervention phase.

Part 3 provides an analysis of teachers' use of the instructional model and reports findings from a post-intervention visit to the research site.

Data presented in this chapter are drawn from a wide range of sources: teacher interviews, teacher questionnaires, teachers' recording booklets, lesson observations, photos, and my field notes. Further details, where relevant, are provided in each section. As in the previous chapter, I seek to honour the voice of the participants and used the teachers' words verbatim where possible, indicated by the use of italicised script. The codes used for the participants referred to in Chapters Six and Seven are: CFS teachers (Teacher 1-7), primary teachers (Teachers A-F), School senior management personnel (SMT 1-7) and Ministry of Education and system level interviews (Official 1-11). Every effort has been made to protect the anonymity of the

participants and so I have deliberately not been specific in attributing quotes to a specific role which may identify the participants, particularly at the system level.

Part 1 Pre-intervention: Establishing teachers' priorities for their practice

At the beginning of the intervention phase, and following the World Café, the participating teachers completed an initial questionnaire and interview. The questionnaire included 'receptivity to change' questions, detailed in Chapter Four, and the initial interview with teachers further probed their teaching aspirations and their attitudes towards active learning.

Teachers' receptivity to change

Teachers were unanimous in communicating a desire to increase their use of active learning methods in their classes. Their receptiveness toward active learning and a willingness to trial active learning methods are evidenced in the summary of their questionnaire responses. These responses, presented in Table 21, reveal teachers' preparedness to talk about active learning with their colleagues and ask for advice when there is a problem, indicative of their collegiality. Moreover, teachers' positivity regarding support from the school leadership and the communication between teachers and parents confirm the findings from the World Café, and endorses the school's strong sense of community. However, there was a difference in attitude towards the training the teachers received with the primary teachers stating that they felt less supported. This implies that the training the CFS teachers received during its introduction to the school has made them feel better prepared to implement active learning. Also noteworthy from the questionnaire data analysis was that the primary teachers do not experience the same positive level of communication with parents as their CFS counterparts.

Table 21: Receptivity to change – teacher response percentages

Please indicate your response to the following statements about active learning. CFS teachers' results are indicated in **blue** Primary teachers' results are indicated in **red**	Not true	Somewhat true	Very true	Do not know
1. I have been given information about active learning.		37.5 14.3	75 85.7	
2. I am happy to try and use active learning methods.		 28.6	100 71.4	
3. I am worried about using active learning methods.	75 85.7	12.5 14.3		12.5
4. I need more time to learn about active learning and how best to use this method in my class.	12.5 14.3	50 57.1	37.5 28.6	
5. I do not feel prepared because I have limited knowledge of active learning.	50 71.4	37.5 28.6	12.5	
6. I am concerned about how active learning affects my students.	50 42.9	50 57.1		
7. I would like to know more about how active learning is better than what we did before.	 28.6	25	75 71.4	
8. I will need more training to be able to use active learning.		14.3 42.9	85.7 57.1	
9. I can ask advice from others in my school if I have a problem with active learning.	 14.3	42.9 42.9	57.1 42.9	
10. I have been able to raise concerns about active learning in my school.	16.7 42.9	66.7 57.1		16.7
11. I talk with my colleagues about active learning.		85.7 85.7	14.3 14.3	
12. I support active learning being in our school.		 28.6	100 71.4	
13. The training I received has helped me with active learning.		14.3 71.4	85.7 28.6	
14. Teachers and school leadership have worked together to make active learning work in the school.	 14.3	57.1 42.9	42.9 42.9	
15. Teachers and parents have communicated with each other about active learning.	14.3 57.1	85.7 14.3	 28.6	

Features of active learning

To establish their teaching priorities, the teachers were asked to identify the three most important features of active learning from a given list. The results presented in Figure 26 demonstrate what teachers foreground in terms of their aspirations and provide insights into what they prioritise in relation to implementing active learning methods.
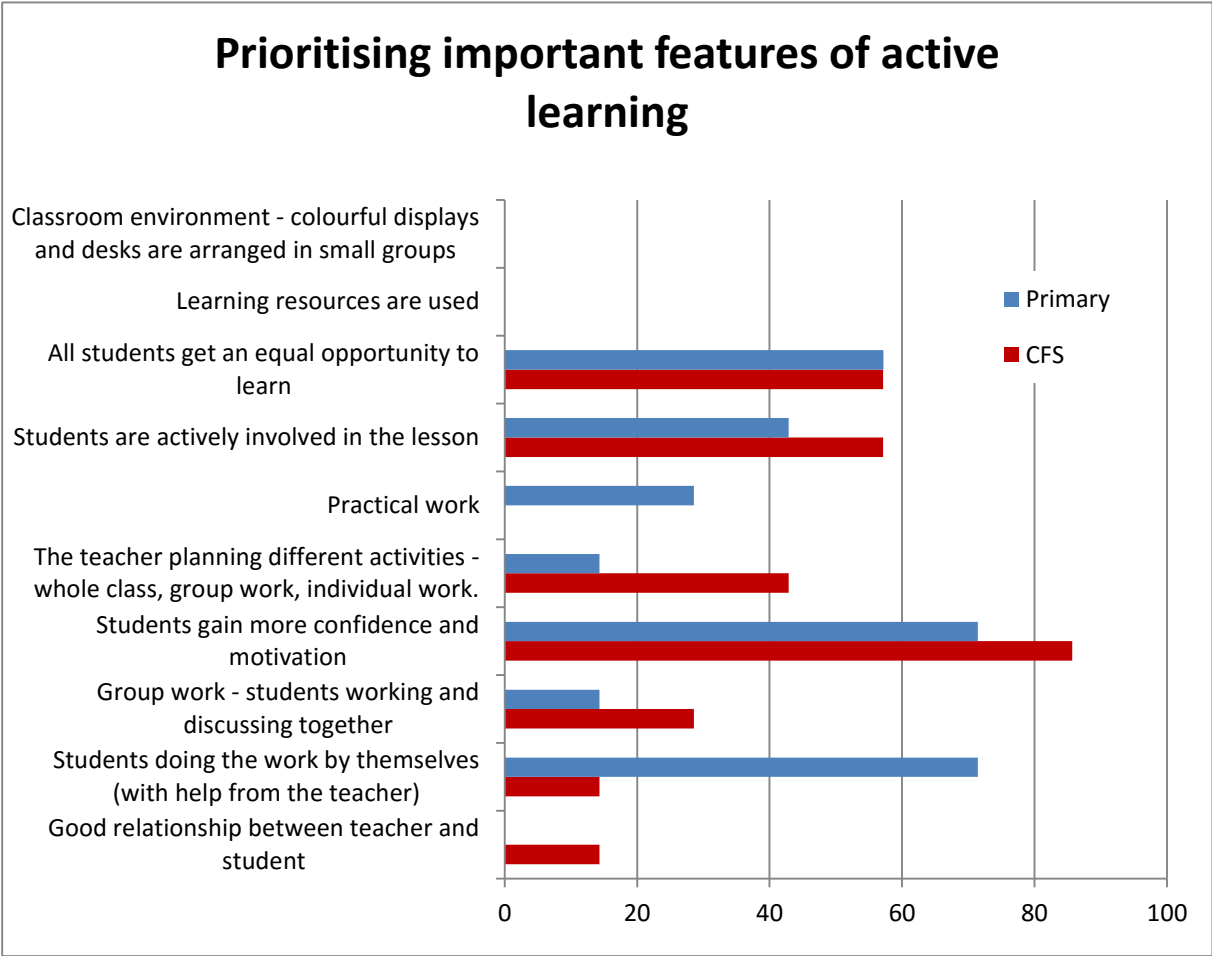
Figure 26: Teacher identification of the most important aspects of active learning

Whilst the top rankings for each teacher group, shown in Figure x, were different, both teacher groups placed emphasis on the importance of students gaining confidence, students' active involvement in lessons, and students being given an equal opportunity to learn. The top ranking for CFS teachers focused on student confidence while primary teachers emphasised the importance of 'students doing the work by themselves'. This may be because primary teachers tend to be more reliant on traditional methods and therefore put more emphasis on this change. Whereas CFS teachers have already developed a lesson structure that has shifted from the traditional transmission model and, as such, there is reduced teacher talk and lecturing and more

emphasis on student activity. These distinctive differences are confirmed in other data sources. For example, when teachers were asked to describe a good lesson in the first interview similar themes were raised (Table 22).

Table 22: Teacher responses to features of a good lesson

CFS teachers	Primary teachers
Student participation *Students are actively involved* (Teacher 4) **Students learn for themselves** *Happy because they are learning their own things* (Teacher 1) *Good because they had to learn the words and find meaning themselves* (Teacher 7) **Evidence of student learning** *They were writing many new words* (Teacher 5) *Students can answer questions when I ask* (Teacher 4)	**Student participation** *Students all participating* (Teacher C) *Good learning for participation* (Teacher F) **Students learn for themselves** *Good because they learnt for themselves* (Teacher B) **Evidence of student engagement** *I felt good because students motivated and interested* (Teacher A)

Both groups emphasised student participation and the role of teachers in facilitating opportunities for students to learn with greater independence. The CFS teachers referred to improvements in student learning that they observed, possibly because of the changes to their pedagogical approach that the CFS program had initiated. The primary teachers foregrounded student interest and engagement, which was consistent with the circumstances at these grade levels where there are higher levels of students' disengagement. This was illustrated when Teacher E stated that *students are not giving their interest*. The details of teacher aspirations, presented in Figure 26 and Table 22, indicate recurring themes about learning that align with The World Café results.

When teachers were asked how they would like to improve their use of active learning methods, there was a general response across both teacher groups of wanting to learn new teaching strategies and activities. The primary teachers were less specific when articulating a desire to *know a lot of strategies and how to apply those strategies* (Teacher D). By contrast, the CFS teachers, overall, articulated several explicit aspirations – catering for all students, particularly low ability students, and knowing how to assess for different student levels of need and ability.

In addition, they commented about the need to improve the standard of students' writing, not surprising being teachers of students in the early years. Having already embraced change, through the CFS program, these teachers' priorities were more specific, in contrast to the primary teachers, who despite an interest in active learning, were teaching in grades where they had been less exposed to the CFS change process.

Teachers' familiarity with active learning methods

The CFS teachers' descriptions of their teaching before the introduction of CFS included those of classrooms with students *sitting in rows* and *desks arranged differently*. Teachers stood at the front of the class and were *teaching by talking* and *writing on the board*. Typically the class was based on whole class teaching with very little group work being used and tasks confined to individual activities. Teachers noted the lack of student involvement: *we did speaking and very few students involved – only listen*. Following the introduction of the CFS program the teachers highlighted the changes in their classroom. Specifically they referred to changes in classroom arrangements with students sitting on the floor and greater use of group work. The nature of the teacher-student interactions also emphasised *interaction with students is different…we are friendly with students*. These teacher comments support findings from The World Café.

A receptiveness to group work was demonstrated across both teacher groups. I was able to observe the CFS teachers teaching, prior to the intervention phase and noted six CFS teachers used group work in their class and the seventh teacher assigned individual student work using the textbook. The primary teachers, having joined the intervention stage later, were asked what active learning methods they were familiar with at the start of their intervention phase and five teachers responded with strategies related to group work or pair work, and one referred to use of the projector. Whilst primary teachers had not experienced the same changes in the classroom set-up as the CFS teachers, they drew attention to the usefulness of group work in providing students with a greater opportunity to participate. This receptiveness to group work was aligned with a number of benefits for student learning.

> *Students of mixed ability can work together and lower ones can get more ideas* (Teacher A)

> *The quality of work will be better* (SMT3)

> *They will be highly motivated if they work in a group* (Teacher A)

The idea was also raised that multiple student responses to a question were valued, indicating an acceptance that there may be more than one correct answer to a question, which suggests a notable shift from focusing on a single correct answer, as signalled in textbooks and worksheets. At this early stage I did observe, however, some forms of teacher questions along with choral student responses.

Whilst group work was seen to be a useful strategy, challenges were raised across both groups in two broad areas, as show in Table 23.

Table 23: Articulated challenges with using group work

Challenges with group work	Sample comments
Managing student participation	*All the students are not participating* (Teacher E) *Only those students who are always doing, they do the tasks* (Teacher A) *The biggest challenge for me is it is difficult to put girls and boys in one group* (SMT4) *[noted by primary teachers]*
Classroom management	*It is difficult to organise or to manage in the class (h) and some classes are very noisy and some students are talking a lot* (Teacher F) *Difficult to know how to give clear instructions [for group activities]*. (Teacher D)

Teachers clearly faced challenges in managing student participation, highlighting the new skills required in their role as a facilitator of learning. The CFS teachers also raised the difficulty of catering for the different levels of students' needs and abilities. Having already made initial organisational changes in their classes, as noted with using floor and group work, they were perhaps able to focus on these more complex changes that directly related to student learning. The primary teachers, in particular, drew attention to the challenge of mixing boys and girls in group work, when teaching older students. The students' confidence to express themselves in English was acknowledged as a challenge across both groups, although active learning was also seen to enable more opportunity for discussion.

The aspirations articulated by teachers correspond with findings from the World Café, where students' participation and the use of group work strategies were foregrounded as important components of active learning across all stakeholder groups. Likewise, the aspiration to better cater for the needs of all students, particularly low-ability students, was consistent with the World Café data. There was a strong priority voiced that students be given opportunities for higher levels of participation. This desire for students to be actively involved in learning signifies changes to the role of the teacher, from the transmitter of knowledge to one in which they are facilitating learning opportunities for students. Given this aspiration, it is also clear that teachers want to learn how to do undertake this role more effectively.

Teachers particularly voiced a need for learning new strategies that could be applied in the classroom. Importantly, in wanting to learn new ideas and strategies, teachers articulated the need for support to operationalise them in their classrooms. Applying ideas from workshops was noted as a difficulty and teachers affirmed the need for ongoing classroom-based support:

> *I want to work someone with me in the classroom to help me to apply the strategies, so that we could share the experiences.* (Teacher D)

> *In [the] planning stage I need some ideas to maximise student involvement.* (SMT4)

These comments indicate whilst teachers want to expand their practices and apply new teaching strategies they are also adamant that they need support with how to implement these strategies in their classrooms.

Part 2 Intervention phase: Enacting the instructional model of active learning

The instructional model was introduced to teachers after the contextual analysis phase, as outlined in Chapter Five. I introduced the 'I do, We do, You do' model to the whole staff on the PD day scheduled in the MoE school calendar through three interactive sessions that sought to model each of the stages of the instructional model corresponding to 'I do' (an explanation of the model), 'We do' (a co-operative learning activity), 'You do' (an independent task for teachers). Appendix O provides details about the PD day. As reported in the literature, the PD session specifically sought to model the pedagogy being advocated so the message and the medium were consistent (Schweisfurth, 2011). Following these sessions and the creation of the

new planning template adapting the 'I do, We do, You do' GROR framework, all teachers in the school were provided with this template for planning lessons. Consequently, the initial introduction of the instructional model was not in addition to teachers' regular responsibilities, but became part of their annual professional development requirements. Other professional development that occurred during the intervention phase was credited towards their 15 hours for PD for the year (see Chapter Two). At the end of the fieldwork, teachers were awarded a certificate from the PD co-ordinator to recognise these additional hours of professional development.

Operationalising the instructional model was the focus of the intervention as teachers learned how to use the new model. As stated in Chapter Five, teachers chose the 'we do' phase to be the focus of the intervention as indicated by Teacher 6's statement, *We always do this: 'I do', 'you do'...then sometimes 'we do' but how [do] we apply this 'we do*? The statement demonstrates that teachers were aware of their existing patterns in using 'I do' and 'you do' teaching strategies. Whilst there was awareness of using group activities, the 'we do' component presented the greatest challenge for teachers, consistent with the difficulties they raised about managing group work in their classes.

The intervention phase fell into two blocks that occurred before and after Ramadan and the school holidays. The CFS primary teacher group began their participation later in the study after the semester break; hence my time working with the CFS teachers was almost twice as long. For reporting purposes I have divided the intervention phase into two blocks of time.

➢ Block 1: CFS teachers – introduction to 'we do' strategies [information booklet] and sequentially structured cooperative learning program by week.

➢ Block 2: CFS teachers – self-determined use of strategies over the block.

➢ Block 2: Primary teachers - introduction to 'we do' strategies and use of the strategies.

Each week teachers completed a recording booklet detailing any use of the strategies. In using the GROR planning template and in enacting the strategies, my support for teachers included: collaborative lesson planning; lesson observations with post-lesson debrief; and team teaching.

At the end of the intervention phase, teachers completed questionnaires (Appendix P) and participated in interviews (Appendix D), providing additional data about their use of the instructional model. Insights from my field notes also contributed to the analyses of teachers' use of the instructional model.

What the teachers say about the model

This section expounds teachers' explanation and interpretation of the instructional model. Data from teacher questionnaires and interviews refer to the changes that have come about through the introduction of the model and its structured format. As Teacher 1 asserted, *before not like this…I do and then give some activity...now we also have to do with students.* The following examples demonstrate the new planning format and the 'we do' function of working together, revealing that the instructional model provides a cohesive framework with a clearer purpose for the use of group work structures.

> *First we are explaining what we want, then they are working together, sharing something, and after they do individual work.* (Teacher 5)
>
> *Now we should think about the activities what students have done and teachers and students [will do] together.* (Teacher 7)
>
> *Before I gave a lot of individual work, now I make some plans so together we can do.* (Teacher C)

These examples demonstrate the teachers' conceptualisation of how the lesson parts work together.

In response to the intervention, the teachers were able to offer explanations of what they saw as the key features of the instructional model that are summarised and presented in Table 24. These responses indicate that each component of the model is seen to have a clear purpose along with corresponding teacher responsibilities. It is the teachers' responsibility within the 'I do' phase to provide clear explanations, thereby indicating that it is not just their' responsibility to simply deliver information but to do so in a way that is accessible for all students.

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Table 24: Teachers' conceptions of the important features for each phase of the model

	I do	We do	You do
CFS	Responsibility on teacher to give clear explanation: -explain the objectives -explain in the easiest way -short and simple Teacher provides instructions	Students can participate fully by using pair/group work Students do something with the information Teachers plan challenging tasks Teacher need to give clear instructions	Student independence where students think and do on their own Differentiation/ability levelled activities, including: -worksheets -challenging tasks -interesting tasks
Primary	Teacher provides explanation -with good examples -without differentiation Instruction should link to 'we do' Use of ICT for presentations e.g. PowerPoint	Involvement of students through pair and group work Students given a chance to work together and share ideas Teacher works as facilitator	Individual tasks -worksheets/textbooks -challenging tasks Check students' understanding through written work Differentiate tasks – provide work that students can do

The primary teachers specifically raised the use of PowerPoint as a useful way of presenting information to the class. The 'We do' component builds on the importance of student involvement, as identified in the contextual analysis data, but teachers also articulated: the work needs to be challenging for students; there should be collaboration between teacher and students; and that a variety of strategies needs to be used, highlighting the teacher's role as facilitator. Teacher 7 captures the way teachers responded to the use of model:

> *...while planning we decide the activities [that] are helpful to students. The activities that is opportunity to students for thinking, use their thinking while doing involve in the activity and also the teacher can guide the students how to use their thinking for the activity.*

Here the need for explicit instructions is highlighted with the teacher recognising it is not just about assigning tasks but that as facilitators they need to ensure that their students know what to do. One notable point of difference between the two teacher groups was that the CFS teachers specifically raised the requirement to include more challenging tasks. In the 'You do' phase, reference to the use of textbooks was made by both groups and teachers recognised that tasks should be tailored to their students' needs, as some tasks may not be suitable for all students.

Teacher motivation to use the active learning model

With teacher agency recognised as an important component in LCE reform (Schweisfurth, 2013b), teacher attitudes towards the instructional model are reported here. This section relies on data collected from the questionnaires and interviews although insights from other data sources have been used where relevant. Overall, the teachers presented overwhelmingly positive attitudes towards the GROR model. Table 25 and Table 26 record teacher responses, summarised from the final questionnaires, when each group of teachers were asked what they like and dislike about the GROR model. Responses to both questions are provided to show where the emphasis lay.

Table 25: CFS teachers' attitudes to the instructional model

CFS	LIKE – Instructional model	DISLIKE – Instructional model
Teacher 1	*Everything I like* *Easy to use 3 methods* *I do – to explain* *We do – they can discuss with teacher and so some group activity* *You do – then can do alone*	
Teacher 2	*Easy to prepare the lesson and plan*	*Sometimes think about activities*
Teacher 3	*I like 'we do' because when they are doing exercise*	
Teacher 5	*We do* *Easy to teach, first I do, we do, then you do*	
Teacher 6	Absent	
Teacher 7	*Easy to follow the activities – what teacher does, students do and both teacher and students do together* *Listing the activities separately*	*Spending time for planning the activities separately*
SMT 3 (or Teacher 8)[5]	*It provides us opportunity to plan our lessons in a structured way*	*Sometimes we feel bad or sorry to leave one of the rows without writing anything*

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[5] This participant was referred to as Teacher 8 in Chapter Four. This is a leading teacher with some teaching responsibilities who chose to participate in the intervention phase.

Table 26: Primary teachers' attitudes to the instructional model

Primary	LIKE - Instructional model	DISLIKE - Instructional model
Teacher A	*Can explain well and get students' involvement more than the 'old method'*	*Do not have enough time to complete the three tasks in one lesson*
Teacher B	no questionnaire	
Teacher C	*Planned lesson so I can include more activities for students*	*Limited time*
Teacher D	*The tasks are clear in this model and it helps the pupils' active learning in stages*	*-*
Teacher E	*Planning for a topic*	*Cannot conduct the 3 parts in some lessons*
Teacher F	*I have chance to use group work, pair work and individual work in my lessons*	*It's difficult to use I do, we do and you do in one lesson*

The key responses were focused on the model being user-friendly by providing a clear structure, which was easy to follow, and a framework to plan their lessons more effectively. The dislikes centred on the time requirements to plan and think of appropriate activities for each section. Further, the majority of the teachers drew attention to the user-friendly features of the model and its provision of a clear structure, which was easy to follow, and a framework to plan their lessons more effectively. In sum, the model provided a good fit with the circumstances of their work.

Teachers also held positive attitudes towards the 'we do' strategies. These strategies required them to make deliberate choices and specifically prepare for their use within this phase of the instructional model. In the final questionnaire, when teachers were asked to explain what prompted their use of the strategies, the following responses provide insights into their motivation.

> *I want to learn a new method of teaching.* (Teacher 1)
>
> *Students can be more attentive and can participate well.* (Teacher 4)
>
> *All students take part in the activity.* (Teacher E)
>
> *Students have to search on their own from internet.* (Teacher C)
>
> *It gives equal chance to everyone to have their own opinion.* (Teacher B)

These examples align with teachers' aspirations, addressed in Part 1 of this chapter: to increase student involvement; to provide opportunities for students to learn independently; to heighten student interest in their lessons; and to better cater for all students across ability levels.

Teachers' use of the active learning model

This section presents the findings about teachers' use of the active learning model during the intervention period, encompassing choices teachers made around its application, how the model and strategies were used in their teaching and how teachers reported their experiences. The findings are informed by data collected from the teachers' recording booklets, lesson observations and my field notes, plus the final questionnaire and interview which afforded insights into teachers' overall perspectives on operationalising the model. Where I have provided specific analysis on teachers' use of interventions, I have included these insights in boxed sections in order to separate my analysis from teachers' comments and reporting of their use of the model.

Block 1- CFS teachers [before Ramadan]

In the first block I introduced teachers to each of the five strategies on a weekly basis, based on the rationale of increasing the complexity of a focused strategy each week. As such, the order of the strategies moved from pair work through to group work through to differentiated activities. Each participating teacher was given an information booklet to use as a reference (see Appendix Q) detailing each of the strategies with corresponding examples. I also met weekly with teachers, as time allowed in their schedule, to discuss the strategy, to answer any questions, and to provide opportunities for co-planning. Teacher reflections on their use of particular strategies were reported in the weekly recording booklet and provided insights into teachers' engagement.

The use of the strategies within this block, are identified in Table 27, showing how many teachers reported on their use of the strategy each week.

Table 27: The number of times each strategy was used in Block 1

Group work Strategy	CFS teachers n=7
	Block 1
Think-pair-share	7
Numbered heads	5
Placemat	4
Jigsaw	4
Guided instruction	2

Overall, in this first block the strategies were deemed to have a number of positive outcomes which have been coded under five overarching themes and are presented in Table 28.

Table 28: Outcomes of using the strategies in Block 1

Outcomes of using the strategies	Sample comments
Encouraging students' participation	*Students involved in the activity [and] more interactive because they needed to be ready* (Teacher 2)
Promoting discussion	*Most of the students participated very well during discussion with their partners* (Teacher 7)
Allowing students to share ideas	*They have shared their ideas (Teacher 6)* *All students share ideas* (Teacher 3)
Involving students in the task with clearly delineated responsibilities	*No time to do unnecessary thinks because they are very busy* (Teacher 3) *I have learnt to involve students in groups* (Teacher 7)
Motivating students	*They worked with interest* (Teacher 6) *Good strategy to motivate students* (Teacher 1)

Although not all teachers used the full range of strategies in this first block, teachers presented positive experiences and motivation towards them. As Teacher 6 indicated, *Nice method [and] good to learn new methods.* Teacher 1 also observed that *students write so many words).* Teachers' often foregrounded students' participation in reporting positive experiences with their use of the strategies, particularly regarding group work and addressing the challenge of facilitating more effective group work which is elaborated in Box 3.

Facilitating effective group work

Teachers consistently foregrounded improvements in student participation when reflecting on their lessons. Teachers talked about becoming facilitators and I saw evidence in how teachers were aiming to enact this in lessons, particularly in their use of group work as a strategy to give students a more active role in the lesson. Through my involvement in the teachers' work I observed their lessons and participated in lesson debriefs. As I observed the intervention in action I commented in my field notes about teachers' use of group work during this block of the intervention phase.

> *What are the teachers looking for (with the students)? My impression is they are looking for enjoyment, participation and completion of work [Field notes 14/6/12]*

I also made this observation about a lesson using Jigsaw in Week 4:

> *In terms of facilitating active learning… students were given the tools to learn about the topic for themselves – the information sheets on each animal type and recording sheet to structure the knowledge they obtained. I think success in this lesson can be seen by the way students worked in expert groups. All home groups completed their sharing and students were able to answer questions in the closure section. [Field notes 10/7/12]*

I use this lesson as an example of where the participation of students was central to the lesson structure and the learning within the lesson. The scenario exemplifies the shifting of the cognitive load to students, as intended in the GROR model. The teacher, as the director of learning (Hattie, 2009), relies less on transmitting knowledge but more on carefully preparing a task of sufficient complexity (Fisher, 2008) and planning group work so students are given responsibility for their learning and understand clearly what is expected. The design of this lesson adheres to the intentions of the 'We do' phase and the cooperative learning elements (D. W. Johnson & Johnson, 1999) of individual accountability and group interdependence and they were both visible and necessary for successful completion of the task. Student participation was therefore intentional and purposeful.

Box 3: Facilitating effective group work

Figure 27: Teachers facilitating group activities

In the recording booklets, teachers were asked if they had encountered any challenges. They were also asked for ideas about addressing challenges they may have encountered and asked to provide recommendations for future practice that are presented in Table 29.

Table 29: Summary of teacher reflections on use of intervention strategies

Challenges encountered	Ideas for future practice
Explanations/giving instruction	
Did not explain well so need to explain 2 or 3 times (Teacher 1) *Some students confused* (Teacher 3)	*Explain well before students start working* (Teacher 1) *Give more practise for them to do simple works first* (Teacher 4) *Do an example with the class* (Teacher 3) *First doing it – next time will be easier* (Teacher 3)
Design and enactment of the task	
Some students answered easily (Teacher 5) *Six problems – maybe too many together* (Teacher 6) *Students didn't know information* (Teacher 5&6) *Went too long* (Teacher 1) *That day only discussion* (Teacher 3) *Writing too difficult* (Teacher 1&2)	*Use challenging questions* (Teacher 5) *Separate problems by colours/number* (Teacher 6) *Use a storybook or give more information through information book* (Teacher 6) *Manage time* (Teacher 1) *Next time students discuss and write* (Teacher 3) *Students can draw pictures instead* (Teacher 1) *Use A3 paper [for placemat template]so students can draw* (Teacher 2)
Student grouping	
Too many students in group (Teacher 1) *Random grouping* (Teacher 4)	*Less students next time* (Teacher 1) *Prepare the groups* (Teacher 4)
Differentiation	
Low ability students cannot complete(Teacher 7)	*Create ability groups and teacher can work with students who need support* (Teacher 7)

These examples reveal some evidence of teachers monitoring the effectiveness of their practices. They noted that in bringing about change it would be necessary for both teachers and students to practise so everyone could become familiar with these more innovative approaches. Recognising the importance of giving clear and relevant explanations shows an awareness of the flow of the GROR model and the connections between its elements. As Teacher 3 commented, *Structure of lesson – I do, we do, you do was helpful*. How teachers typically approach lesson planning is explored in Box 4.

> **Lesson planning: a single lesson focus**
>
> The GROR model was introduced as being a flexible model that could be used over one lesson or spread over a series of lessons. In my observations and experience of co-planning with teachers, I found that teachers tended to view each lesson as a defined block of time, citing the schemes of work as directing them in their planning for each lesson.
>
> > *From my perspective teachers don't see their lessons as part of a whole – a series of building blocks leading to a successful achievement of objectives. They seem to see each lesson as a discrete block of time – almost self-contained – except when they were making the animal booklets. This activity ran over several days. They also rely on textbooks which correspond directly to the objectives in the schemes of work [Field notes 7/7/12].*
>
> This view of instruction as an aggregation of single lessons resulted in limited opportunities for teachers to plan a topic incrementally over a series of lessons, or to spread the structure of the GROR model over more than one lesson. My observation relates to the findings of Brodie et al. (2002) who reported that teachers struggled with aspects of reform in South Africa, such as providing continuity between lessons and tasks within lessons. The findings in this study indicate teachers could connect tasks within a lessons, particularly given the framework of GROR, and could plan relate topics across lessons but similarly had more difficulty with planning and organising strategies that ran across lessons.

Box 4: Lesson planning

Block 2 – CFS teachers [after Ramadan]

With the primary teachers joining the study in Block 2, my focus was on introducing them to the intervention strategies, as the CFS teachers were now more self-sufficient. However, whilst the CFS teachers self-selected their use of strategies during this block, I continued to co-plan lessons, conduct lesson observations and team teach, consistent with their requests for ongoing support. I continued to attend the weekly planning meetings, and thereby maintained ongoing contact and often arranged further meetings with teachers at this time. With this block being less structured, this consequently provided additional insights into teachers' choices and priorities in selecting strategies.

Over this eight-week block the strategies teachers chose to use are displayed in Table 30, which shows the number of times each of the strategies was ued across Block 1 and 2, as resported in the teachers' recording booklets.

Table 30: The number of times each strategy was used comparing block 1 and 2 usage

Group work Strategy	CFS teachers n=7	CFS teacher n=8[6]
	Block 1	**Block 2**
Think-pair-share	7	**8**
Numbered heads	5	**3**
Placemat	4	**1**
Jigsaw	4	**7**
Guided instruction	2	**2**

In choosing to use the strategies, teachers articulated a number of reasons which have been coded under five overarching themes. These are outlined in Table 31 with sample comments.

Table 31: Reasons given for teachers' use of the strategies

Teachers' reason for using	Sample comment
Increases student participation	*Involving in the activity they share ideas and get more new ideas (Teacher 7)*
Improves student learning	*To help improve their language (Teacher 1)* *It helps students to master a concept (Teacher D)*
Increases student interest	*Students could be more attentive and participate well (Teacher 4)*
Expands teachers' practice	*I want to learn a new method of teaching (Teacher 1)* *We tried before and we would like to try again (Teacher 5)*
Enhances the lesson	*Often use this strategy - it is good for starting a new topic (Teacher 6).*

The various rationales show teachers' engagement with the strategies and their capacity to provide reasons that are more nuanced than simply increasing student participation; providing some additional perspectives on how the strategies aid the teachers' work. The use of each of the strategies within this block is now reported.

---

[6] The leading teacher was teaching a class in this term and joined the teacher group in using the strategies in his classes although one teacher went on maternity leave.

Think-pair-share

Think-Pair-Share was the most utilised strategy with teachers referring frequently to its capacity to engage students and encourage their involvement in discussion. Further, it was seen to be *easy to manage two students working together* (Teacher 1). This helps teachers address their concern about all students participating fully in group work. The noise levels this generates was presented as a challenge but counteracted by its benefits – *too noisy-but students enjoy a lot* (Teacher 1). Student learning was judged by their level of involvement, by their presentations and their sharing of ideas. The need to differentiate instruction was raised, with teachers recognising that some students faced difficulties, and in these circumstances it was the teachers' responsibility to provide additional support.

Numbered Heads

Numbered Heads was chosen on three occasions, albeit twice by the leading teacher. This strategy featured strongly with the group accountability being favoured where one random student reports on behalf of the whole group. Some benefits were noted such as engaging all students (SMT3) and encouraging students to speak to the class, thereby helping to improve self-confidence (Teacher 7). Teacher 7 observed that all students wanted to report their answers, but also noted that managing the activity and the timing was challenging. These comments indicate that the strategy, overall, was useful but that some refinements were required in its future enactment.

Placemat

Placemat was the least utilised strategy in this block. It was used by one teacher to support a writing task. He reported that whilst the *low ability students [found it] difficult to write their ideas the other students helped* (Teacher 7). The task itself was not differentiated to meet individual student needs, but provided group interaction that supported all students to complete the task. Using a template, as this strategy includes a writing component, facilitated responses in written form as well as the more frequent presentation mode of oral reporting (Teacher 7).

Figure 28: Placemat and Jigsaw strategies

Jigsaw

All teachers made reference to this strategy putting the onus on students to do the work. Its complexity was noted by the teachers, with Teacher 1 attesting it was *difficult for students, also difficult for teachers*. Yet, it was also observed that the work was interesting for students. Several teachers commented that this structure provides clear responsibilities for students and increases group and individual accountability (Teachers 1, 2, & 7). The difficulties faced with its inherently more complex procedures resulted in comments such as *some students found planning difficult* (Teacher 7) and *first time student felt difficult to find the information* (Teacher 4). In spite of this, all teachers made positive observations regarding the effect on student learning.

> *Students discuss and share.* (Teacher 1)
>
> *Jigsaw work is interesting for students. All students involved in the activity. Jigsaw helps them to understand.* (Teacher 2)
>
> *Students get more ideas in the group.* (Teacher 3)
>
> *Everyone participating in discussing and writing about the pictures.* (Teacher 4)
>
> *All students finished to write a paragraph.* (Teacher 5/6)
>
> *Jigsaw helps get more ideas as a group plus students help each other. Helping [the] standard of writing- through jigsaw having more words to use.* (Teacher 7)

One pair of teachers, after the initial team teaching experience, used Jigsaw independently observing that *students get more ideas in the group. Every group finished* (Teachers 3/4).

These teachers recorded that the task, as they had planned it, was too simple. However, they had applied their experiences from the first team teaching encounter to a new situation in adapting the Jigsaw strategy to a writing task. My perspective on the particularities of using Jigsaw is presented in Box 5.

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Using Jigsaw (CFS): a scaffolded approach

As a multi-step strategy Jigsaw requires careful pre-planning if it is to run smoothly in class. This level of preparation, I felt, was more involved than what teachers had experienced. Teachers were interested to try this strategy, but were reluctant to do so without first experiencing it through a team teaching session with me.

All the lessons were co-planned. As a totally new activity, the approach and planning was a change from established routines. The clear purpose for each group task was difficult for teachers to fully appreciate in the first enactment, as my field notes demonstrate.

> *The purpose of Jigsaw is for groups to have a purpose and be accountable. This seemed to be lost in this lesson. The home group/expert group did not really work well due to the new student responsibilities and organisation required. [Field notes 16/9/15]*

Yet in the debrief discussion the teacher had worked out the issues for himself, noting that the colour cards had not been used as intended and that both teachers and students needed some practice to become familiar with their new responsibilities.

I think it is also worth noting that this same teacher had travelled to another island for the entire weekend to attend a workshop. As travel requires working around boat schedules, not surprisingly this teacher in our debrief session admitted to feeling tired. This is the reality of island life where most training opportunities are not on the teacher's island, requiring some element of travel and that teachers are often called to attend weekend activities.

</div>

Box 5: Using Jigsaw with CFS teachers

Guided Instruction

Guided instruction was used by three teachers. One grade level of teachers found it to be a *good method* (Teacher 6). Differentiation featured most strongly in guided instruction where students were placed into ability groups with different tasks. The three teachers were active in seeking out opportunities for co-planning to prepare for the rotation of activities. Teacher 6 explained, i*n*

three groups I did different activities – vocabulary work, making booklet and questions about the story.

Figure 29: Guided instruction group activities

Teachers reported that students responded very positively to the tasks. For example, Teacher 5 reported, *Students liked all the activities especially they like to make the booklet*. This rotation allowed teachers to work with each group individually in a reading activity and targeted the tasks according to the ability group. With the teacher alternating to work with each group of students, it was necessary for students to work independently during the rotation of activities. Teacher 6 observed that *they work interestingly*, inferring that students were motivated and engaged with the tasks. In a lower grade, where students had variable writing skills, the teacher found this quite challenging with some students needing more explicit teacher support. Likewise, Teacher 1 relayed a sense of satisfaction at being able to structure a lesson in this way and concluded the reflection with *Happy!* My perspective of how teachers crafted lessons in new ways is extended in Box 6.

> **Guided instruction: enacting simultaneous activities**
>
> This strategy was particularly curious as it did not immediately appeal to the teachers, although it was based on group work and was tailored to cater for all students, an aspiration expressed both in the World Café and by the teachers at the start of the intervention phase. However, after a discussion with me Teachers 5 and 6 decided they would like to try the strategy in their respective classes. My observations concurred with their reporting of guided instruction being a positive experience.
>
> > *Students worked well and completed the tasks. Given it was the first time, the planning was good and the procedures in class were good. The students listened well. Some more challenging tasks or differentiated tasks in future could be a goal to work towards. [Field notes 15/7/12]*
>
> My perspective was that students were eager to engage fully with tasks when they understood what to do. Therefore, learning how to manage the facilitator role was challenging for teachers as it required learning to manage multiple activities concurrently, ensuring students knew what was expected of them, and catering for students as they finished. Planning simultaneous activities required teachers to be innovative, as I noted in my field notes.
>
> > *Teacher 5 modified the guided instruction structure from 2x20 min to 3 groups over 3 days. Good to see her develop her own structure for the activities and using her own initiative [Field notes 15/7/12].*
>
> It was satisfying to see teachers modifying and applying the ideas from co-planning sessions in their own ways.
>
> Another observation was how one teacher made use of the desks during guided instructions, a self-initiated change from the typical floor work in CFS classes. I had explicitly asked the CFS teachers about this and they responded that it allowed greater freedom for students, facilitated discussion, and that overall it was easier to manage the students. The explanations, raised by all the CFS teachers, emphasised the breakdown of the traditional, typically inflexible structures in foregrounding greater freedom and student discussion. Teachers' break with this routine made it easier for students to work on the tasks.

Box 6: Enacting simultaneous activities

Block 2 – Primary teachers

Like the CFS teachers, the primary teachers were given both an information booklet detailing each of the strategies and a recording booklet. As subject teachers, a decision was made that they would choose the strategy according to their needs, rather than a week by week introduction to the strategies. Table 32 indicates the number of times each strategy was used.

Table 32: The number of times each strategy was used

Group work Strategy	CFS teachers n=7	CFS teachers n=8	Primary teachers n=7[7]
	Block 1	Block 2	**Block 2**
Think-pair-share	7	8	**7**
Numbered Heads	5	3	**8**
Placemat	4	1	**5**
Jigsaw	4	7	**2**
Guided Instruction	2	2	**0**
Other[8]			**3**

Think-Pair-Share

All but one of the primary teachers trialled the think-pair-share strategy. Reference to student participation was relatively uniform, with a reference to pair work boosting confidence for some students. Evidence of student learning was judged by: the level of student participation; sharing ideas with a partner; and how students responded to questions. Notable challenges were that some students were reluctant to share, some students dominated, and some students were talking off topic. Teachers were also able to offer ideas for improving their use of the strategies, often pertaining to technical aspects in better managing how the strategy was enacted.

> *I will explain the steps in the strategy to the students.* (Teacher E)
>
> *Give clear instructions and tell a specific time to finish the task.* (Teacher F)
>
> *Tasks can be given in written cards instead of giving them as oral instructions.* (SMT4)
>
> *One comment related to student learning – ask more challenging questions that leads [the students] to think.* (Teacher D)

Placemat

Placemat was used by five teachers. After an explanation of the strategy using a PowerPoint presentation, Teacher B observed that this strategy helped [students] to share their ideas with each other. The cooperative aspect was articulated by Teacher D who stated, *these strategies*

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[7] This includes the leading teacher who trialled the strategies when he had teaching opportunities. He did not have a timetabled class for this semester block.

[8] Teachers also reported on their own use of other pair work and group work.

help the accountability of the pupils. All pupils were fully involved. Student learning was judged by the task being completed and observations that students were busy and on task during the lesson. The teachers' valuing of student participation is explored in Box 7.

Engaging students — the novelty factor

In their reporting of the strategies, teachers emphasised the involvement of students and opportunities for discussion. In one lesson where I observed this strategy being used, I noted students were seated in rows. They were not moved into group seating formations, so they could not assemble easily around the placemat template to collaborate on the task. However, in contrast to my observations of these arrangements, the teacher was happy with the lesson because students showed interest in the placemat task and knew more than she expected. The novel strategy appeared to engage the students. A lack of engagement in lessons was a problem highlighted by teachers at these higher grades; so this strategy served the purpose of addressing the teachers' immediate needs. The strategy was not enacted as I anticipated, lacking specific attention to group accountability. However, it did satisfy the teacher and provide students with a chance to reveal their knowledge on the topic, and to have an active role in the lesson, as opposed to students' more passive role with the traditional transmission approach. These efforts to enact the strategies can be considered in light of 'approximations of practice' (Grossman et al., 2009), and the idea that teachers enact components of complex practice.

I observed students to be highly motivated writing in my Field Notes that 'they had something to do' [Field notes 12/7/12]. The 'we do' intervention strategies raised the level of cooperative learning activities in particular classes, but in walking around the school there was still plenty of evidence of classes where teacher talk dominated and the students' role was to copy notes off the board, as reported in other systems seeking reform (Altinyelken, 2012). This was particularly evidenced in higher grades.

Box 7: Engaging students— the novelty factor

Numbered Heads

Five teachers chose to use Numbered Heads, with two teachers using the strategy more than once. Each teacher made a reference to student participation. After co-planning a lesson, Teacher F was surprised by the outcome saying,

> *I was surprised that groups could solve without being explained and [I was] very happy they could solve this by applying prior knowledge.*

Her statement reveals assumptions about the teachers' role as the source of all knowledge. Moreover, the class demonstrates what can be achieved when students are allowed space to learn for themselves, albeit this clearly requires a shift in how teachers see their role. A shift to the role of facilitator, also raised in the World Café, requires a fundamental change from the teacher being viewed as the sole source of knowledge, and that students can learn through carefully orchestrated learning activities and from and with each other. This point is discussed further in Box 8.

Suggestions for future use fell largely into management issues, such as giving clear instructions (Teacher C), arranging student into suitable groups (Teacher B), and the necessity to check the students' answers (Teacher F). These responses indicate teachers are showing awareness that students will not learn simply be being placed in a group. Although, overall, the teachers place emphasise on student participation there is awareness that they do need to manage their participation to maximise student learning, considered in Box 8.

Teacher as facilitator: giving clear instructions

Numbered Heads is a strategy where clear instructions and following an established process are important. I observed this strategy in use with teachers across grades and subjects. Conceiving instructions in a way that honoured the purpose of the task was somewhat difficult for teachers. In Numbered Heads it is imperative that the discussion takes place before the number is called, as this accounts for group interdependence within the task. I observed teachers confuse the order of instructions, as my field notes indicate:

> *Perhaps there are too many elements to try and overcome. Teacher ability to give clear instructions – does this reflect they are not clear on the strategy. Or is it practice with a new set of skills required to be a facilitator. [16/9/12]*

However, after a team teaching situation where I modelled giving instructions I did observe Teacher D prepare an animated PowerPoint slide.

A lack of clarity in giving instructions was an issue when students did not know what was expected of them, especially when new responsibilities were added. In using specific co-operative learning strategies, teachers would sometimes give instructions that did not present clear instructional steps. However, after a team teaching lesson, in which I modelled the steps for giving instructions for Numbered Heads, the teacher concerned taught a class independently and demonstrated more confidence in giving instructions and applying ideas from our team teaching session. This is an example of teachers understanding how to enact a new practice by seeing it being used in the context in which they work.

Another teacher had created his own illustrations for his students that showed the steps for three strategies.

He presented his work at a staff meeting and I subsequently observed that some other teachers created their own PowerPoint slides to apply this strategy in their own classes.

Box 8: Teacher as facilitator - giving clear instructions

Jigsaw

This strategy was used by three teachers and I was involved in each lesson through co-planning, observing the lesson or team teaching. The teachers noted that students engaged with the activity and, as reported by Teacher A, the students worked together to find the necessary information in their groups, as well as getting new ideas from their peers. In considering the learning outcomes, Teacher D observed improved quality asserting, *I found rich vocabulary in their writing. It is much better than their normal writing*. In this lesson, jigsaw provided a means to expand students' vocabulary and was seen as an aid to better learning. Yet, Teacher D also raised the challenge of accommodating the different levels of student ability mentioning stating, *A few weaker students are not able to discuss in master group and are not able to share when they came back to home group.* Both teachers, having experienced how Jigsaw works, raised the necessity for tailoring tasks to the students' ability level in order for the strategy to be more effective. They also suggested that student grouping was an important consideration, something that I observed as not featuring strongly in teachers' planning. In short, clear instructions, consideration of student grouping and the task's level of difficulty were all offered as areas where improvement was needed. This is elaborated in Box 9.

> **Using Jigsaw (Primary): embracing new instructional arrangements**
>
> In the primary grades, Jigsaw as a strategy appealed to the English and Social Studies subject teachers. Used as preparation for a Grade 7 English writing task I observed a well-planned, well-organised lesson. There was a clear connection between activities, and where the teacher had clearly embraced the phases of Jigsaw to prepare students for a writing task on a set topic. Research for the writing task was carried out using a series of articles. However, the text was too complex for the students. Given the layers of organisation prior to this class, the issue was understandable yet also noteworthy. It draws attention to the difficulty of sourcing adequate resources for such an activity where five articles were required. The teacher located the articles online, but to be appropriate for the class they required some modification and rewriting. The teacher recognised, the difficulties with the level of text, and raised this during our debrief discussion. This scenario illustrates the challenge that teachers face in a context of limited resources, exacerbated by the isolation and insularity of living on a small island. The internet offers access to new materials but also gives rise to other issues.
>
> Two classes approached the organisation of mixed gender groups in the class differently. In planning her class, one teacher raised concern that it was difficult to mix boys and girls in group work. As I had been told this was a cultural issue, I didn't want to promote mixed groups if that was awkward for the teacher. Therefore, to acknowledge her concern, we tried to plan for boys and girls to be in separate groups for the lesson. In contrast, the other teacher took a different approach. He announced to students that they would be working in mixed groups and he expected them to cooperate. I observed in this class that the students did work cooperatively and productively. The teacher reported that the quality of writing had improved with the Jigsaw activity being used to build relevant vocabulary in preparation for the students' story writing.
>
> Another observation I made, across all the primary teachers who used Jigsaw, was that teachers were often aware of the activities that did not work as intended and raised this in the debrief discussions. I took this as a sign that, whilst the new practices were sometimes challenging to implement, they were prepared to reflect on their practice and progress their practice.

Box 9: Embracing new instructional arrangements

Guided instruction

Whilst teachers recorded their use of guided instruction, their conception of this approach was not as intended in the information booklet (see Appendix Q). Teachers' comments indicated that they took guided instruction to mean guiding students throughout the lesson rather than

organising a lesson to differentiate the activities to the needs of different groups in the class, as it was outlined in the teachers' information booklet.

An indication of the teachers' expanding role is explored further in Box 10.

Teachers as the custodians of knowledge

All the teachers referenced the importance of student participation as a necessary condition for active learning and as a necessary condition for learning. This chapter provides many illustrations of teachers' use of various strategies and components of the GROR instructional model applied in their desire to increase students' involvement and engage students in learning. Yet, considering teachers' pedagogical practices as a continuum, whilst embracing new practices, they still appeared to cling to their traditional role as the 'custodians of knowledge' where 'learning should be directed and controlled by the teacher' (N. Mohamed, 2006, p. 268). My field notes refer to this dilemma.

> *Teacher F said something interesting – how will students know what to do until given the explanation? This one comment sums up quite a lot in how teachers view their job. This teacher said it explicitly but others show this with their actions. [Field notes 23/9/2012]*

I was confronted with this dilemma late in the year as primary teachers went into revision mode in preparation for scheduled term tests, as this entry from my field notes reveals:

> *After discussing at the planning meeting how the strategies might be useful, I felt a distinct wave of disinterest when I went into the staffroom yesterday. The response was we are doing revision, as if the two things are mutually incompatible. I realised my assumption that the strategies could be incorporated into revision classes was far removed from where teachers were at. Perhaps in their own minds they are based on the years of previous experience of revision being done a particular way for a particular purpose – i.e. memorising information for the test paper. Or, perhaps it is a reflection of the stage of the year – focus on exams, revision, Eid and end of year. [Field notes18/10/2012]*

It turns out that revision was a major pressure for teachers, especially when I found out that they try and reteach the whole course again in the revision period of two weeks – reverting to a purely transmission mode. This raises the difficulty around the mismatch between pedagogy and assessment. In the accountability stakes, where teachers' performance can be measured by test results, teachers revert to being the custodians of knowledge.

When I probed more around this practice, Official 8 explained that class revision is directly aligned to the exam questions and the same questions may be asked in the exam, using different values and scenarios. I reflected on this experience in my field note entry:

> *It seems my conception of revision is different from the teachers. Revision for me is to develop understanding of topics where there may have been misconceptions. Here it*

> *seems it is to reteach everything superficially in direct preparation for the exam.*
> *[Field notes 30/10/2012]*
>
> It was also interesting to note, that despite the teachers articulation of the learning benefits of group work, during this revision phase learning reverts to being an individual activity and the value of student collaboration to enhance learning seems to get lost under this pressure.
>
> Yet, after all this and my preparation of a list of revision strategies that were consistent with the instructional model (Appendix R), three teachers reported success and satisfaction with their use.

Box 10: Teachers as the custodians of knowledge

A personal perspective: Teaching in the island school

The purpose of this section is to draw upon my experiences during the intervention phase of the study. With DBR the researcher takes on multiple roles (McKenney & Reeves, 2013) and within the school I undertook the roles of researcher, teacher educator, and teacher. As previously mentioned, I had originally planned for weekly meetings to support teachers as they enacted the model, but due to the busy nature of the school, and the double session day, it was problematic to find a common time when we could meet. In responding to the complexity and messiness of operating within the reality of the school, a feature of DBR, I had to work around these constraints.

The participatory underpinnings of the study meant I had always intended to work closely with teachers during the intervention phase, but I had not anticipated the teachers' explicit request for me to team teach with them as they worked to operationalise the model. The teachers strongly voiced their need to see the new strategies enacted in their classrooms. Responding to this appeal to team teach afforded me an extended immersion in teachers' classrooms, as we co-planned and team taught lessons. In my teacher educator role, I was working closely with teachers to support their use of the pedagogical intervention. Yet it was this teaching role that allowed me the opportunity to personally experience the circumstances in which teachers' work in the island setting. What follows is an explication of my role within the DBR process with particular emphasis on my team teaching role and the contextual factors I encountered in working closely with teachers in their classrooms.

Resources and facilities

The teaching role meant I also had to work with the resources available to teachers and personally experience the constraints of working with limited resources. Teachers had raised the lack of resources as inhibiting their use of active learning methods, as has been well-documented in many low-income contexts (Altinyelken, 2011; Ginsburg, 2010; Schweisfurth, 2013). It is not simply about the availability of resources but how they are used that is also important as discussed in Chapter Three. The following examples illustrate some ways in which existing and available resources were used to support active learning, as well as documenting the constraints that I faced in planning and teaching lessons within the prevailing conditions on the island.

Textbooks

Textbooks, aligned to the syllabus, offer easily accessible activities and frequently correspond directly the schemes of work, making planning easy for teachers. Yet an analysis of Maldivian textbooks suggests their structure is contrary to active learning (Di Biase, 2010). Established procedures in how textbooks are used, makes it difficult to break these teaching routines when the textbook has such a direct influence in determining the pedagogy. However, as an easily accessible resource which all students have, and with limited learning materials a real and practical barrier, the textbooks could be used to support active learning if used in innovative ways. As Mohammed and Kumari (2007) point out, textbooks include pictures, explanations, and activities that can be used to promote active learning, depending on how they are used.

Through our team teaching activities I was able to demonstrate how the textbook could be used in new ways to compensate for a lack of reference materials. Two examples follow of how the textbooks were used to support the use of active learning strategies where students were involved in structured investigations.

Scenario 1: Social Studies—World War 1
(Grade 7 Scheme of work—Relate the causes which led to the First World War)

The textbook was the main source of information for a lesson on World War 1 (WW1). Explanation of the causes of WW1 and information on World War 2 were provided in the

textbook, although there were no guiding questions or activities. In taking a more constructivist approach to this lesson there were a number of constraints to confront: previous notions of how this topic is typically taught; the dense information portrayed in the textbook; and a two lesson allocation of time for this topic (with term tests approaching).

We used the textbook as a reference on WW1 for a Jigsaw activity (see Figure 30). The four headings of WW1 in the textbook became the topics for four expert groups. Students worked in groups to summarise information about WW1 from the textbook and share their findings with another group. Although the students were new to this type of activity, I observed they were engaged in the task. New, unfamiliar , complex vocabulary in the text was an issue that was exacerbated by the lack of pre-teaching of key terms for the new topic. This is a common issue when a lesson is typically conducted using rote methods. However, if students are to be active participants in the learning process then pre-teaching of key vocabulary is a necessity.

Figure 30: Primary students using textbooks as reference material for a Jigsaw activity

Scenario 2: Environmental Studies—Maldivian food

(Grade 1 Scheme of work—To identify our basic foods and to describe Maldivian food).

Pictures of Maldivian food in the textbook presented an opportunity and were used as a reference for the Grade 1 Jigsaw activity (see Figure 31). Students worked in groups to ascertain typical Maldivian food from the pictures and each group investigated the ingredients of one meal. Students then shared their answers about the ingredients of their particular Maldivian meal, and each group created a poster on Maldivian meals. Having the textbook to use provided the necessary material for this Jigsaw activity to be trialled. If teachers had been required to source new reference materials, it is unlikely this activity would have taken place. The Jigsaw

activity provided the process in which students ultimately did the work in identifying and describing Maldivian food, and their posters were a product of this co-operative process.

Figure 31: CFS students using textbooks as reference material for a Jigsaw activity

Creating new teaching materials

Accepting that there was a shortage of teaching resources, my goal was to work with teachers so they could experience how resources could be made and reused in contrast to spending time making resources for a single use. Courtney(2008, p. 551) noticed this tendency to use resources in a one-off way with Cambodian teachers. She reported that 'resources were often enlarged pictures from the textbook or materials appropriate for only one lesson'. This resonates with my observations of Maldivian teachers who would spend time creating beautiful pictures for use in a single lesson. I also experienced that teachers did not typically file these hand-made resources for re-use. I attempted to model how to create resources that could be created and reused. One example was to collect bottle top lids as counters for maths lessons, and the second was to invest time in creating coloured grouping cards that could be reused during subsequent group work to help counter the consistent use of random grouping in class. I did notice that many CFS teachers had jars of shells that they used as counters in Maths classes.

Classroom physical environment

Drawing on Johnson et al.'s (2000, p. 185) contention that the physical environment has a strong bearing on what teachers can do, I refer to my personal experience teaching in the different physical environments of CFS and primary classrooms (see Figure 32). CFS classrooms are generally inviting, colourful classroom environments with additional equipment. UNICEF had initially supported schools implementing CFS by providing tiles for the floor and

an array of classroom resources. Tiled floors and extra furniture allowed much more flexibility in group arrangements, including floor work, and a wider range of class activities.

Figure 32: Primary classroom and CFS classroom

In the non-CFS classrooms, the dusty concrete floors inhibited floor activities and a lack of extra furniture inhibited class arrangements, particularly group work. The desks were arranged in rows, therefore arranging furniture for group work activities could be time consuming. There were no books or extra materials in these classrooms and limited displays, which can be attributed to the sharing of classrooms with other grades in the double school session.

I experienced teachers work in the primary classrooms in quite different ways during our team teaching classes. One primary teacher, with an established routine in his classes, asked students to form groups of four by having the front row turn around and directly face the students behind, thus creating instant groups, and we were then able to quickly proceed with the lesson. In contrast, another teacher allowed students to walk around the room with their books and bags to form groups, resulting in a much slower start to the lesson. These two examples show how, in the same physical environment, lessons can be conducted with different arrangements and degrees of efficiency. While the limited resources in primary classrooms did provide some challenges, this example does highlight that how resources are used is also important.

Internet

People in small states who have access to the Internet are potentially able to gain the same information as their counterparts in larger states (Crossley et al., 2011, p. 46). Yet, I personally

faced the unreliable service of an internet system due to low speeds and extreme weather events. Infrastructure failures were also an issue since the internet enters the country through an underwater cable, as Figure 33 highlights.

<div style="border:1px solid black">

Degradation to Dhiraagu internet services due to cable damage

According to the company, the fault on the cable has been located approximately at 26km off Sri Lanka at a depth of 40 meters, and the cable repair ship is being mobilized to carry out the repairs. Dhiraagu said that they will inform their customers as soon as they get an estimated recovery time.

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Figure 33: Maldives Times: April 19, 2012

Given the insularity of island life, the teachers' physical isolation from other schools and a larger community of professionals, the virtual environment helps address this isolation. On a day-to-day basis it was a difficulty I faced on the island. The Internet was an important link to the outside world for me, and for teachers it offered the possibility of sourcing information and ideas for teaching. Used strategically, the Internet could also provide engaging resources. As experienced through team teaching, these included showing short film clips as a stimulus for writing and research activities and in CFS grades stories were sourced online for reading lessons.

The Internet was also a barrier with the ongoing connectivity issues we all experienced. Many times we went to plan a lesson only to find there was no connection on the island. We found ways around some of these issues by downloading files when the Internet was working, or when speed was best, like early morning. In teachers' daily work this unreliability is an ongoing barrier and requires the foresight to plan ahead in anticipation of such problems. It can also be a barrier to reform when teachers download material and do not contextualise it for their students. When PowerPoint presentations, designed for American students, were sourced on the Internet and used to teach topics without modifying examples or language, their relevance for Maldivian students was often minimal. In effect, these presentations substituted one method of knowledge transmission for another.

Library

The need for more library books was noted by teachers in The World Café data as necessary for active learning. Yet, in the school, there are resources in the library that are rarely used. Van der Werd et al. (2000, p. 351) found, in Indonesia, that the issues around resources were not straightforward. In their Indonesian study they reported that some schools had ample resources they did not use and others found ways to manage with few resources. I found several useful books in the library, such as professional resources, children stories, and reference books, which I used. However, local teachers were generally not making use of these resources, which is discussed further in Chapter Seven. Moreover, the high rates of social networking infer a cultural preference for online resources over print references.

Syllabus/schemes of work

Teachers communicated that the schemes of work, structured around specific lesson objectives (Appendix S), affected their ability to use active learning strategies, as noted in their interview and questionnaire comments and reflections. Here I elaborate on my experience working directly with the existing syllabus and my attempt to move beyond teaching lessons based on discrete skills. My goal was to find opportunities to combine lesson objectives and take a more integrated approach to lesson planning. The guided instruction sessions were an example of planning in this way where the objectives listed over the week were combined in a coordinated approach revolved around group rotations and across a series of lessons. In co-planning with teachers, I modelled how the objectives could be combined across lessons and endeavoured to show that planning a sequence of lessons allowed better coordination and a more in-depth study of a topic, while still adhering to the schemes of work. This meant planning across a week rather than single lessons. Therefore, whilst discrete objectives do not explicitly promote the in-depth study of a topic, they can be combined to allow an investigation of a topic over a series of lessons. This approach counters the established practice of how lesson are typically planned, and how the schemes of work can be used. The changes inherent in the new National Curriculum Framework provide teachers with more flexibility in lesson planning if teachers and schools are prepared to embrace the new approach.

Time

Teachers cited time as a barrier to planning lessons that incorporated active learning; noting LCE required extra preparation time and that they were not given extra time for preparing such lessons. They perceived that, on top of an already busy schedule, they were being asked to do more. It is acknowledged that LCE places additional demands on teachers (Nykiel-Herbert, 2004; O'Sullivan, 2004). I observed the many out-of-class activities that put additional demands on teachers' time. Given the double-session school day, evening and weekends were the only times teachers could be called together. Some weekend activities I observed were: civil service training; professional development workshops; extra-curricular sports activities; and whole school activities, such as English Day. While established as normative behaviour within the school and island life, in practical terms it meant there were fewer hours available for meeting and planning. In arranging time to meet with teachers to co-plan lessons, working around these events was a major constraint that I faced and part of the norm of my scheduling, highlighting the additional demands made on teachers' time. The effect these practices had on day-to-day teaching was not the focus of this study, but from the perspective of working around these activities, it certainly impacted on planning collaboratively with teachers of the same grade or subject.

Overview of team teaching

The team teaching situations embodied the participatory notion put forth by Maguire (1987) that while all of us know some things none of us knows everything. Teachers brought local knowledge to the process and I brought constructivist ideas about teaching and, together, we crafted lessons as part of the pedagogical intervention. In this nexus of my teaching and teacher educator roles I could provide opportunities to scaffold the teachers to trial new practices that were feasible within the contextual features of the island. Experiencing the circumstances of the Maldivian teachers highlighted some of the salient challenges they face in using active learning methods. In some lessons our combined effort allowed us to overcome some of the challenges while, at other times, I simply experienced the problem myself without finding a solution. These experiences certainly allowed me new ways of seeing and experiencing the Maldivian education system (see McLaughlin, 2011, for a related discussion in Papua New Guinea).

Figure 34: Team teaching

Part 3 Post-intervention phase

The post-intervention phase in this chapter serves two purposes. It provides some additional findings from an opportunistic visit to the school in 2014 where I was able to gather more data about the intervention use, and teachers' engagement with the GROR instructional model. As this chapter demonstrates, there were variations in teachers' uptake and preferences of the instructional model. The chapter concludes with further analysis of the intervention phase and teachers' use of the instruction model, using Schweisfurth's (2013b) discussion around minimum standards for LCE. This begins the DBR retrospective analysis phase of the study, as indicated in the methodology chapter (Chapter Four).

Post-intervention phase visit

During the visit almost two years after the intervention phase of the study had ended, a short questionnaire (Appendix T) was administered to the teachers still working in the school. This included eleven of the original thirteen teachers — one primary teacher had moved to a Malé school and another primary teacher was retraining. The full responses from all teachers can be read in Appendix U.

The 'I do, we do, you do' model was still in use across the school and teachers continued to view the model as user-friendly. The GROR model was still **considered by teachers to be practical, easy to follow, assisting with lesson preparation and an aid to managing classroom activities**. It was also deemed to promote active learning, motivate students, improve student participation and provide opportunities for a range of challenging tasks. As the planning

template across the school, the model was embedded within teachers' work. The leading teachers conveyed an overall positive experience with the model. Teachers chose to continue using the model when given the choice at the end of the previous school year. In particular, it was reported that teachers all follow the model which helped them order their lessons and provided a structure for using group work.

Teachers were also asked about their use of the 'we do' strategies which documents their self-determined use. Some strategies were reported as frequently used, some were used occasionally, and a few were no longer used. From the teachers' responses it was clear that the 'we do' strategies were still in use although not as routinised as the overarching 'I do, we do, you do' model. As seen in Part 2 of this chapter, some of the 'We Do' strategies required forward planning and encompassed levels of complexity that were, at times, challenging for the teachers. One leading teacher confirmed that the 'we do' strategies were included in some lessons. He felt that teachers were very familiar with the strategies and he continued to remind teachers to apply them during their weekly planning meetings.

Active learning as a continuum of practice

Recognising the fluid definitions around what can be called learner-centred education (LCE), Schweisfurth (2013b) in her comprehensive book on LCE has proposed seven minimum standards, shown in Table 33.

Table 33: Minimum standards for learner-centred education proposed by Schweisfurth (2013b)

LCE minimum standards
Standard 1
Lessons are engaging to students, motivating them to learn
Standard 2
Atmosphere and conduct reflect mutual respect between teachers and pupils.
Standard 3
Learning challenges build on learners' existing knowledge
Standard 4
Dialogue (not only transmission) is used in teaching and learning
Standard 5
Curriculum is relevant to learner's lives and perceived further needs, in a language accessible to them
Standard 6
Curriculum is based on skills and attitude outcome as well as content. These should include skills of critical and creative thinking.
Standard 7
Assessment follows up these principles by testing skills and by allowing for individual differences.

This book, and subsequent discussion of the minimum standards (Schweisfurth, 2013a, 2015) were published after my period of fieldwork and therefore did not inform the active learning intervention. The minimum standards, recognise the need for contextual relevance in how LCE is implemented. They also provide a framework for evaluating existing practice and help establish realistic aspirations appropriate to the context. Schweisfurth also acknowledges that these standards work together, are mutually reinforcing and also overlaps. They are useful for distinguishing which features of LCE the teachers in this study prioritised and practised, adding to the literature on what is being achieved in different contexts. As Schweisfurth (2015, p. 262) urges, we need to move beyond a simple measure of success or failure and develop a more nuanced understanding of teachers' practice that goes beyond obstacles, barriers and unhelpful polarisations. Indeed, Schweisfurth (2013b, p. 133) contends that LCE is a multi-faceted phenomenon and that context shapes which elements policy-makers and practitioners buy into.

In Table 34, these minimum standards are applied as a post-intervention analysis tool for the purpose of determining whether the innovation in this study meets these criteria and therefore serve as an external validation tool.

Table 34: Illustrating the priorities of the minimum standards for LCE using examples from the Research School

Standard 1 - Lessons are engaging to students, motivating them to learn
• Multiple references were made to students' increased motivation through the use of the strategies.   • The novelty of the task appeared to engage students in the lesson (Box 4).   • Teachers explicitly commented on the importance of providing students with a structured task and clear instructions in order for students to engage with a task.   • The guided instruction strategy, most prevalent with CFS teachers, specifically targeted tasks to the reading level of student groups.   • Student participation, whilst a goal itself for teachers, was often perceived by teachers as evidence of learning.   • Teachers began to look at particular forms of participation, as evidence of learning, in contrast to a single focus on facilitating student activity.   • The need to give greater thought to student grouping based on the rationale that this would assist individual student needs.
Standard 2 - Atmosphere and conduct reflect mutual respect between teachers and pupils.
• A friendly teacher-student relationship and classroom environment was identified as a priority for an active learning approach across all stakeholders in the World Café.   • The friendly teacher-student relationship has been a feature of CFS in this school.   • It was recognised as both a priority and a success within the school, for CFS grades, in the World Cafe.   • The preference for floor work in CFS grades can be viewed under this standard with teachers articulating the value attributed to allowing students some freedom and student choice, in contrast to a rigid traditional classroom.   • Primary, more than CFS parents, raised the need for more respectful teacher-student relationships.   • Primary teachers reported an increase in student engagement through the intervention phase and overall better cooperation in class.

Standard 3 - Learning challenges build on learners' existing knowledge

- Teachers cited the schemes of work as the most important influence on their lesson planning. As prescriptive documents, teachers have typically followed these lesson by lesson with little innovation of topics.
- Over the intervention phase there was some evidence of teachers' willingness and capacity to draw on examples that were relevant to their students' lives in their lesson planning, building upon support and modelling in the intervention phase.
- Topics were used to both engage students' interest and build upon their existing knowledge, indicating that existing knowledge was drawn largely from the class as a collective, rather than from individual students. These included lessons on: Maldivian food and island life; creative writing about a storm; maths lessons located in the local shop; and an English writing lesson about a Maldivian hero.
- Within the same working environment, my approach to lesson planning was to make adaptations to the schemes, notably in combining objectives and adjusting topics, while still addressing the same prescribed objectives over the sequence of lessons.
- The schemes of work did allow scope for differentiation and building on individual learners' existing knowledge, as seen with the guided instruction examples and how Jigsaw activities were arranged.
- Limited ICT infrastructure meant that ICT might be used in lessons as an alternative delivery method, such as reading lessons with online books or YouTube clips as an introduction to a lesson.

Standard 4 - Dialogue (not only transmission) is used in teaching and learning

- Teachers expressed the need for explanations to be clear with relevant examples to assist student understanding and subsequent student participation (Table 24).
- In the 'I do' phase of the lesson, the teachers articulated that it was important to draw students into the discussion, a shift away from one way transmission modes of information delivery.
- The GROR instructional model provided a place in each lesson for teacher-student interaction.
- Teacher reflections highlighted the importance of student-to-student dialogue and their observation of its occurrence was used to determine the success of a lesson.
- The 'we do' strategies were designed to include cooperative learning and through the examples presented, did encourage more carefully orchestrated student participation and higher levels of group accountability.
- Teachers' prioritised promoting student discussion and pointed to its benefit in aiding learning through dialogue with their peers in their recording booklets.

Standard 5 - Curriculum is relevant to learner's lives and perceived further needs, in a language accessible to them
- Teachers' explanations of the GROR model, discussed earlier in this chapter specify that it was necessary to select relevant examples to assist students' understanding.   - Whilst issues regarding the use of English as the medium of instruction have been addressed elsewhere, teachers did report overall improvements with their students' confidence to use English and present their ideas to the class following well-orchestrated group tasks.   - Although teachers were reliant on schemes of work derived from a centralised syllabus and, when supported, they demonstrated willingness to adapt the schemes of work to embrace new approaches to planning.
Standard 6 - Curriculum is based on skills and attitude outcome as well as content. These should include skills of critical and creative thinking
- The need to move beyond knowledge transition and develop students' skills was foregrounded in the World Café.   - Learning benefits were also framed in terms of: - personal development in leadership skills;   - building self-confidence,;   - nurturing a sense of responsibility for ones' own learning; and   - developing positive relationships. (Table 18).   - The importance of developing thinking skills was also raised by teachers and was a motivation to using the GROR model.   - The need for classroom variety and the opportunity for students to 'learn by doing', was a key feature of teachers' comments around their use of the GROR model and 'we do' strategies (Table 14).
Standard 7 – Assessment follows up these principles by testing skills and by allowing for individual differences
- The CFS teachers made a decision to adopt formative assessment methods for Maths classes, based on the rationale of moving in small steps – designed so that teachers could record on a check list evidence of students' achievement against the syllabus objectives.   - Teachers reverted to traditional relationship they had known between pedagogy and assessment. Box 7 elaborated the approach of the primary teachers when it came to formal assessment reflected in the revision strategies I witnessed.   - The primary teachers did embrace the cooperative learning strategies for revision purposes when I proposed this as a valid approach and they reported some success.   - There were some examples in the CFS grades of non-test, formative assessment tasks such a project task with an attached rubric.

Chapter Summary

The purpose of this chapter was to report on teachers' use of the GROR instructional model. The chapter started with an overview of teachers' receptiveness towards active learning and made note of their pre-intervention aspirations: increasing student participation in class; managing group work; and better catering for the needs of all students. Implicit in this were changes to their role; to become facilitators of learning, which requires teachers to manage the class in new ways. Operationalising the instructional model was the focus of Part 2, highlighting the use of each of the 'we do' cooperative learning strategies across the two teacher groups. This revealed that teachers' were not only receptive to active learning but enacted the strategies in their classes, with each of the strategies being enacted over the intervention phase. Teachers' explanations of the model and strategies were also described, documenting teachers' understanding of the model, and demonstrating that they conceived the phases as having distinct purposes within an integrated framework. Whilst this section was designed to give voice to the teachers' experiences I included several boxed analyses of teachers' use of the instructional model that show cased specific points of interest or tensions in the process of operationalising the GROR model from my experiences through the intervention phase. I also included a personal reflection on my roles during the period of the intervention. From working in teachers' classrooms I was able to experience the circumstances of the teachers' work and personally enact active learning in this context, drawing attention to the challenges I faced as well documenting the way I approached enacting active learning in this Maldivian school. This provided additional insights into factors influencing the use of active learning in the Maldivian education system.

The post-intervention phase, discussed in Part 3, brought together teachers' actions and reflections with Schweisfurth's (2013b) minimum standards for LCE and illustrated which ones were prioritised within this school community. This analysis against these minimum standards served as an external validation of the active learning intervention. The sustainability of the intervention was tested with a visit to the school after two years, where it was documented that teachers had continued to use the GROR model, following the intervention phase, and maintained a positive regard for its usefulness, along with their use of the 'we do' strategies. The most used strategy was 'think-pair-share' although all the strategies were rated as at least 'used sometimes' by the 12 teachers still at the school. Jigsaw was the least used strategy, which

was consistent with the intervention phase where it was deemed to be quite complex and difficult to enact, and was only used by teachers with my support.

Chapter Seven documents, in more detail, the factors that supported and inhibited teachers in their use of active learning.

CHAPTER 7: IDENTIFYING SUPPORTING AND INHIBITING FACTORS FOR ACTIVE LEARNING

So I think it is a huge challenge. We are already short of teachers and most islands don't have even teachers who are qualified enough to teach secondary schools. And even those good teachers who get graduated from Malé or abroad - they hardly want to go these small islands. (Official 2, 7/11/2012)

Introduction

In this chapter further analysis of how active learning can be enacted within the Maldivian education system is undertaken by identifying supporting and inhibiting factors which influenced teachers' enactment of the instructional model within the island school context. Design-based research, as the overarching methodology, acknowledges the critical role of context in enacting innovations. Therefore this chapter is presented in two parts. Part 1 reports the analysis of data collected from the final interview and questionnaire which asked teachers to identify both supporting and inhibiting factors that influenced their use of the instructional model and the 'we do' strategies. My field notes journal and lesson observations are included in the reporting. Part 2 presents an analysis of these factors in light of wider contextual features of the Maldives, using data collected from Ministry of Education (MoE) and Senior Management Team (SMT) interviews. The codes used for the participants referred to in this chapter are again: CFS teachers (Teacher 1-7), primary teachers (Teachers A-F), School senior management personnel (SMT 1-7) and Ministry of Education and system level interviews (Official 1-11).

As outlined in Chapter Two, a traditional transmission model of teaching is strongly embedded within the Maldivian education system. Hence, the findings from the intervention phase need to be understood within this context. Predominate practice is described by a local university academic as:

Students passively listen to the teacher explanation and complete textbook pages where they just read a passage and answer questions. If they don't understand they just copy from another student. The questions might be written on the board too. They use the same worksheet for the whole Grade irrespective of where the student is. Even the student in Grade 4 who cannot

read will be given the same worksheet but is not expected to do it! The teacher teaches a concept and students memorise the notes and regurgitate it in the tests given at the end of each unit. There is a surface level learning of knowledge just to get through exams. (Official 8)

The Research School had taken a proactive approach in how it introduced CFS into this system. Through the introduction of CFS, the notion of active learning was introduced into the school. What follows is a description of factors that affected teachers' take up active learning in their classrooms.

Part 1: Supporting and inhibiting factors in the intervention phase

Through operationalising the instructional model factors were identified that influenced teachers' use of active learning. As reported by Westbrook et al. (2013), factors can be both a supporting or inhibiting influence depending on how they are used. In this study the intervention provided an opportunity for teachers to experience what practices are possible within the context of their practice. Teachers reported some positive changes in their teaching through trialling new approaches and whilst they were able to overcome some of their initial difficulties, as outlined in Chapter 6, they clearly articulated experiencing ongoing difficulties.

Factors that supported the intervention

Several combined factors were identified as enabling conditions that supported teachers' use of the innovation at the centre of this study. These enabling conditions are a combination of factors that teachers identified as assisting them in their adoption of new practices and factors that I identified in my teacher educator role.

User-friendly innovation

Frequent references were made to the user-friendly nature of the instructional model. As noted in the literature, an innovation needs to be clearly and simply articulated (de la Sablonnière et al., 2009). The model's useability, with its clear format and well-defined sequence in accessible language, made it effective for the teachers. As Teacher A attested, *each step is clear*.

The model was perceived to offer advantages over what came before, with Teacher A commenting, *compared to old way it is quite easy,* and according to Teacher B, it is *much easier*

than previous to involve students in the lesson. Further, Teacher C believed the model has supported teachers to expand their practice saying, *before I gave a lot of individual work but now together we can do*. Teacher 7 also found the model helpful, stating:

> *Before we don't think about this 'I do' and 'we do'...just deciding some activities while planning. But now we should think about the activities what students should do and what teachers and students should do together. So this material [GROR] is helpful to think about the activities separately or together.*

The model offered a practical way of providing clarity in supporting innovative practice, as Teacher A articulates – *students are clear what to do, before not so involved*.

Access to new teaching strategies

Overall, the teachers demonstrated positive attitudes towards using the new strategies. The need to find a way to access new ideas was a key message pertaining to the usefulness of team teaching and co-planning. Teachers were introduced to the intervention through a workshop, but also had access to an information booklet and other resources in the school that offered ideas for new methods that they could incorporate into their teaching.

The 'we do' strategies information booklet

The booklet, which was created as a reference point for the 'we do' strategies was also cited as a useful resource by both teacher groups for accessing ideas beyond the teachers' established procedures (see Appendix Q). Teachers made generic statements about the booklet such as *booklet very helpful* and I *got many ideas from booklet* (Teacher 2). The steps given for each strategy were deemed useful (Teacher E). The primary teachers reported the booklet to be useful with four of the five primary teachers ranking the Information booklet in their top three support strategies, and two of these four ranking it first or second. The primary teachers were most receptive to the usefulness of the booklet but it was a CFS teacher (Teacher 7) who noted that the booklet was particularly useful as it allowed time for teachers to become familiar with new ideas at their own pace. Conversely, he stated that information presented in workshops was *not always clear – timing can be too quick, too many ideas in one day*. Instead the booklet allowed him to *read many times to know how to conduct [the strategy]*. He also stated that teachers needed time *to be familiar with these ideas*, reinforcing the shortcomings of seeking quick outcomes when implementing reforms (Schweisfurth, 2013b).

Accessing the school library and the Internet

In particular the Internet featured as a valuable resource for locating new ideas such as teaching activities, accessing knowledge/information for lesson content, and locating video clips and children's stories to use during their lessons. Teacher 6 pointed out that there were *books in the library* that supported their lessons. This was qualified by Teacher 7 who said it took more time to find and read books than looking *up the Internet [where] you can find useful ideas*. Internet access in classrooms meant teachers could remain at their work places and to access ideas and information. For a population that has embraced social networking – perhaps to overcome the tyranny of geographic isolation – the Internet seems to have more appeal than finding relevant books in the library. As Official 5 testifies, *we're not a culture of very much reading...most of our people don't like that much reading,* which in part explains the teachers' preference for the Internet.

Workshops

Workshops are used extensively in the country as a key strategy for teacher's professional learning (see Chapter Two) and were viewed positively by teachers as a means for supporting pedagogical changes. Workshops were documented in the initial questionnaire as a key strategy for the implementation of CFS and were attributed to assisting them in learning new methods. Most teachers indicated that workshops were necessary to assist with their teaching. For example, Teacher 1 claimed they n*eed workshops to refresh ideas*. Yet, as indicated in Chapter Two, how material is presented in the workshops was raised by teachers as an issue:

> *I think it makes a problem with the explanation.* (Teacher B)
>
> *Yes, if you can explain it well, then it works.* (Teacher B)
>
> *Activities – not just lectures* (Teacher 6)

This is consistent with research on the contradictory messages that can be communicated through workshops. Lewin determines that 'lecturing about the potential of group work rather than whole class teaching, yet not adopting it as a pedagogy in the training process, may send ambiguous messages' (Lewin, 2004, p. 11). Therefore, the value of workshops is acknowledged when it satisfies the conditions described by the teachers.

Connecting new ideas to the classroom

Teachers articulated a strong desire to see the innovation in use; to see what it looked like in their classroom, consistent with the findings of Wheatcroft (2004) that teachers need support with planning and teaching to enact new practices. Teacher 2 stated *we [can] understand how to do it when see it in the classroom*. This view was supported by Teacher 6 who commented that she needs to see *how to apply in class* and *practice using in [the] classroom*. The teachers wanted to know how to apply the new ideas, highlighting the support they deemed most useful during the intervention phase. Co-planning lessons was ranked highly by all teachers. Team teaching, the weekly planning meetings, and lesson observations with feedback were also ranked as useful means of support. Each of these highly ranked factors is directly linked to classroom practice, and are discussed further. By contrast, the lowest ranked support strategies were workshops and reading materials, both of which are less explicitly connected to teachers' work in classrooms. Teacher 6 captured the sentiment of many teacher responses when stating that *planning and team teaching are best so I get the idea*. A clear and direct connection to teachers' work is a key supporting factor, particularly when the new methods are perceived to assist their practice, a finding that is consistent with Hardman et al. (2011) in their study of teacher development in Sub-Saharan Africa.

Co-planning

Overall, teachers indicated that co-planning [was the] most useful strategy for transporting new ideas into the classroom. This referred to opportunities for us to plan their lessons together. Co-planning allowed teachers to discuss their lesson, get new ideas from other people and in particular to *discuss those types of [strategies]* (Teacher 3). Such collaboration also created a forum for questions and as Teacher A, a primary teacher, indicated *plus if I have a doubt or something means, also I can ask,* so teachers can address their concerns.

Team teaching

Teachers strongly advocated the need to see the new methods being enacted in their classes. Teacher 3 commented, *team teaching is most helpful – I'll understand from that* and Teacher C explained that team teaching was useful for the following reasons:

> *Clearly explain what to do*

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Clear instructions – example of how to give

Understand how to do in class – it is clear (by reading it is difficult).

One MoE official also highlighted the importance of teachers having opportunities to see new ideas being used.

> *For them to really see how active learning happens, or what is this in a classroom; okay, you see these kinds of skills being done this way in the classroom; that gives them much you know, quicker way of getting things around.* (Official 5)

It is well-documented that teachers tend to teach as they were taught (Lortie, 1975) and so they need opportunities to experiences new approaches and as Official 2 noted, *we wanted people to see something different*. This idea was raised in Chapter Two regarding the necessity for learning opportunities that exposed teachers to new and practical ideas.

Support and mentoring

Teachers from both groups articulated that access to new ideas also came through exposure to a person with more experience and new ideas. They made comments such as, *the other teacher will understand better than me and then I'll understand from that person* (Teacher 3) and *we need demonstration – we don't know good ideas* (Teacher 6). Whilst these comments reveal their positive attitudes towards new ideas, they also point to a lack of confidence about what they do know, have trialled themselves, and what they can potentially learn from each other. There is a notable reliance on the outsider, as raised in Chapter Two, on external facilitation of professional development (A. Shareef, 2011, p. 21). One SMT member acknowledged this as a common expectation on the island:

> *The other thing is when there's a new person that comes [to the island], they [the teachers] always try to get things…They're expecting things.* (SMT2)

Teachers look to outsiders as the source of new ideas. Teachers 1 and 2, referring to my presence, had determined that I had more experience/techniques they could observe and learn. Therefore, as a visitor to the island and positioned as the expert in our collaboration, it was clear the teachers wanted to capitalise on this while I was in the school.

The nature of the collaboration with a more experienced person to serve as a mentor fulfils two purposes, as indicated by teachers. First is the value of a visitor bringing new ideas to the island.

As Teacher expressed, *we need somebody to share ideas*. However, it was also recognised that there were experienced people within the school who could support teachers. Teacher 7 stated, *[we can] learn from demonstration by leading teachers or some others*. The leading teacher is clearly seen as a source of ideas. Second, this person also serves as a guide who can provide classroom-based support.

> *Supervisor [9]also helpful (*Teacher 2, Teacher 4)

> *I think leading teacher must support us…he is always supporting us to use different types of teaching methods...he also sometimes giving ideas so we will do.* (Teacher 7)

> *Management side encourage a lot doing this – in each and every meeting – likes to give ideas.* (Teacher B)

One leading teacher (SMT4) outlined his responsibilities which included: having a monitoring role; giving feedback; encouraging teachers; and providing new ideas. It is also apparent that receiving feedback from management was important. Getting such feedback was acknowledged by the teachers as an important practice in the school.

The changes that took place with the implementation of CFS in the school were attributed to the management team's vision and planning, Teacher 1 stating, *school management enabled us to do it and supervisor*, as discussed in Chapter Five. This process could provide insights for implementation of further innovations.

Practise and use

Practising was also seen as a way of improving teachers' use of the new instructional approaches, Teacher B saying, *just use continuously* and Teacher 7 adding *[you] need to practice more repeatedly*. Teacher A highlighted the necessity to plan well for lessons commenting, *if we are not having any planning and going to the class means, we will be confused, you know*. A statement by Teacher 4 perhaps best encapsulates the importance seen in practising new strategies by saying, *if I do it I will understand*. Another teacher voiced a desire for all teachers in the school to follow the new approach. She said, *if everyone uses we will get ideas from everyone and students will get more thorough.* (Teacher A). She believes there will

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[9] 'Supervisor' as the previous label for the role of leading teacher is still used in schools.

benefits for students when they become more familiar with the active learning approach if it is applied across all classes.

Positive experiences: Nothing succeeds like success

One primary teacher emphasised that seeing the benefits for his students when he enacted a new practice was a positive experience, which suggests this would motivate him to sustain its use.

> *I found that the students have understood the concept and they have really engaged throughout the lesson. So I feel very positively of these strategies and when I feel the students can understand.* (Teacher D)

In discussing their use of strategies, the majority of teachers articulated positive experiences. The innovation was tailored to fit with the priorities of the school community and teachers' aspirations for their practice. This fit between bottom-up desires and top-down pressures has been successful to the extent that teachers have reported positive attitudes and experiences and the continued use of the innovation, as determined by the subsequent post-intervention visit.

Peer support

One feature that was frequently raised in both teacher groups was the idea of sharing information among teachers. They expressed the intention to support other teachers in the school with their use of new teaching methods by sharing ideas, helping each other, and having discussions with their colleagues. This can perhaps be understood in the group oriented culture of the Maldives (Nazeer, 2006) and the insularity of island life (Royle, 2001). The following sample comments reveal these sentiments.

> *We know information and share to other teachers/experience from other teachers* (Teacher 1)

> *We will show the activities and share with other teachers* (Teacher 2)

> *I will ask some other teachers if I have not understood* (Teacher 3)

Yet some primary teachers, given the smallness of the school, expressed some difficulty with working collaboratively when they are the only teacher teaching their area - *because I am teaching both grade classes, two divisions. So there's no one else to discuss* (Teacher E).

An attempt to set up a peer observation protocol, within the intervention phase, was positively received by the CFS teachers but did not transpire. I designed it be used while I was working

with the primary teachers in Block 2. However the high number of teacher absences during the final term meant that teachers were often called on to cover classes, when they were scheduled to observe a class. The leading teacher, who fully supported the idea, was himself covering extra classes, as there was no pool of relief teachers on the island. One teacher claimed:

> *We are so busy because when some teachers are not here we have to substitute that's why [we can't observe] but I like it the peer observation.* (Teacher 1)

Teachers articulated favourable attitudes to a peer observation system. It was certainly my observation that teachers referred to their colleagues in a positive and supportive manner. If I arranged to co-plan with one teacher they would frequently bring a colleague who was teaching the same subject or grade level. Also noteworthy was whenever I organised to team teach in CFS grades, the teachers ensured that everyone got a fair experience – that is, I needed to team teach with both teachers at the grade level so that one person did not miss out.

Resources and facilities

The availability or lack of resources is an ongoing theme. When teachers were specifically asked about teaching resources, their comments reflected recognition of the advantages held by their school. As an atoll education centre, the school had better resources than other smaller schools in the atoll and together with support from the parents, the school made facilities and resources available where possible. One leading teacher determined that the school provided everything it could. One example was that *teachers requested internet and management has done* (SMT4). Overall, the teachers acknowledged these efforts with Teacher A stating, *school provides facilities and materials*. The availability of science and computer labs as an aid to teaching was recognized as supporting active learning (Teacher C). Another teacher found the availability of internet and AV projectors in classrooms to be an asset to learning as it helped to capture the students' attention. Yet whilst internet had been made available to teachers, as I documented in my own teaching experiences, it was not always reliable. CFS teachers had a desktop computer in their classroom but as roving subject teachers, the primary teachers had to rely on their own laptops to use the AV equipment.

Classroom physical environment

There is a clear distinction between the CFS and primary classrooms. In CFS classes, with tiled floors and the array of furniture in the classrooms, students were given much more freedom about where they worked, often sitting on the floor (Figure 31). For the CFS teachers this typified the new type of teaching they were striving for shown in Table 35. These responses were recorded at a coordination meeting when this tendency to work on the floor was discussed.

Table 35: CFS teacher responses to why floor work was important

In what ways does working on the floor help student learning?		
CFS teacher group 1	**CFS teacher group 2**	**CFS teacher group 3**
They can move easily *More interesting if flexibility is there* *Easy to handle the materials* *Discussion will be easy when the students are sitting too close* *Easy to arrange groups* *Saving time*	*More freely* *Flexible* *They can sit closely* *Easy to explain* *Class management* *Easy to group them*	*Easy to explain* *Easy to manage to the class* *Easy to find their attention* *Easy to make groups* *Challenging*

The classroom environment impacted on how teachers teach. The primary teachers had more limited options in their classroom arrangements due to the cement floor and sharing of rooms. Whilst the physical classroom environment does or does not cause active learning, it is an enabling condition in two ways. It allows more flexibly in where and how students work and it provides a visible signal to the school community, particularly the parents that change is occurring:

> *If we change the classrooms and if we give displays and everything than I think the parent's belief also will change…they will start same method like CFS parents. They will continue their guidance and participation.* (SMT4)

This became part of the process of facilitating and communicating change within the school community. Interestingly in the photo ranking activity, the photo of the most colourful classroom did not rank highly, so whilst the physical environment is considered important in promoting change, other factors were deemed more important, notably what the teacher and students are doing, as reported in Chapter Five.

Lesson timing

At the beginning of the intervention phase, lessons in CFS classes were 45 minutes compared with 35 minutes in the rest of the school. During Term 2, lesson times were changed to 45 minutes across the school, at the request of teachers. Teachers felt they could more easily plan lessons around active learning, if they were longer.

Factors that inhibited the intervention

Whilst changes to practice helped teachers address some of the initially described difficulties, there were still challenges or concerns raised by teachers as impacting on their use of the innovation. These are reported along with relevant perspectives from the SMT and observations from my field notes journal.

Changing established routines

Teacher attitudes towards the instructional model and the targeted strategies were overwhelmingly positive. However, whilst holding an open attitude to the new ideas, teachers were entrenched in their established patterns of planning and teaching and needed constant reminders to include the new strategies within their planning. For example, Teacher 5 said *I forgot to use it* and Teacher 3 commented, *I had forgot and then if I think I can use it*. My presence in the school allowed for ongoing probing of teachers' practices during the weekly planning meetings and frequent discussions. Without an external change facilitator, challenging established routines must rely on internal protocols being established or the leadership team taking a visible and active role in promoting change, what Fullan (2010, p. 119) has labelled 'positive pressure'.

Syllabus and schemes of work

The structure and demands of the syllabus were cited frequently as pressuring teachers into moving quickly in order to complete the syllabus in time for summative assessment tasks, notably end of term tests, as discussed in Box 10 (Chapter Six). Several teachers presented the view that they needed to complete the schemes of work and that many lessons were used for assessing students with pen and paper tests. Across all teachers, the schemes of work ranked first in terms of what they considered when planning lessons. As prescriptive documents,

teachers were tied to the content and the lesson objectives specified for each lesson (see Appendix S). Teacher 7 suggested that the schemes of work should be rewritten to accommodate the new strategies for next year. With the NCF, this is likely to be necessary.

This barrier is not unrelated to the challenge of changing established routines. Teachers have an established pattern for planning against the existing schemes of work within the traditions of the weekly coordination meetings. However, Badhoora (2012), when reporting on Maldivian teachers, suggests their reference to an overcrowded syllabus is an excuse, or a lack of capacity to integrate objectives. From my own experiences of planning with the schemes of work, it was possible to integrate components within the existing structures but it does require teachers and leading teachers to challenge the status quo.

Managing innovation in the classroom

Whilst teachers saw the lesson plan format as user-friendly, they also expressed concern with knowing how to use all its aspects effectively, particularly some of the strategies.

> *Sometime hook is difficult/ don't know how to write reflections.* (Teacher 1/2)
>
> *Jigsaw difficult [for students] and I also don't understand.* (Teacher 1)
>
> *Actually I didn't understand so clearly…no time to think about this strategy.* (Teacher 7)

Therefore, while the instructional model provided operational clarity, the strategies, for some teachers, were more complex. The logistical aspects of managing procedures in class raised particular concerns.

Schweisfurth (2012, p. 180) refers to the challenges in the reframing of the teachers' professional role from teacher to facilitator of learning and contends this is a substantial challenge in any context. This reframing requires new teaching skills, which are highlighted in this study, in detailing how teachers managed the intervention strategies in their classes. Three broad areas of challenge were noted by teachers: giving instructions; organising group work; and behaviour management.

Giving instructions

Teachers expressed some difficulty with giving clear instructions when incorporating activities into their lessons and I observed teachers who struggled with giving instructions. In the changing role of the teacher, that encompassed responsibilities for facilitating activities and guiding students' learning, teachers required new skills. In putting the onus on students doing the work, teachers need to learn how to provide clarity and structure for students to carry out the planned tasks. Teachers' reflections repeatedly noted the need for improvement in this area in their recording booklets with comments such as *before the activity I will give clear instructions, explaining the task well* (Teacher E). This was raised predominantly by primary teachers and I observed this as more challenging in their classes, where the students were less experienced with doing activities.

Managing group work arrangements

Teachers, at the start of the intervention phase, had voiced several difficulties associated with using group work, such as getting all students to participate and managing the task, including classroom noise and giving instructions. The majority of teachers reported an improvement in student participation through the use of the strategies, which provided students with clear responsibilities and promoted both group and individual accountability. Referring to the 'We do' phase, the primary teachers highlighted the increased participation of students, referring to less behavioural issues (Teacher A) and improvements in student cooperation (Teacher B) and student engagement (Teacher D) within lessons. The clearer roles for students within a group task were also noted with Teacher A stating, *each step is clear – students feel clear now. The teachers' role is also clearer.* She is referring to the necessity for teachers to help students and note their difficulties.

Other difficulties were expressed around managing group work, for example Teacher D noted, *takes time for students to change place* and the traditional classroom layout of the shared classrooms presented some difficulties with seating arrangements according to Teacher A. Even with the 45 minute lessons, the arranging of the classroom layout did lose precious time. However, as described in my team teaching experiences, I also observed different methods teachers used for arranging groups and saw that efficiency was possible within these school conditions.

Behaviour management

Changing views about appropriate student behaviour were expressed. The freedom celebrated in CFS classes contrasted with the more traditional primary classes and reflected different standards regarding appropriate behaviour. For example, as Teacher 7 observed, *if one student is standing near desk or students, teacher feels they are misbehaving. Actually in CFS classroom they can move around the classroom.*

Yet for primary teachers it appeared that teachers were still judged on traditional models of appropriate behaviour. This put pressure on teachers to maintain quiet classrooms and for student behaviour to be quiet and passive. SMT2 commented:

> *They feel that if the class is little bit noisy, they feel that the teacher is not quite capable of controlling the class, that somebody is coming and seeing that the classes are noisy.* (SMT2)

Expectations of acceptable behaviour seem to go hand in hand with the visible aspects of the classroom. CFS classrooms appear more tolerant of a greater range of student behaviours which allows teachers to bring greater variation to their lessons.

Teaching and learning resources

Whilst teachers acknowledged the provision of resources in the school as helpful, concerns around the adequacy of resources was also raised. Teacher 4 referred to the need for access to adequate teaching resources and sufficient computer and Internet access for students. Teacher 8 felt that the 'we do' strategies could be used *but resources [are] difficult* and Teacher A noted the difficulty she experienced in having adequate research materials for a jigsaw activity. Lack of resources was raised in the contextual analysis data as a barrier to active learning, and throughout the intervention process individual teachers referred to resource concerns.

Time pressures and workload

Three distinctive issues relating to being time poor were raised.

1. Teachers felt that active learning required more time in lesson preparation:

    > *Time is also a problem. It takes a lot of time to prepare the lesson* (Teacher C)

> *We need time, actually from session hours we don't get time to plan for a good lesson. Actually if we plan a good lesson we need time so good lesson activities are prepared for students to do according to ability level. These things, worksheets and everything…we need more time.* (Teacher 7)

2. Including new routines in day-to-day teaching required time to think about how to include an innovative idea into their established routines:

> *I was too busy in the week to include think-pair-share in my lesson.* (Teacher 6)

> *When I planned it was difficult to think of these strategies because of timing [for planning].* (Teacher 7)

> *The topics were not suitable because most of the lessons have been used for assessing students.* (Teacher 7)

3. Teacher responsibilities and activities, on weekends or evenings, diminished teachers' time for planning, as previously highlighted with my experiences of endeavouring to find the time to plan with teachers.

> *I would like to use the 'we do' strategies but want something easy to plan last week because extra busy week with sports activities and extra [substitute] classes.* (Teacher 3)

> *I think the issue is time…so many things happening at the same time.* (Teacher 8)

Teachers reported needing time to embrace new and innovative ideas. In a busy work schedule, the time required to engage with an innovation can be overlooked. Most teachers highlighted that extra time was required for preparing lessons based on active learning, which is consistent with the view of Nykiel-Herbert (2004) that active learning puts more not less demands on teachers. Most teachers raised concerns about the extra workload and time required for active learning. Yet, whilst noting the extra workload CFS teachers expressed a preference for active learning approach over the previous traditional model. However, teachers' working conditions and salaries are areas of notable teacher dissatisfaction, particularly when they compare their salary to other civil servants.

Catering for all students

Teachers continued to report challenges in catering for the diversity of student needs within an activity.

Different level of students is difficult. (Teacher 3)

Some students can't work by themselves. (Teacher 7)

Low ability students will just be sitting there. (Teacher B)

These experiences may have arisen for reasons such as: a teacher's inexperience with the new methods; the clarity of instruction needed when organising activities students; students' inexperience with the new methods; inadequate preparation of resources before classes; and the limited availability of relevant resources. Once teachers moved away from a model of teaching where their role was to transmit information to one where they considered the learners needs, these challenges became part of expanding their role in encompassing a more learner-centred pedagogy. Teachers aspired to be more inclusive in their teaching and whilst they reported success with using the strategies, being able to cater for all students in the class remained a challenge for teachers to address. These examples can be viewed as part of a continuum of change, where change is seen as a process not an event (Hallinger & Lee, 2011).

Two session day

The two session day has practical implications. When teachers are called together, for various activities, this can only happen in the evening (typically after prayer call at 8.30pm and on weekends). One leading teacher (SMT3) discussed how this places pressure on his availability. Whilst employed within the morning session he needs to check on teachers during the afternoon session, cover teachers who are ill in the afternoon session, and be available for meetings in the evening and on weekend as well as SMT meetings.

Teacher absences

When a teacher is absent there are no substitute teachers on the island to cover classes. From my observations the classes were covered through a shared responsibility assumed by those not teaching during that session (so afternoon session teachers are asked to cover morning sessions and vice versa). Consequently, this impacts on teachers' planning and preparation time. As a small island, this difficulty with human resources is a recognised as challenge for small island states (UNDP, 2014).

Teacher qualifications

All the participating teachers in the school were trained, as outlined in Table 6 and **Error! Reference source not found.** (Chapter Four). More than half were qualified to a diploma level with five teachers qualified at the certificate level. With teacher licensing currently being discussed at the Ministry level, it will be necessary for all teachers to have a diploma level qualification. However, given the isolation of island life, upgrading qualifications is likely to be problematic. Some people move to Malé to undertake study at the Maldives National University (MNU) for a period of time, whilst others choose private providers (at greater cost) that offer off-campus study options with intensive study blocks in Malé. It was a vision of the principal to improve the academic capabilities of under-qualified teachers.

Teachers' professional development

Teachers consistently suggested workshops as a strategy that would help them practise active learning. Yet, whilst workshops were seen as a supporting factor, this was only under certain conditions, and teachers raised concerns with regard to being able to understand and apply ideas presented at workshops.

> *Not always clear from workshop – timing can be too quick, too many ideas in one day.* (Teacher 7)

> *Mostly, it's not easy. We can't use it very easily, you know, like in the first term we had that mouse mischief workshop, you know, but it's not very easy to use it in the classroom.* (Teacher A)

So although teachers see workshops as necessary for their professional development, they also identify the limitations and the need for follow-up support was discussed to translate ideas from workshops into classroom practice.

English language (teacher difficulties)

Teachers reported students' confidence with English increased through the use of the 'we do' strategies. In particular, the 'we do' strategies had the most positive influence with older students in higher grades whose teachers had greater confidence to converse in English. Some CFS teachers expressed difficulty with their personal use of English:

Because I also learn English. (Teacher 3)

My language, my English is improving better than before. (Teacher 3)

I want to improve my speaking. (Teacher 6)

There were also some difficulties noted with students' ability to respond in English. This was particularly prevalent in the lower CFS grades where students' reading and writing skills were emergent, in contrast to the higher grades where students demonstrated more advanced skills.

…a few times in Dhivehi also, explaining [in English]. They don't know all the times we speak in English. (Teacher 1)

[Think, Pair, Share] difficulties because students can't speak English…and guided reading also difficult. (Teacher 2)

…very difficult to do that…reading comprehension Dhivehi and English also. (Teacher 3)

However, teachers did not question English as the medium of instruction. Whilst it was not within the scope of this study to investigate specifically the effect of English as the medium of instruction, it was, nonetheless, raised by teachers as a difficulty and so it is reported here.

Part 2: Operationalising active learning in the Maldives

In this section, the factors influencing the use of the intervention are discussed in light of the wider contextual factors. In Chapter Two, the Maldives education system was explored and some of the features discussed are raised in this section. Teachers and schools do not operate within a contextual vacuum; so in order to understand how active learning can be operationalised within the Maldivian education system, those factors identified through the intervention phase data will be explored within the wider contextual features that were articulated in the interviews with MoE officials and other system levels officials.

The policy-practice nexus

Active learning is an aspiration at the ministry level. This vision for pedagogical reform is captured in the following comment:

…what we actually want is a pedagogical shift in the way that teachers teach, you know from this transmission mode to more active enthusiastic productive learners who are more confident, motivated and they take responsibility for learning. (Official 5)

Yet this vision is difficult to achieve in practice. According to the Teacher Resource Centre coordinators, who work across schools in their atolls, there are multiple areas where some progress has been made to facilitate a pedagogical shift in Maldivian schools, but there are also areas identified where challenges remain. Table 36 presents their responses to two questions: 'What is going well?' (referring mostly to CFS grades) and 'What needs improvement?'

Table 36: TRC coordinators' comments on progress with active learning reform

What is going well	What needs improvement
- *Students have choice where...their work and they have choice to sit or stand or lying to be more flexible for them* - *Use of group activities* - *Providing project work in different grades* - *Some teachers apply use of active learning in their classrooms* - *Students involve in lesson in lower (1-3) grades* - *Classroom set up is quite acceptable conditions regarding CFS/lower grades* - *Students are getting enough time to complete their work (because they have 2-3 periods together)* - *Cater for individual learners*	- *Need varieties of using teaching and learning materials* - *Create activities related to active learning* - *To have more time to participate in their lesson activity* - *Project work should be done by the students rather than parents doing for them* - *Better supervision especially in secondary grades* - *ICT to be incorporated in teaching* - *More ICT facilities available by teacher and not using to its maximum* - *Should focus more on 3 domains when teaching (cognitive, psychomotor and affective)* - *Planning teaching should be more systematic and strategic*

This Table provides an overview of teaching across the country and the broad range of practices the TRC coordinators, as a group, have witnessed. Their responses confirm that there has been minimal change in non-CFS grades and as indicated in Chapter Two, several challenges in implementing active learning were identified. At the ecosystem level (MoE and system level) there continues to be a desire to support pedagogical reform that sees greater use of active learning methods, yet a gap remains between this vision and classroom practice across the country.

Factors influencing use of active learning

Several key features were raised in the MoE interviews which provide further insights into the contextual features influencing the uptake of active learning.

School leadership

Both the school principal and the leading teachers play a critical role in first allowing, and then encouraging, innovative practices in their school.

> *We have to try and find a way to change the mindset of those principals in the first place...because unless they become the change agents of the schools, it's very unlikely to bring major changes in the system because they have all the authority to say this is not the right thing for those schools.* (Official 6).

A compounding issue is the qualifications held by principals and leading teachers, a feature of the history of education in this small state, and the shortage of teachers. As Official 8 stated, *many degree holders are joining schools now, which are led by people who hold lower qualification, who only experienced traditional teaching methods*.

For change to happen, *top management needs to understand the importance and relevance of active learning...unless they do teacher will not be able to change,* as Official 8 states. Leading teachers can also help or hinder teachers who aspire to embrace active learning. They can either inspire or block new ideas and as Official 8 asserts, *often the leading teacher tells them [teachers] what to do and which passages to us*e Leading teachers are frequently reported to be guardians of the status quo, often explicitly blocking new ideas being embraced.

> *...schools cannot change unless the leading teachers change...yeah there's a lot of blocking.* (Official 2)

> *...actually I don't think in Maldives the leading teachers provide the proper guidance for their teachers...that is one thing lacking behind in Maldives...this is what I experience in my place. (TRC coordinators)*

> *...even then the leading teachers who are supposed to lead...they are products of the system.* (SMT5 & Official 4).

While teachers are influenced by the principals, so too are principals influenced by how innovation is enforced upon them.

> *Highly centralised decision-making will not promote strong adoption or internalisation of policy decisions at the decentralised level of schools.* (Official 3)

In this island school it is evident that the SMT supports change. The manner in which CFS was introduced into the school through a consultative process, and the support that the leading teachers provide to the teachers clearly demonstrate the possibilities for change and innovation in a Maldivian island school, where there is a supportive management team.

Lesson planning

A number of concerns were raised around how lesson planning is managed. The established method of planning, through weekly coordination meetings, is perceived by many, as an inhibiting factor. Furthermore, as identified in Chapter Two, the existing schemes of work and the current syllabi are seen to maintain traditional teaching methods by emphasising knowledge transmission and teaching to the test.

> *Schools need to plan around bigger concepts rather than always starting from the basic. The present schemes of work have to be strictly followed.* (Official 8)

Typically the weekly coordination meetings, led by leading teachers, ensure teachers prepare and plan for the following week. However, according to Official 2, these current procedures around the coordination meeting *actually limit the teachers from doing their own work.* The history of the coordination meeting provides some explanation of this as Official 2 attests:

> *When we introduced it because there were untrained teachers initially, but most schools do have trained teachers now. So that coordination was supposed to really give guidance for the teachers. But I think we have to get away from it and then let the teachers do their job with the given scheme and the curriculum.*

I observed the weekly coordination meetings throughout the time of my fieldwork. Due to the double session day they were held at 8.30pm. Whilst this is established practice within the school, such an important meeting, at the end of a long day was for me personally taxing. With a social aspect to the meeting being in the form of sharing food, I did wonder if this was the most efficient way to encourage innovative planning, when half the teachers would need to be teaching by 6:30 am. I also observed that planning could be reduced to an administrative exercise, particularly when leading teachers had other priorities. It is established practice for

every lesson plan to be checked by leading teachers, which in effect could mean leading teachers initialling each page if they had other pressing demands on their time.

The TRC coordinators suggested that lesson planning should be more systematic and strategic supported by Official 8 who proposed:

> *Schools need to plan around bigger concepts rather than always starting from the basic. The present schemes of work have to be strictly followed.* (Official 8)

As documented in my team teaching anecdotes, it was possible to plan by integrating objectives across the week. However, teachers need to develop experience and expertise in learning how to do this, again highlighting the importance of the leading teacher in promoting innovation.

Teaching resources

The ongoing discussion around teaching and classroom resources in relation to teachers' uptake of active learning highlights the complexity of this factor as expressed in Part 1. One MoE official, in visiting many schools throughout the country notes that some schools have resources but *are not utilising them* (Official 11). Another MoE official noted some schools have good infrastructure, adding *if you really look into the classrooms the real learning is hardly there* (Official 3). The TRC coordinators add further insights making comments such as teachers did not necessarily use the facilities in the classroom for their teaching or utilise learning resources available in the schools. They also commented that with ICT, teachers are *not using [it] to its maximum*. Yet, counter points are made about the availability and use of resources in some schools where real objects were used to aid teaching and some evidence of ICT being used in interactive lessons.

Teachers' comments about the use of resources in the Research School raised similar discrepancies. This was both a supporting and limiting factor. It was evident from my teaching experiences on the Island that there were resources available. However, it required time to source, modify or create them. Sourcing adequate reference materials for student research was a problem when internet references needed to be rewritten, or a large number of reference copies were required. It was also problematic when the internet did not work, which I personally experienced as a daily problem. Yet, using textbooks, in innovative ways for research purposes,

resolved this issue for a number of lessons where jigsaw was used in the intervention phase. Whilst materials and teaching resources are important, this is a complex issue.

Teacher salary and conditions

The TRC coordinators acknowledged the busy nature of teachers' work and that time was needed for teachers to embrace active learning:

> *I think one of the dangers is they are very busy...they are not getting enough time for planning works.* (TRC coordinators)

> *This also interferes with active learning and in some small schools teachers do some administrative work other than teaching. It keeps the teacher overloaded.* (TRC coordinators)

> *I think one thing we can do is reduce workshops...and...activities and those things they need some free time.* (TRC coordinators)

Likewise, I experienced the busy schedule of the teachers in the island school. As previously mentioned late night meetings, workshops, extra-curricular activities, weekend training sessions and weekend school activities all added to teachers' workload and all impacted on teachers' planning time. However, the school is a very important part of island life and much social activity takes place around school events.

A related source of discontent was teacher salaries. The issue of pay was a focal point in a number of teacher interviews. Likewise, the TRC coordinators raised concern that *compared to other government staff we are getting less*. This view was supported by Official 2 asserting, *so what had happened was the teachers are now getting the lowest kind of salary. Police seems to be getting higher than the teachers*.

Whilst concern about teachers' salary was raised repeatedly in interviews, the large numbers of teachers in the system is *a huge burden for the government* according to Official 5, and makes large scale increases in salary prohibitive:

> *I think this issue has been raised to the concerned authorities several times and, the thing with teachers in this sector is that when you raise them...let's say you raise by 1% or something, that a huge amount because of the number of teachers.* (Official 5)

> *Because of large numbers of teachers – even 1% translates into millions of Rufiyaa and the Finance ministry is very sensitive.* (Official 1)

Further concerns were raised over changes to overtime conditions:

> *…before if the teachers work [extra] in the 24 hours they know they can get something…recently this 3 years there is no overtime so all the teachers all stopped.* (TRC coordinators).

These changes clearly affected teachers' motivation to complete tasks for which they had previously been paid overtime. Yet within the MoE, Official 1 was of the view that teachers are *treated like other civil servants – get overtime for total of 5% of salary code for that school budget. So the overtime budget has a cap and needs to be shared.*

Local teacher attrition is an issue, as is the reliance on expatriate teachers who are the most costly to employ, at three times the local teacher rate (Official 7). They are also offered extra incentives that local teachers are not offered. This point was raised in relation to difficult to staff islands.

> *What is the incentive that we give to a teacher, who is willing to go and work in a difficult situation, there is no incentive…for example accommodation and things…for the foreign teacher they are providing…but for the local teacher it is not being provided.* (Official 7)

The problem is further compounded by the education circumstances on each island and the cycle of richer and poorer islands discussed in Chapter Two. This was explained by one official:

> *It's like egg and chicken situation from the weak island, from the island where there's no proper education system, we are not getting enough candidates to come and do the teacher training program for those islands.* (Official 7)

Acknowledging this, a suggestion was made that local teachers should be offered similar incentives to expatriate teachers to take up such posts in difficult to staff schools.

To deal with issues of teacher absenteeism, a proposition was made to reintroduce a bonus for teachers that had been cut in recent years. If approved by the Finance ministry, this would reward teachers who come on time and demonstrate regular attendance, Official 1 noting, *we are hoping that when they have incentives like this they will up more to work.*

The chronic shortage of teachers through a lack of trained teachers, high attrition, and lack of incentives is part of a wider contextual condition, yet remains a focal point for teachers and a source of discontent. The implications of this are discussed in the following sections.

Teacher licensing

Changes are being brought to the minimum qualifications required for teachers through a new teacher licensing system in an effort to improve the quality of teachers and to motivate teachers to *really train themselves* (Official 2). This will have a number of consequences for un-qualified or under-qualified teachers (teachers who hold certificate level qualifications). To meet the minimum requirement of holding a diploma, many teachers have enrolled in courses through the Centre for Open Learning, MNU and other private providers with some offered through off-campus modes to accommodate island teachers. With over 1000 unqualified teachers still in the system in 2012, this licensing arrangement will not be without its challenges . Official 7 states, *I think tough times are ahead for those teachers who have been trained a long time ago*. Some of these teachers may not be able to upgrade in time, although it was suggested the timeline for enforcing teacher licensing would be extended in response to these challenges.

The concerns around teacher salary and teacher licensing provide some description of the environment in which teachers work and their incentive, or lack of, to engage with new ideas and implement innovative practices. It also exposes the clear tensions in the system between minimising reliance on expatriate teachers, whilst at the same time increasing the minimum qualifications for teachers. This is a documented challenge of developing country education systems (Leu and Price-Rom, 2006), and a particular constraint of limited human resource capacity that small states face (UNDP, 2014).

Expatriate teachers

With 3000 expatriate teachers in the system, in 2012, there was a widespread view of the need to reduce these numbers (Officials 6 & 7). The presence of expatriate teachers raised other compounding issues connected with secondary teaching:

> *Therefore I think that challenge we have in our system because we still have if I remember correctly about 20 more than 25% of expatriate teachers. And unfortunately it is one of the weakest areas that we have providing this in-service for the secondary teachers. Partly because most of the expatriate teachers may leave at any time, so the investment may not be very much sustainable.* (Official 6)

Expatriate teachers have been described as being employed for their subject knowledge and quite often are not trained teachers, and who by the nature of their transience are not privy to the same professional development opportunities:

> *The expatriate teachers that we have are not qualified teachers…they have a degree but they are not qualified teachers as such. They do not have any pedagogy. They just have subject qualification, they might even have an economics degree, but they are not economics teacher. So these things reflect very much on how they're teaching…* (Official 7)

> *The quality issue comes up…sometimes they [expatriate teachers] don't even have subject knowledge.* (Official 1)

Moreover, expatriate teachers bring their own view about learning to schools, which can create a tension between local goals for pedagogical reform and expatriate views on effective teaching. Further, as voiced by Official 3, expatriate views on teaching and schooling have a strong influence within the system and impact the extent to which innovations can be implemented.

Consequently the influence of expatriate teaches results in a reliance on traditional models of teaching and a focus on providing tuition to students in preparation for exams

> *They [expatriate teachers] are doing the tuition to the students...they tell the students in the classroom, if you come and join our tuition I will explain this point.* (TRC coordinators)

> *Often we observed difference in teaching methodology of expatriate teachers and local teachers. Expatriate teachers (Indian) are mostly trained to use talk and chalk and besides giving training they find it difficult to adopt active learning strategies in classrooms. But the kinds of teacher training given at MNU, the local teachers are found to be more effective in adopting active learning at the secondary level.* (SMT1)

It has been my observation, as a teacher educator in the Maldives, that expatriate teachers, on the whole, are reluctant to embrace new approaches to teaching. Expatriate teachers bring their own ideas to the Maldives, which influence the extent that innovation in teaching approaches can take hold in schools, particularly in the secondary grades.

Assessment: Policy and Practice

The emphasis on scores and results is epitomised in the Prize Day ceremony held in each school annually. This has consequences for what is seen as important in education and this is summed up in the following comment by a high level official.

Academic achievements are overemphasised.

The time, energy and money that go into decorating the stage are incredibly high.

The amount of money that a school spends for this event is exorbitantly high.
(Official 3)

Prize Day, has become entrenched within the culture of schools as part of a *never-ending extravaganza to outperform* (Official 3). Whilst he acknowledges that some competition is productive, he believes the situation now has *risen to educationally unhealthy level.* Prize Day serves another purpose as a political tool. Schools see this event as an opportunity to *get something out of the government* and *the opportunity for politicians to show themselves* and to this end *they [schools] have used this very well* (Official 2).

The consequences of such competition are that *all this hype reinforces the emphasis on the academic excellence rather than the overall development of the pupils* (Official 3). Within this context are concerns about assessment purposes and methods. Such concerns were raised across the stakeholder groups. The predominate revision methods were raised as an issue in the following comments.

They give quiz with the different levels of questions and everything. So they give you like about a 100 questions from a question bag and they give this is the quiz so some of the exact questions are transferred to the test paper. (Official 4)

Often revision is memorizing everything from definitions to pages of text. Students spend hours to memorise note. Also teachers prepare a paper similar to the exam paper or do past paper questions. Teachers will dictate answers and students memorise them. (Official 8)

This emphasis on knowledge recall for assessment purposes is argued as inhibiting teachers from embracing active learning pedagogy.

The dependence on tests and examinations may be one reason why it is difficult to implement a child centred active learning approach. What is true learning is not understood well. Policies on assessment need to be changed. The change has also to come from the way the curriculum is designed, from initial teacher training. Principals and leading teachers need to be empowered and provide the instructional leadership for such a change to happen. (Official 10)

> *...everything is exam focused and getting good grades in exams. It's not necessarily about deeper meaningful learning or understanding the topics but getting through exams with surface level learning.* (Official 8)

As explored in Chapter Two, the O-level exams exert a strong influence on the schooling system. Whilst there is now widespread access to secondary schooling the pass rate is very low (see Figure 4 in Chapter Two).

> *However, the 'national competition' created primarily by the extravagant national recognition of OL top results has a backwash effect that percolates down the entire school system – which I saw. The school heads, teachers, and parents too are ultimately caught in this never ending extravaganza to outperform.*
>
> *In a sense, a bit [of] competition is not bad. However, it has risen to the educationally unhealthy levels. Even school management and teachers have been alleged in 'assisting' students in exams to literally manufacture high results. I think it is getting worse...more intense than before.* (Official 3)

In this study, the need to cover the syllabus was raised by most teachers as a pressure they felt that contributed to their continuing use of established procedures. As highlighted in Box 10 (Chapter Six) the primary teachers tried to reteach their whole subject in two weeks. Each teacher had a similar approach and justified their approach with comments such as:

> *Students [have] forgotten everything so we need to recall it.* (Teacher E)
>
> *Cover whole semester and emphasize important parts/topics.* (Teacher D)
>
> *Our teacher did like that so I know how to do it. This is a good way for students to prepare for term tests.* (Teacher F)

There is a close connection between the revision and test questions, with Teachers D and E explaining similar questions are used in the exams with slight changes to the scenario examples. Several primary teachers reported using the 'we do' strategies in their revision classes claiming the strategies were very helpful. Here is another example of teachers needing an impetus to change established routines although clearly the emphasis remains on knowledge transmission. One teacher articulated, *we don't know new strategies we can use for revision* (Teacher C).

The TRC coordinators articulated that a greater *focus on assessment for learning* was needed and that it would be beneficial to *stop ranking* schools according to O-level results. They also stressed the consequences of spoon-feeding:

...student may get A in Dhivehi but if that student got a letter to apply for a job the student gets another [person] to write that letter. So this how it is being done in the Maldives. Even though they score more grades in subjects they don't know how to apply that. (TRC Coordinators)

The emphasis on examination marks appears to be at the expense of *deeper meaningful learning or understanding* (Official 8) as raised in Chapter Two.

Parents' role

The role of parents is critical within school life; given that schools are such a focal point for island communities (Official 3). Parents also can exert influence directly or indirectly in a school, as discussed in Chapter Two. The TRC coordinators report that parents' support is provided to apply active learning, especially in CFS classes in some schools. Yet, as students move higher up the focus is very much on marks.

> *I think actually we have to change the perception of the parents...in the Maldives each and every parent they want this result e.g. A grade...this is very much related to his point so I think the management and perception of parents and also the teachers, we have to change.* (TRC)

Ideas about learning and active learning need to be considered in the broader school system. Official 8 proposes that beliefs and attitudes towards the concept of active learning need improvement among parents if this pedagogy is to take hold. Another Ministry official noted that schools are a hub for community activities which provides an opportunity for dialogue.

> *This reality offers tremendous opportunity for liaising with the parental community, in effect the whole island community in any kind of school development activity; school innovations included. Therefore the school management and the teachers can and I believe should take full advantage of this to inform parents of all innovations such as CFS in order to achieve parents' buy-in. Parental acceptance will be desirable and at times necessary for school innovations to succeed.* (Official 3)

Collaboration with parents has been a notable feature of the Research School with parental involvement from the introduction of CFS into the school, and they continue to play a very active role. In this study, the World Café was designed to be an inclusive process that recognised parents as a key stakeholder that have an important role in supporting reform. The changes that came about through CFS, with parents being welcomed into classroom on a daily basis and no longer locked out, offer evidence of the power of including, rather than excluding parents from the process of change.

Developing teacher capacity

Both pre-service and in-service teacher education have a vital role to play in preparing teachers to teach in new ways. With teachers being products of the traditional transmission system, they transfer these ideas to their own practice. This was raised in MoE interviews.

> *I mean unless you made of very purposeful effort to bring those changes into your teaching I think you are very likely to teach what you have been taught* (Official 6).

Professional Development for teachers

If teachers are to teach in new ways they need to learn new ways of working. Therefore training was pinpointed as critical to the success of new initiatives, as captured by Official 1.

> *Training becomes very key and training not only in ICT but really need to know/understand what active learning means…teachers need to be trained in new ways*.

Yet, a number of challenges around the current PD program have been identified: the geographical constraints of conducting training on the islands; the lack of application of ideas from workshops into classrooms; and the amount and method of the training sessions. These are consistent with those raised in Chapter Two.

Geographical constraints

As highlighted in Chapter Two, the geographical dispersity presents a particular challenge for the provision of services in the Maldives. Until the establishment of the Teacher Resource Centres much of the professional development took place in Malé, off-site and at huge expense. This in itself created particular challenges: the expense of travelling to Malé meant only a few select people could be sent and that the motivation for attending PD could be combined with other reasons for attending PD, for example, *providing opportunities to attend to many [other] needs in Malé, let alone the opportunity to meet friends and relatives* (Official 3).

Even with the establishment of the TRCs, travel costs around the atoll also make it difficult for all schools to access PD opportunities equally. Depending on proximity to the TRC in the atoll, schools may have sporadic access to the TRC facilities. I witnessed this on numerous occasions. On one trip to an island within the atoll it would have taken more than 8 hours by two local

ferries. Instead we travelled by speed launch, which shortened the travel time considerably, but such expense can only be utilised on limited occasions.

Whilst the TRCs have helped to decentralise PD, the situation remains that some teachers are selected for TRC training programs, amounting to an 'off-site, one-off' training program (Dembélé & Miaro-II, 2003, p. 354). This approach typically relies on a cascade model of training where these school representatives are expected to facilitate workshops back on their islands. Official 5 stressed the need for schools to recognise their own expertise noting, *unless we actually make schools realize that they need to start on their own some of these things, and then take ownership for this.*

Application of ideas to the classroom

The application of ideas from workshops to the classroom was noted as a problem, particularly by the TRC coordinators, who witness trends across the country and felt there was limited application of ideas from workshop into the classroom.

> *In the last 2 years we have covered all the aspects of teaching almost - active learning, classroom management techniques, everything we have covered but no-one is applying those...very few.* (TRC)

In considering reasons why there is limited application of active learning ideas into practice the TRC coordinators offer some possible explanations.

> *No reinforcement given to maintain it what teachers have learnt from the workshop.*
>
> *Need to do more follow up by the TRCs.*
>
> *Need to do more observation based on the training received.*

The overriding observation is the need for more classroom-based support, which is reinforced by the teachers' responses and is followed-up later.

The structure of workshops

The issue of workshop fatigue was raised with the amount and nature of training being questioned.

> *So I believe these participants go through similar content and experience content overload. Some of them are nominated by the school administration and may not necessarily be personally interested in the workshop itself.*

> *Repeated attendance of multiple workshops, often in similar areas provides what I refer to as workshop fatigue. Due to this there is no added value in additional participation in workshops.* (Official 3)

The issue with the mode of training is further elaborated in some statements, suggesting how the training is/should be conducted.

> *We have included various activities in the module, to facilitate the sessions more participatory because then at least the teachers will see their training more, more participatory and engaged. And that it will be an informal message that we tell them that they can also engage the students in learning.* (Official 6)

This statement encompasses a number of issues – people's reasons and motivation for attending workshops, workshop and content overload, and the lack of value from participating in workshops particularly, when the same ideas are presented.

Classroom follow-up

The need for follow-up after teachers' participate in various workshops was highlighted:

> *Introduce active learning in the classrooms, and then I think right after that the schools should follow it up and see what are the challenges the teachers face. How much are they using it? If they are not using it, what's the challenge they face? How could we help further? … I think what is missing is continuous monitoring programs, rather continuous follow-ups with the teachers.* (Official 6)

As reported by the teachers, workshops were seen as important for their practice but were only useful under certain conditions. They raised information overload, lack of practical application, and most critically they voiced a need to see how innovative practices could work in their classrooms. The need for follow-up support was widely canvassed as a necessary condition for implementing new practices.

Pre-service teacher education and active learning

The challenges at the tertiary level are related to issues with enrolment levels and pass rates for secondary schooling. As Official 1 points out, the low O-level pass rates mean fewer students are eligible for higher secondary, which in turn means low tertiary enrolments, an issue discussed in Chapter Two. This is particularly challenging for a small state where education is so important to its development.

Whilst acknowledging there are a range of institutions offering pre-service programs, the data collected here pertains to the Faculty of Education (FE), part of MNU, which has played a major role in pre-service teacher education since its inception as the Institute of Teacher Education in 1984, as outlined in Chapter Two. The institution has played a critical role in responding to the needs within the country by expanding and restructuring their programs.

As the school sector expands, the demand for more highly qualified teachers risen and FE has responded to pressures including: increasing the number of enrolments; restructuring courses; and enhancing the quality of programs. In 2012 there were 1330 places opened and Official 7 claimed, *that's a huge number for new intake*. He added:

> *Action has been taken to update the structure of the courses on offer. In the environment of serving the needs of a variety of students, some returning to study with teaching experience and some straight from school, FE has responded to these circumstances. Recent changes see the introduction of a staggered approach where teacher education in total is a four year program.*

This structure means that after two years teachers can gain a diploma, after three years an advanced diploma, and in the fourth year they can complete the degree program. Consequently, as explained by Official 7, this means teachers can leave FE and later re-join to complete the program.

Pre-service courses have a role in preparing teachers to understand and respond to changing pedagogy. From a FE lecturer's perspective, the promotion of active learning is modelled through subjects taught.

> *In the form of tutorials, for many content subjects students get the chance to talk about, apply and reflect on their learning. Also, for many subjects using workshop style sessions where lots of short activities are given for them to discuss and present. There are some subjects where they do things to understand, for example in science subjects they do practical work to understand concepts. Similarly they go on field trips to get a deeper understanding.* (Official 8)

Yet, the challenges of introducing a new pedagogical approach is demonstrated when FE students do their teaching practicum, as raised in Chapter One. It is here that theory and practice come face-to-face when students can experience opposition in schools to trial active learning strategies they have learned:

> *When the faculty trained teachers to promote active learning, when they go back to schools they are not allowed to practice what they have learned* (Official 6).

> *It is someone else's class and students are used to a particular method of teaching and are reluctant to change. They get only 4 weeks to change. They are not free to do what they want but everything is planned for them.* (Official 8)

This makes it difficult for these future teachers to enact active learning pedagogy during their pre-service training, which in turn has consequences for these teachers' ongoing practice.

Policy development

The particular way policies are announced points to a larger issue discussed in Chapter Two and reinforced by a former high-level official:

> *I can recall that policies have been broadcast over the national radio or television without even proper policy documentations within the Ministry. It is indeed unfortunate that at times senior policy or managerial level MoE staff has been denied the benefit of documents when some polices have been announced.* (Official 3)

This has implications for related stakeholders and institutions as *government policies are changing without real consultation* (Official 3). For example, a MoE announcement that secondary schools would be established in every atoll came as a *political surprise* (Official 7) and has implications for the teacher training targets.

The consequences of such actions for schools, is revealed in the following statement:

> *The absence of policy documents often makes those working in schools at a loss. They would find it very difficult to communicate the changes to parents with whom they are in immediate contact and on an ongoing basis.* (Official 3)

When I inquired about the policy on active learning I was directed to the Child Friendly Baraabaru Schools quality assurance document (Ministry of Education, 2010b). Yet I found that teachers in the school were not familiar with this document. As noted in this study, there is an absence of a clear policy about active learning. Whilst active learning is widely spoken about in the education sector a lack of clarity in policy can only lead to a lack of clarity in practice.

Collaboration between institutions

Whilst these concerns have implications for schools Official 5 asserts that greater collaboration is necessary. He believes the evolution of the NCF

> *took a different course where a process of collaboration was established through the formation of the steering committee that included all relevant stakeholders (CCE, ESQID, FE, Planning) so everybody knows what we are trying to do for the next few years.* (Official 5)

So while this demonstrates that consultation and collaboration are possible, they are also part of an evolving process. Yet Official 5 states, *I would like to say it is not going the extent we would like it to go*. The formation of the National Institute of Education in 2013 has brought several independent agencies and divisions together within the MoE under one organisation and according to Official 6:

> *And this is a quite prime time for CCE [Centre for Continuing Education] and EDC [Educational development Centre] to work together because the present administration is going to merge CCE and EDC.*

One goal is to facilitate greater collaboration between institutions, with the roll out of the NCF being an example.

Facilitating change in the Maldives

Across the MoE interviews, personnel articulated a vision for active learning. In the absence of a clear policy and definition of active learning, I wanted to understand if the vision implemented in the school corresponded with views within the MoE. The concept of active learning arising from the MoE interviews is presented in

Table 37. Whilst these responses were not elicited through the same processes as the World Café, there are clear areas of overlap with the priorities and perceptions articulated by the school community in the Research School.

Table 37: A vision of active learning from participants within the Ministry of Education

Student involvement	Teacher role/responsibilities	Student thinking
- *Involves students in different ways* - *Student's activity engaged* - *More group work and pair work* - *Students do something practical and constructive* - *Discussion an important element*	- *Teachers as facilitator – students doing practical work* - *Teacher guides, gives some assistance/hints* - *Give different choice for students* - *Bring differentiation – make teaching for different levels* - *Teacher provides problem and students solve* - *Students do more work – teacher facilitates* - *Give extra coaching to students who unable to do the work* - *More open-ended questions*	- *Students think and share how they think* - *Teachers give time to think* - *Activity should involve student thinking* - *Children think and do something* - *Students do something to show understanding* - *Engage in making some knowledge*

The vision of active learning presented in this table is also similar to the aspirations expressed by the teachers at the start of the intervention phase, which were explored in Chapter Six. Teachers' understanding of active learning evolved over the intervention period evidenced by the range of self-initiated queries they made regarding their use of the intervention, along with their reflections on using the innovative practices in their classrooms. The primary teachers demonstrated what is possible in classes, beyond the traditional CFS grades. They took this concept well past the typical grade levels that CFS and active learning are associated with and applied it to subject-based teaching.

Through the 'we do' strategies teachers created opportunities for students to discuss and generate their own understanding with their peers and through this dynamic began to break down the one-way transfer of information that has typically driven teaching, particularly in the higher grades. Two years after the intervention phase teachers have maintained positive attitudes towards the instructional model and it continues to guide their lesson structure. They continued their use of the 'we do' strategies, albeit less often they have, on their own initiative, embraced change in their teaching. In doing so, they demonstrate what is possible in the Maldivian education system, despite the many challenges outlined in this chapter.

Chapter Summary

This chapter presented an analysis of factors influencing the use of the intervention strategies. Drawing on Bronfenbrenner's ecosystem model, different spheres of influence on teachers' practice were identified. Part one elaborated details of factors, identified by teachers in the Research School, as influencing their use of the GROR instructional model and 'we do' strategies. These factors generally pertained to teachers' direct experiences of working in the island school and their perspectives on what supported their use of the intervention. Personal, school and island factors were identified along with system level factors as impacting on teachers' work.

The supporting factors included: the user-friendly nature of the instructional model, the need for access to new teaching ideas; connecting new ideas to classroom practice through team teaching opportunities; peer support and assistance with lesson planning; explicit endorsement and mentoring from school leadership; practise and use of the innovation with positive experiences; and making use of available resources. A number of inhibiting factors were identified which encompassed the need for changing established routines, the structure of the existing schemes of work, a lack of adequate teaching resources, times pressures in preparing and planning for active learning, knowing how to cater for all students, difficulties with managing new classroom arrangements and lack of practical knowledge from workshops.

In Part two, MoE and other system level interviews provided perspectives on the broader factors at the ecosystem level that have impacted on using active learning methods in practice across the country. These factors included how policy is enacted, teacher salary and working conditions, how lesson planning is routinised in schools, the role of school leadership in facilitating change, the presence of large numbers of expatriate teachers, assessment pressures and a lack of collaboration between education institutions.

In Chapter Eight, the findings from the results chapters are discussed in response to the question 'What works for whom under what circumstances?' This leads to the theoretical outcomes, in the form of design principles, which have evolved from this study.

CHAPTER 8: DISCUSSION – WHAT WORKS FOR WHOM UNDER WHAT CIRCUMSTANCES

What works for whom in what circumstances and in what respects, and how? (Pawson & Tilley, 1997, p. 2)

Introduction

The implementation of active learning approaches has been reported to be problematic with 'the debris of faulty and failed projects and programmes' (Mohammed & Harlech-Jones, 2008, p. 48), well-documented across multiple contexts. Acknowledging this, there is a need to move the debate beyond the all-too-predictable problems (Schweisfurth, 2011) and recognise that much is known about what does work, but that this knowledge is frequently ignored (Mohammed & Harlech-Jones, 2008). Embracing rather than ignoring such knowledge, this design-based research (DBR) studied active learning through the development of a pedagogical intervention. The intervention, developed as a 'promising solution' derived from the literature, and contextually grounded by reflecting and respecting local perspectives and priorities, identified through a contextual analysis phase.

The intent of DBR is to trial possible solutions, and to explore the conditions under which each works (Schoenfeld, 2009). In exploring rather than muting the complexities of the context (McKenney & Reeves, 2012), the investigation aims to reveal the factors that both support and inhibit the innovation. Furthermore, DBR acknowledges the various layers of influence impacting teachers' practice and the influence of the interacting education system (Zawojewski et al., 2008). As such, this study, using a DBR approach, responds to Schweisfurth's (2011) call for a move beyond bland statements to a more detailed analysis of what works, for whom and how.

In seeking to address implementation challenges of LCE reform, both the immediate island context and surrounding system were studied. Schweisfurth (2013b) asserts that the global context cannot be segregated from practical realities and local desires. Small states, with their distinctive characteristics, reveal more acutely the limitations of the one size fits all when it comes to educational reform. Small states have particular needs and priorities due to their size,

and it may well be that these distinctive characteristics serve to illustrate the need for innovation to be locally grounded (Crossley, 2012) and adapted to local circumstances. In fact, Veenendaal and Corbett (2014, p. 1) specifically consider this in their article 'Why small states offer important answers to large questions'. Likewise, Crossley and Sprague (2012) maintain that research on education in small states illustrates how and why contextual factors deserve greater attention. They conclude that learning from small states 'can play a strategic role in challenging global tendencies towards uncritical international transfer of educational policy, practice and development modalities – while contributing innovative and pioneering experience from which others can learn' (Crossley & Sprague, 2012, p. 36). This DBR study takes place in a small island developing state (SIDS) with particular emphasis on the contextual features influencing teachers' classroom practice in the intervention phase.

This chapter discusses the findings reported in the previous three chapters: Chapter Five, the contextual analysis results and the intervention design; Chapter 6, teachers' use of the intervention; and Chapter 7, influencing factors that supported or inhibited the intervention in light of broader contextual features of the Maldives. This discussion chapter is presented in three broad sections, drawing together what was found to work and under what circumstances for this group of teachers. Related to active learning reform, the chapter specifically considers the nature of the reform itself and the salient features of the pedagogy found to influence its use, how the new pedagogy is implemented, and how the change process is managed. Finally it focuses on teachers and how they can be supported to learn and enact the new pedagogical approach in their classrooms. Therefore, instead of asking 'Whether the intervention worked?', I, instead frame the discussion around 'What worked for whom and in what circumstances?' (Pawson & Tilley, 1997). With teachers placed at the centre of this study, the question of 'For whom and in what context?' is explored first. Building on the findings presented in Chapter Six, the question of 'What works?' is then considered, discussing teachers' enactment of the intervention and what this reveals about the possibility of active learning reform in the Maldivian context. Finally, since DBR specifically attends to the contextual complexities; the active learning intervention is discussed not simply in terms of whether it worked, but with a focus on what works under what circumstances, which is explored in the final section drawing on Bronfenbrenner's ecological framework and the findings reported in Chapter Seven. As indicated in Chapter One, design principles occupy a key place in thesis. In this chapter nine

design principles, emerging from this study, are discussed in response to the question 'under what circumstances'.

For whom and in what context?

In answering the question 'for whom?' when drawing on Bronfenbrenner's ecological model teachers' work is recognized as part of a system. What works in the Maldives varies for different stakeholders according to the island setting, the mesosystem, and the decisions individual teachers make about what is enacted in their classrooms. Ensuring that the intentions of pedagogical reform move beyond policy rhetoric and find a place in teachers' classrooms (Schweisfurth, 2013b), the critical role of teachers' must be acknowledged (Villegas-Reimers & Reimers, 1996), including their needs and also their capacities (Schweisfurth, 2015). Any classroom innovation needs to be adopted, adapted, and applied by individual teachers (Dembélé, 2005, p. 327). The characteristics of Maldivian teachers are important, drawing attention to the specific contextual features in which teachers work in the Maldivian education system. Consequently it is important to recognise the barriers confronted in this small island state with its geographical dispersion and nascent education system.

From a global perspective, many nations confront a reliance on unqualified and under-qualified teachers to staff schools:

> As a result of the Millennium Development Goal of Universal Primary Education (UPE) and the related Education for All goals, massive recruitment of untrained and less educated schoolteachers has taken place in many low and middle income countries. In many places this has succeeded in meeting the demand caused by vastly expanded pupil enrolment, but there are concerns that it has led to poorer teaching and learning outcomes. Against this background, there is an urgent need to understand better the processes and outcomes involved in the classroom performance of these kinds of teachers and to investigate the various ways in which such teachers may be provided with a belated education, training or upgrading. (Orr et al., 2013, p. 12)

The Maldives has seen a period of expansion, having achieved Universal Primary Enrolment in 2000 through a political commitment to the provision of primary education on each inhabited island. The provision of O-level grades on each island has added a further layer of expansion. This has resulted in under-qualified and unqualified teachers being spread across the islands and the employment of large numbers of expatriate teachers to meet the shortfall. As a small state,

facing a shortage of human resources, the Maldives has managed the shortage of teachers in this way. Therefore, any reform needs to be addressed in relation to the particular characteristics of the teachers within the Maldives and the stage of development of this education system (Beeby, 1966).

Whilst Beeby's (1966) typology of stages has faced criticism for being too simplified, it does provide a framework for the ongoing analysis of the role of context in this study, and specifically draws attention to the system within which teachers work. The stage of development of the Maldivian education system, as raised in Chapter Two, describes most teachers as typically working at a mechanical level and following set routines. The numbers of unqualified and under-qualified teachers in the country have been influenced, not only by the island geography, but also as a product of the history and structure of the Maldivian education system.

The disparity between Malé and island schools means that not all islands are equal in terms of the provision of education. The Research School, stood up well within the atoll but was located nationally within a poor performing atoll (Aturupane & Shojo, 2012) as outlined in Chapter Four. The atoll has a low concentration of tourism meaning employment opportunities within the atoll are more limited than in other resort rich atolls. The school's location near the only resort in the atoll meant collaboration with the resort was easier, seen in the new O-level tourism stream which was being planned for 2013. The island does not face the same drug problems afflicting many other islands both in the atoll and across the country. This means the school is not constrained by having to deal with the repercussion of drug addiction.

Moreover, as the Atoll Education Centre (AEC), the Research School plays a special role within the atoll as an education hub as well as hosting the location of the Teacher Resource Centre (TRC). However, the Research School still faces the challenges of isolation as it does not have easy access to Malé. In 2012, there were no regular, scheduled boat services to the capital. Within the atoll and the spectrum of 'richer and poorer' islands, the school has a rich history in education, reflected in the number of teachers holding qualifications. Against the country profile of unqualified teachers remaining in the system, predominately in island schools, the Research School has fully qualified teachers, at least to Advanced Certificate level. In light of the new teacher licensing system, discussed in Chapter Seven, some teachers will now be obliged to

upgrade to Diploma level, presenting other challenges around access, distance and expense to higher education opportunities. The principal hopes to eventually replace all expatriate teachers with local teachers, as more islanders complete their qualifications. Such an aspiration showcases the value of education within this island. The school has demonstrated how it can harness the impetus of the community to innovate. This was shown by how CFS was adopted and adapted into the school and how a tourism stream was conceived and is being proposed in collaboration with the nearby resort.

It would not be possible to respond to the question 'for whom?' without raising the consequences of large numbers of expatriate teachers in the system[10]. Whilst expatriate teachers did not participate in the intervention phase of this study, their presence in the school is acknowledged. The influence of large numbers of expatriate teachers was discussed in Chapter Seven. One Ministry of Education (MoE) official drew attention to this issue saying that

> *Expatriate teachers and their own attitudes to teaching and schooling are a strong weighing influence within the system and the role of expatriate teachers' influence the extent to which innovation can be brought about.* (Official 3)

Expatriate teachers tend to be employed in harder to staff schools as the strong island culture of the Maldives means teachers return to their own island and give back to their community. Consequently, compared to the Research School with its committed staff and strong educational history, promoting change in Maldivian schools with higher numbers of underqualified teachers and expatriate teachers will no doubt be more difficult, particularly taking into account the constraining influence their presence is said to have.

The 'islandness' of the Maldives poses specific challenges for teachers when they face the challenge of isolation, particularly when located in schools on outer islands that are further from Malé. Like many small states where the capital is overwhelmingly dominant (Royle, 2001), the proximity or exposure to Malé has an impact on teachers' and schools' access to various resources such as higher education opportunities, Malé based workshops, bookshops, libraries etc. Therefore, teachers' capacity and opportunity to engage with colleagues and learning opportunities, is influenced, at least in part, by their geographic location. This can be combated by access to the Teacher Resource Centre in each atoll, but travel options, expense and distance

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[10] In 2012, the Research School had 26 local teachers and 17 Expatriate teachers (16 Indian teachers and 1 Pakistani teacher).

can be a barrier depending on a school's location within the atoll. In light of the disparity between Malé and island schools, the perspective of Johnson et al. (2000, p. 190) is relevant here. Referring to Beeby's (1966) typology of stages, they advocate that the mechanisms of change appropriate at one stage may be inappropriate at another stage. In focusing this study on an island school and in answering 'for whom?' the profile of teachers within this study, has been recounted in light of the broader education system and teacher qualifications across the country. Identifying these broader descriptions of Maldivian teachers allows the actions and characteristics of the island teachers, within this study, to be conceptualised more specifically.

What works? Teachers' enactment of active learning approaches

The power of DBR is that the findings reveal, not only what teachers say, but what they actually do (Zawojewski et al., 2008, p. 229). Chapter Six, which includes the details of teachers' enactment of the instructional model, portrays a powerful narrative of teachers' willingness to trial new strategies, providing a rationale for teachers' actions during the intervention phase and concludes with a retrospective analysis against Schweisfurth's (2013b) LCE minimum standards. Two years later, teachers were continuing to use the intervention strategies in some form. It is a significant finding, since changing teachers' practice is a complex undertaking, illustrated by the many implementation challenges outlined in Chapter Three.

The question of 'What works?' is central to the study. Informed by recommendations in the literature and the findings from the World Café, the intervention was proposed as a promising solution to the ongoing challenges of LCE reform and tested in the authentic setting of an island school. Recognising that 'if change does come, it will be in a form moderated locally' (Schweisfurth, 2013b, p. 133) and that in doing so different aspects will be prioritised in how LCE is adapted in different contexts. Accordingly, moving beyond a simple articulation of success or failure to develop a more refined understanding of LCE may help shift the narrative of 'teachers failing to change' (Hallinger & Lee, 2011, p. 140). It would, therefore, seem necessary to focus on the potential rather than the shortcomings of teachers (Akyeampong et al., 2006, p. 171) in their enactment of the GROR model. As Schweisfurth (2013b, p. 152) asserts, 'it would be good to know about HOW, and WHICH LCE methods are promoted, and to what effect'. In this study the teachers' actions afford a narrative of what is possible in a Maldivian

school as well as providing insights into the practices the teachers most valued, found most useful, and why, as presented in Chapter Six.

Teachers in this study both celebrated and prioritised student participation and their post-lesson reflections consistently foregrounded this as an important feature in their lessons. Perhaps crucially in this argument expanding teachers' repertoire beyond a reliance on traditional transmission model to include greater student participation and group discussion is difficult to achieve, as Dembele and Lefoka (2007) attest in their discussion on pedagogical renewal in Sub-Saharan Africa. As reported in Chapter Six, student participation, was viewed by teachers as essential to the lesson outcome. Therefore, whilst prioritising participation, they demonstrated that it could be used as an avenue for learning, not simply as an end in itself. Chapter Six, ended with an overview of Schweisfurth's (2013b) minimum LCE standards analysing the study's findings against this framework. Emphasis was placed on engaging students by facilitating their active participation (standard 1) and the extent to which students were able to actively participate was used to determine the success of the lesson.

Participation was also used as means to engage students and promote discussion and dialogue between students (standard 4) with the goal of engaging students. These teachers' actions can be contrasted to findings from Turkey and Uganda where Altinyelken (2010, 2012) reports that participation may be highly prized, yet choral answers remain entrenched and teacher questions focused on basic recall of information and where participation of students is framed in procedural terms rather than as an aid to learning (The World Bank, 2008). By contrast, in this study teachers articulated the importance of student participation and dialogue, as critical to the successful outcome of the lesson. This depicts a shift from the sort of teaching that is done *to* students to an approach that is done *with* students, revealed in this study by the way in which the teachers explained and used the GROR model. The emphasis on teaching as an interaction demonstrates a subtle shift in the role of the teacher, and aligns with the findings of Westbrook et al. (2013) where pedagogy is framed as a social process that is jointly accomplished, rather than a one way transmission of information.

For primary teachers especially, embedding greater participation in the lesson was a definite break from established routines and traditional structures, epitomised by one teacher's surprise that students could solve a Maths problem through a cooperative learning strategy without her

explaining or modelling the task (see Box 10). The notion of teachers as the source of all knowledge is a powerful one, particularly when teachers have experienced this pedagogy as learners (for example, Altinyelken, 2010). This Maths example illustrates teaching as an interaction *with* students, a rationale teachers outlined in their explanation of the GROR model. In particular, the 'we do' strategies helped teachers structure lessons so that students had opportunities to engage in dialogue with each other and develop cooperative learning skills. This accords with the LCE minimum standards, emphasising standards 1 and 4, while also revealing the importance of standard 2 and the breakdown of the traditional teacher-student relationship and the high priority given to flexibility, best illuminated in CFS classes, where the freedom for students to sit anywhere was highly valued.

In bringing about change in the classroom, teachers need to develop an expanded repertoire of teaching strategies, as proposed through the intervention strategies, that are responsive to the needs of the students (Lee, Hung, & Teh, 2015), and which they can call on according to the learning intentions (Hardman et al., 2008). The notion of adaptive expertise (Hammerness et al., 2005), raised in Chapter Three, focuses on teachers balancing the dimensions of efficiency and innovation, that is learning to use routines more efficiently but also adapting them as required, based on informed decision-making. Expertise in the efficiency dimension means being able to perform tasks without having to stop and think too much about how to carry them out. Expertise in the innovation dimension means being able to move beyond existing routines. Not losing sight of the context and the question of 'for whom', according to Beeby's (1966) typology of stages, teachers moving out of the mechanical stage and into the routine stage may teach in a routine way, but may have an expanded pedagogical repertoire to select from. The teachers, throughout the intervention phase were able to enact new strategies, including opportunities to select which of the various 'we do' strategies were best suited to the learning intentions of their respective classes.

Importantly, as Elmore (2004, p. 173) purports, improvement is 'a function of learning to do the right things in the setting where you work'. The intervention in this study revealed that teachers were willing to embrace the GROR planning model and the 'we do' strategies as novel approaches that expanded their pedagogical tool-kit and structured their teaching around the three phases of the model – 'I do, we do, you do'. In their overall findings, Westbrook et al.

(2013) reported that the flexible use of whole-class, group and pair work was effective when used in ways that supported communicative practices. The aforementioned maths example, among others, aligns with the findings of Westbrook et al. (2013) that effective teaching practices involve students working together on a shared task and having the opportunity to use materials other than the textbook. Designing such shared tasks was essential to the effectiveness of group and pair work. Through trialling the 'we do' strategies, teachers' revealed a growing awareness that cooperative learning was more than putting students in a group. Teachers drew attention to the need to strategically group students, provide clear instructions, and prepare adequate questions and tasks to be completed as a group.

The teachers' preparedness to rely less on lessons built around teacher talk and knowledge transmission highlights their newfound emphasis on using dialogue (Standard 4), making lessons engaging (Standard 1), and fostering greater student participation and cooperative learning. The importance of pre-planning tasks, to work effectively for cooperative learning, was raised by teachers as they built up a bank of experiences implementing the 'we do' strategies. Recognising when the task was not adequately prepared indicates teachers attending to the quality of the task and outcomes for students. As Teacher A reported, *the text/information given should be fit for their level. I prefer easier one for them next time*. The teachers in this study did highlight, in their reflections, a capacity to identify elements of a lesson that were not successful and articulate positive professional experiences when the new strategies were enacted in ways the teachers deemed successful. This reveals their professional development in applying a greater repertoire of strategies (see Chapter Six).

The teachers' recognition of the importance of pre-planning tasks, consideration of grouping students and the necessity to provide clear instructions, are examples of teachers' perception of the shift in their role. They associated these actions with being a facilitator of learning, consistent with Hattie's notion of 'activator' (2009), where teachers manage the learning of students and are responsible for students knowing what to do and how to do it. This contrasts with the findings of Nykiel-Herbert (2004), where LCE was often misconstrued to mean that students can learn for themselves. The teachers' awareness that effective group work is more than arranging students to work in a group, indicated in their lesson reflections, and that active

learning is more than promoting activity in the class are examples of this growing understanding of what it means to be a facilitator of learning.

These examples reveal the extent to which teachers have moved beyond relying on using the *forms* of active learning and are attending to the *substance* of active learning; specifically identified in Chapter Two as applicable to the Maldivian context. Going into the intervention phase, I already had a strong sense of the difference of the *form* and *substance* of active learning from my earlier experiences of working with Maldivian teachers. I had observed them using group work as an instructional strategy when the task could have been completed individually. The group work structure was simply a *form*, an arrangement that teachers thought equated to active learning. It was this receptiveness to group work that promoted the use of the 'we do' strategies in the intervention phase to help facilitate cooperative learning and move from group work as a *form* of active learning to attending to the *substance* of active learning by focusing on the cooperative learning elements. Whilst the 'we do' strategies were not always put into full use, as documented in Chapter Six, they demonstrated teachers expanding their pedagogical tool-kit. This also provides support for the argument that change in teachers' practice will come through taking incremental steps (Leyendecker et al., 2008; Raval, 2010) and develop through 'approximations of practice' (Grossman et al., 2009).

In answering the question of 'what works', I concur with Johnson et al. (2000, p. 190) that each and every modest step counts when changing teaching practices in developing and middle-income countries, acknowledging the stage of development of the education system. Having already established the limitations of the simplistic binary of contrasting teacher-centred with learner-centred education, this study was designed to investigate active learning within the framework of a continuum, as detailed in Chapter Five. Indeed, Schweisfurth (2013b, p. 133) contends that LCE is a multi-faceted phenomenon and that context shapes which elements policy-makers and practitioners buy into. Moving beyond accounts of success and failure, the teachers' desire to increase student participation in their lessons and extend their repertoire of instructional strategies do show an orientation towards active learning in light of the definition provided in Chapter One. In accordance with Schweisfurth's (2013b) minimum standards, the teachers' practice revealed some adherence to each standard. However, they prioritised Standard 1 in their aspirations for better student engagement and participation, Standard 2 in

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working to develop friendlier teacher-student relationships, and Standard 4 in their emphasis on cooperative learning and opportunities for student dialogue. Their focus on these Standards also demonstrates a shifting of the cognitive load – the gradual release of responsibility model – from relying on teacher transmission mode to providing students with activities that facilitate dialogue and learning through the opportunities created by teachers.

Under what circumstances: Identifying facilitating factors

The need to tailor reform to the particular contextual conditions has been a driving principle for this study. Therefore, this section explores what a culturally sensitive and contextually relevant approach to active learning reform could look like in light of the unique contextual features of the Maldives. The question 'Under what circumstances?' is the focus of this section, specifically considering the facilitating factors in teachers' use of active learning within the Maldivian education system. The intervention phase and the study of operationalising the model in the Research School are considered in light of 'not only the immediate context, but the surrounding systems' (McKenney & Reeves, 2013, p. 171), a feature of DBR. This approach recognises that teachers work within a system, and therefore the enactment of active learning approaches in their classrooms are influenced by factors outside the classroom, as conceptualised within the ecological framework presented in Figure 10 (Chapter Three).

First, however, I consider the model of active learning and its rationale since the scope of the reform itself has been reported as problematic, given the difference between what is feasible and what is desirable has frequently been ignored (Schweisfurth, 2011). This section draws on Bronfenbrenner's (1979) nested ecological model to discuss the contextual features and the multiple layers of influence across the school, island and national contexts. Whilst this model presents a useful conceptual framework, it is not always possible to untangle the boundaries for each layer of context. Whilst acknowledging this, the following levels are considered: the teachers (the mesosystem); the school (the ecosystem); and Ministry of Education and system level influences (the macrosystem). A discussion of the global context for active learning is then undertaken. Each section ends with a series of design principles derived from the findings reported in Chapters Five, Six and Seven and developed in light of relevant literature, thereby contributing to the theoretical outcomes of this DBR study.

Active learning reform: Moving from conceptual ambiguity to operational clarity

The difficulties for teachers in translating the concept of LCE into practice (O'Sullivan, 2004), can be attributed, at least in part, to the unclear and unrealistic mandates of learner-centred pedagogical reform (Lattimer, 2015; Schweisfurth, 2011). Presented in language and concepts teachers do not fully understand (O'Sullivan, 2004), LCE has been poorly understood (Schweisfurth, 2013b), resulting in conceptual ambiguity for teachers. Fullan's (1996, p. 420) notion that clarity must be achieved on the receiving end is important here, recognising that the reform itself needs to be conceived and articulated in terms that are accessible to teachers. The GROR model provided a structured framework assisting teachers to craft lessons in new ways. The teachers saw the model as easy to use, as outlined in Chapter Seven. The structure and user-friendliness of the model is one of the key facilitating factors highlighted by teachers. This gives support to the view that structure may be a critical facilitating factor (Dembélé, 2005), and the necessity to clearly and practically spell out what should be achieved (Leyendecker et al., 2008).

Leyendecker et al. (2008) contend that changing classroom practice does not work by replacement, but by incremental change over sustained periods based on their discussion of reform in Sub-Saharan Africa. The problematic implementation of the original CFS model in the Maldives (Wheatcroft, 2004) is testament to the limitation of this 'replacement' approach. Not only was the original model of CFS, the Gonoshahajjo Sangshta (GSS) approach from Bangladesh, not contextually relevant for Maldivian teachers, but it was too far removed from their existing practice. This point, raised in a World Bank study (Leyendecker et al., 2008), determines that if the intended changes are too ambitious and far-reaching they cannot be implemented in a single step. As highlighted in Chapter Five, the Research School took a different, proactive approach to CFS implementation in 2005, deciding that the GSS model, as it was presented, was not suitable for their school. They adapted it accordingly, by planning for change and working collaboratively with different stakeholders in the school.

Likewise, the GROR instructional model in this study was adapted to the school, making the language and concepts accessible to the teachers. Subsequently, teachers were able to articulate their understanding of the instructional model and explain the purpose of each section as presented in Table 24 (Chapter Six). Given the well-documented difficulties of teachers being

able to translate the LCE concept into practice (Hopkins, 2002), the teachers' explanations provide evidence of the model's conceptual accessibility. The GROR model was designed to not only provide clarity for the teachers, as discussed earlier, but to provide a structured framework as proposed by Dembélé (2005) that builds on their current practice and breaks down the broader concept of LCE into simple learner-centred approaches (O'Sullivan, 2004). The effectiveness of the GROR model's stepping stone approach was found by Raval et al. (2014) to be effective in supporting Indian paraprofessional teachers in adopting new teaching practices that promoted a shift away from traditional transmission pedagogy.

Similarly, Rogan's (2007) zone of feasible innovation (ZFI) advocates an incremental approach to reform. The ZFI underpinned the intervention design in promoting change in small steps, building upon teachers' current practice and providing a balance between what is desirable and what is feasible. This resonates with Schweisfurth (2011) contention that LCE in its 'pure' form may be inaccessible, and that a drift towards LCE may help address implementation challenges. The GROR instructional model allowed LCE to be broken down into achievable approaches, as with the Indian paraprofessionals, demonstrating the usefulness of conceiving of the innovation in a form that 'builds on existing pedagogical practices rather than attempting (fruitlessly) to usurp them' (Schweisfurth, 2013a, p. 6). For the primary teachers, in particular, the GROR model provided a framework for practice that maintained a clear role for teachers and connection to their subject knowledge through the 'I do' phase, and a clear place for teacher instruction and explanation. Teachers also highlighted that the model helped them view teaching as an interaction, something that is done in conjunction with students, as reported in Chapter Six. Viewing teaching in this way aligns with the findings of Westbrook et al. (2013) and the previously mentioned importance of the communicative aspect of pedagogy.

The teachers clearly articulated that the GROR model was user-friendly and easy-to-follow. In light of Chapman et al.'s assertion (1997) that people involved in change need to see the advantages of adopting new methods, the GROR was perceived by teachers as assisting them with their work. According to Rogers' (2003) concept of the diffusion of an innovation, he argues that certain factors affect the rate of adoption. These are relative advantage, compatibility, complexity, trialability and observability. Within this study, relative advantage and compatibility were found to be strong influences, as revealed in teachers' comments around

the facilitating factors reported in Chapter Seven. Relative advantage is where people perceive that the innovation has some advantage over the preceding idea it replaces, as demonstrated by the teachers' receptiveness to the intervention. Compatibility refers to what extent the innovation is compatible with existing values and experiences and is consistent with the notion of the ZFI. As reported in Chapter Seven, teachers claimed that the instructional model was easier to use than the practice it replaced, pinpointing the well-defined steps and structure. Teachers responded positively to this hybrid approach as it allowed them to continue using teaching approaches they were comfortable with, namely teacher instruction and student individual work, alongside group activities, making the model more compatible with the circumstances of their work. Also supporting this idea, Williams and Cummings (2005) contend that new information must somehow build on existing understandings of the people involved and work within the given context to be useful. Where LCE buy-in has been reported, there has been mediation of LCE practices to fit the local context (Schweisfurth, 2013b)

Developing a distributed model, as a promising solution in this study, has shown that the structured 'hybrid' approach was perceived by teachers to offer both 'relative advantage' and 'compatibility' with their working circumstances. This subscribes to O'Sullivan's (2004) argument that learner-centred approaches need to not only fit with the working conditions of teachers but be presented in simple realistic practices, allowing teachers to move between established practice and the new approaches. Therefore, three design principles are now identified (Box 11), contributing to the theoretical outcomes of this DBR study regarding the configuration of the active learning innovation in light of the well-documented implementation challenges.

Design principles: Active learning intervention design characteristics
From conceptual ambiguity to operational clarity

Develop a contextually relevant model

The model of active learning needs to reflect and respect local priorities, fit with the circumstances of teachers' work, and take into account the available resources.

Building upon the findings from the World Café, the active learning intervention was designed to honour the priorities articulated by the school community – an increase in student participation in lessons, opportunities for group work and discussion, and catering for the needs of all students with the teachers' role expanding to become a facilitator of learning within a friendly classroom environment. The model was found to be compatible with teachers' work and offered teachers relative advantage – it helped not hindered them in their work.

Balance what is desirable and what is feasible

The model of active learning needs to be conceived within the zone of feasible innovation, promoting a staggered approach to reform so teachers can build on their current practice.

The GROR instructional model offered a hybrid approach that incorporated instructional practices that teachers were familiar with and new practices. The 'we do' strategies provided teachers with a structured approach to facilitating cooperative learning, building upon a receptivity for using group work and a desire to increase student participation.

Provide operational clarity for teachers

The model of active learning needs to be clearly and simply articulated, providing practical guidelines within a structured approach.

The GROR model was found to be practically structured, user-friendly and easy to follow. Its structure and language were revised in consultation with teachers in an effort to provide operational clarity. The new practices were then presented in language and concept accessible to the teachers.

Box 11: Design principles for active learning intervention

Teachers: From knowledge to practice to refinement of active learning methods

Good ideas do not travel on their own into classrooms (Leyendecker et al., 2008). In developing new ways of working Brock (2009) argues that some amount of 'disruption' to the status quo is required to create new models of practice, and that external support is a necessary factor in unfreezing outdated practices and stimulating change. The well-documented knowledge-practice gap explored in Chapter Three exposes the limits of the assumption that knowledge leads to behaviour change (Patton, 2008). Whilst teachers need access to new ideas, as demonstrated in this study, translating this new knowledge into classroom practice is a more complex undertaking. As Williams and Cummings (2005) emphasise, knowledge alone is rarely sufficient to bring about the desired change in their analysis of education reform in developing countries. Referring to learner-centred reform Schweisfurth (2015, p. 261) writes:

The terms learner-centred emphasises the needs and experiences of learner – teachers' needs and capacities shape pedagogical change and attempts at reform will lead to disappointing outcomes if not sufficiently acknowledged.

Addressing the policy-practice gap and bringing reform into the classroom requires acknowledging the key role of teachers (Villegas-Reimers & Reimers, 1996). Lattimer's (2015) study in Kenya aimed to build connections between theory and practice for teachers in which she asked 'what are the practical steps?' It is such practical steps, as evidenced through the teacher actions in this study, that form the focus of the following section: the various ways in which teachers accessed new knowledge and ideas around active learning; under what conditions teacher began enacting reform – turning knowledge into practice; and finally how teachers refined their use of the innovation.

Knowledge: accessing new ideas

The need to have access to new ideas was strongly voiced by teachers. Workshops have been the typical mechanism by which teachers in the Maldives are exposed to new ideas, such as during the implementation of CFS and the lead up to the new National Curriculum Framework (NCF) (McNair, 2009; A. Shareef, 2007). Teachers' in this study viewed workshops as a necessity for learning and enacting new teaching methods. Yet, there are tensions in this view, as teachers also articulated difficulties with translating ideas from workshops into classroom practice. These difficulties were raised in Chapter Seven and fall into the following broad areas: the design of the workshops; the structure of off-site workshops; translating ideas into action in teachers' classrooms; and the importance of follow-up classroom-based support. From teacher comments it is clear that workshops covered a diversity of ideas through intense sessions, which are designed to be time and cost efficient but in effect were a barrier to operational clarity. The idea that 'less may be more' (Leyendecker et al., 2008) may well be a critical point. It appears that ideas from workshops are not always accessible to teachers for reasons, such as density of information, lack of modelling, and the distance from the classroom to off-site workshops, all reported in the literature as constraints and discussed in Chapter Three.

In their systematic review of professional development practices for untrained and under-trained teachers, Orr et al. (2013) raise the possibility of using self-study materials with practical activities to supplement workshops. They found that workshops were most effective when they

were used for a specific purpose, had smaller number of participants, were not focused on transmitting knowledge through lecture mode and where self-study materials and practical activities could support teachers at a distance. These considerations are consistent with the promising solutions outlined in Chapter Three, recognising that teachers need to experience the pedagogy in their training, rather than facing contradictory messages where the workshop itself adheres to transmission principles. The necessity for targeted, carefully organised workshops is a recurring theme. In Chapter Seven, it was reported that teachers faced difficulties with workshops when too many ideas are presented in one PD day. This can become a deterrent to enacting the ideas presented. Yet, due to the dispersion of the islands, the cost of drawing teachers to a central location, either Malé or within the atoll, means that PD days are frequently conducted in this way to justify the expense of travel and accommodation. Consequently workshop fatigue, as raised by one MoE official, and ensuing information overload, do not foster operational clarity for teachers. Teachers need 'policy specification and coherence', focusing on 'what is feasible within the existing conditions' (Ottevanger et al., 2007, p. 17).

The availability of follow-up self-study materials[11] did at least provide a reference point for teachers after they attended workshops. Teachers across both groups reported the Information booklet as a helpful support, providing a reference point with practical steps for each of the strategies, as discussed in Chapter Seven. Ottevanger (2001) likewise recommends a range of opportunities for teacher support, including detailed how-to guidelines. Two DBR studies, Ottevanger (2001) and Teclai Tecle (2006) both report success using exemplary curriculum materials as part of a PD approach which combined materials with workshops and in-school support. The exemplary materials in these studies were designed to help teachers translate the curriculum ideas into classroom practice (Teclai Tecle, 2006). The implications are that materials, 'with procedural specifications, could help teachers overcome initial implementation problems and help them behave differently toward desirable changes' (Teclai Tecle, 2006, p. 49). These materials have the potential to offer a concrete foothold (Teclai Tecle, 2006) to support teachers to facilitate modern pedagogy (Leyendecker et al., 2008).

An unexpected finding of this study is the potential for practical and contextually relevant teacher reference materials to support teachers in the Maldives to enact active learning practices

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[11] The 'we do' information booklets (see Appendix Q)

in their teaching and to bring the innovation to the classroom. The findings of my study point to the usefulness of practical curriculum materials to help teachers translate abstract ideas into classroom practice and maybe a useful solution to support teachers across the dispersed islands. The Information booklet, which included steps for using the 'we do' strategies and examples for classroom practice, was initially designed in response to the contextual condition of the lack of time to meet the teachers as a group, due to the double session school day. My initial planning for the intervention phase had included a plan to meet with the teachers each week. As raised in Chapter Seven, it was almost impossible to find a common time when all teachers were available to meet, apart from the evening, and given the number of other school events and scheduled meetings I made the decision that the Information booklet, as it was referred to, could help compensate for this lack of a common meeting time. I also reasoned it could provide another source of information for teachers so they had a reference point when I was not available. Such materials could offer the much needed support and concrete steps for practice if they were targeted to the teachers' needs in their given context. Teclai Tecle (2006, p. 49) referring to Ball and Cohen (1999) determines it is 'the intimacy of curriculum materials to the classroom that offers support to teachers by illustrating exemplary practices in the context of educational change'.

The capacity for ICT to replace print materials was also reported by Orr et al. (2013) in their recommendations, but they also raise the necessity for reliable access to materials if they are to be presented in this way. Saeed and Moreira (2010), likewise, propose online materials as a way of promoting professional learning for Maldivian teachers across islands without the burden of trying to make print material accessible to all teachers. Whilst online learning offers potential for greater variety in the delivery of new material, as experienced and documented in the Research School, internet reliability was an issue in the school during the period of this study. Infrastructure facilities are constantly being upgraded in the country, for example through the expansion into online learning as discussed in Chapter Two. Therefore, as facilities continue to improve online materials could provide another avenue of support in the form of concrete strategies for teachers.

What was captured through operationalising the intervention was that teachers' responded differently to the various modes of accessing new ideas. Some teachers voiced preference for

face-to-face interactions, whilst some teachers liked to have their own reading materials, others teachers had a preference for using the internet. Therefore, a range of approaches helped teachers engage with the new pedagogy. As the teachers reported, workshops may offer new ideas but they do not necessarily provide the connection to the classroom. In light of comments about the Maldives not being a reading culture, it may be unwise to rely on print materials. However, a combination of approaches – exemplary curriculum materials, in-service workshops and in-school support – as proposed by Ottevanger et al., (2007) in Tanzania could provide a powerful means to help teachers access new ideas about active learning. This is a useful example to highlight, as a similar combination in the Maldives may help overcome the limits of one shot, off-site training that is so prevalent in the country and help address the challenge of highly dispersed schools.

Practice: changing existing routines

The 'receptivity to change' questionnaire, reported in Chapter Six, revealed teachers' positive attitudes towards change and active learning in their school. Although change is a process filled with complexity and ambiguity (Wolf & Le Vasan, 2008), the findings revealed a supportive school environment. This is explored more fully in the discussion on the school context but is raised here as it is a significant factor when considering the effort required by teachers to make changes to their practice and existing routines, and to confront the ambiguities of change. The importance of teacher agency in turning knowledge into action was raised in Chapter Three, noting that unmotivated teachers are unlikely to sustain LCE changes to their practice (Watkins, 2000). The effort to enact change means teachers need to be motivated to break out of existing patterns and to work in new and sometimes challenging ways with their students (Schweisfurth, 2015, p. 150).

Clearing space for reform
As explored in the previous section, teachers accessed knowledge and ideas about the intervention strategies in a variety of ways and made choices about when and how these strategies would be enacted. Table 31 outlined the different reasons that motivated CFS teachers to it use the various strategies during Block 2. Destefano and Crouch (2006) attest to the importance of clearing space for reform and the importance of creating the intellectual and political space for new ideas. In Chapter Six I noted the busy nature of the school and its impact

on scheduling times with teachers. An advantage of being an outsider in cross-cultural research is being able to see phenomena that insiders do not see and I noticed this stream of extra activities that teachers did not question. I also learnt, during my extended immersion, that the school has a central role in island life, particularly on smaller islands, and I observed great excitement for certain functions that brought the island community together. However, such activities, in my observation and according to teachers' responses, impacted on their time for planning and teaching. No doubt this is not confined to Maldivian teachers but the reality is when teachers are called to weekend or evening activities, often when there is a visitor to the island, it does impact on the time they have available for other work or activities. This sentiment is captured in the following teacher comment.

> *I would like to use the 'we do' strategies but I wanted something easy to plan for last week because extra busy week with sports activities and extra [substitute] classes.* (Teacher 3)

This example supports the view that teachers need to have time and space in their professional development (Villegas-Reimers, 2003) to embrace new practices. The extra school activities, such as sports Day, the ESQID visit, and weekend workshops, may all serve to fill that space, leaving limited time for other extra demands, particularly during a time of innovation. Destefano and Crouch (2006, p. 19) contend that 'obstacles may need to be 'cleared' for those innovations to be sustained'. Whilst not claiming that all the school activities I observed were obstacles to reform, according to Destefano and Grouch (2006) it is necessary to identify such obstacles in line with their notion of clearing space for reform.

A decision to include teachers' participation in the study as accrued hours toward their professional development requirements for the year was one practical way in which space was created for teachers to participate in this study, rather than add to an already busy workload – a factor that all teachers raised. Working conditions and low salaries have already been identified in Chapter Three as a barrier to active learning (for example Vavrus & Salema, 2013), when teachers feel underappreciated (Mohammed & Harlech-Jones, 2008) and their extra efforts are not recognised (Schweisfurth, 2013b). The workload issue transcends national boundaries, but how schools respond can make a difference when teachers are asked to take on extra responsibilities. In addition, Maldivian teachers in comparing their salary against equivalent

professions, were strongly of the view they were underpaid (Rasheed, 2014), as discussed in Chapters Two and Seven.

Classroom-based support

The teachers reported that the support strategies closely connected to their teaching were the most useful, which accords with the PD needs of teachers in Maldivian schools identified in Chapter Two. Teachers requested and received classroom-based support and rated support closest to their classroom practice as the most useful, consistent with the findings of Hardman et al. (2009) and their study of teachers in Kenya. As reported by Hardman et al. (2008), teachers need guidance and mentoring to bring new practices into their teaching. The classroom-based support embedded in the intervention phase of this study utilised a Joyce and Showers (2002) model of feedback, as presented in Chapter Three. This feedback component evolved as teachers specifically requested feedback on their teaching. More prominent, however, was the teachers' requests for team-teaching to become part of the intervention phase. Whilst this afforded specific assistance within the teachers' classrooms it was grounded in teachers' need to see the innovative practices enacted in their classroom. It was a way of addressing the knowledge-practice gap with the goal of bringing the innovation to life in teachers' classroom, to help achieve operational clarity. Classroom-based support presented another means of unfreezing old practices and stimulating new models of teaching (A. Brock, 2009) relevant to the circumstances of their work.

As reported by Westbrook et al. (2013), there is a need for teachers to feel well-supported if they are to work through the process of change and face the various complexities and ambiguities of pedagogical reform. The teachers in my study confirmed their need for localised support (Leu & Price-Rom, 2006) in the form of 'supportive support' in contrast to evaluation and accountability mechanisms (Schweisfurth, 2013b). Likewise, Villegas-Reimers (2003) raises the necessity for a culture of support to be established. What this could look like in Maldivian schools was revealed by the support strategies that brought the innovation directly into the classroom. Therefore, whilst my presence in the school was finite, the teachers' positive response to the usefulness of team-teaching and co-planning and the necessity to see how new practices work in their classrooms underscores the necessity for teachers to receive some level of in-school support.

The role of school leadership is critical, particularly with leading teachers playing a pivotal role in teachers' daily work. Their endorsement and assistance are critical in supporting teachers to embrace new practices. Leading teachers' administrative and gatekeeper role in Maldivian schools has been documented (K. Shareef, 2008). Megahed et al. (2012) report on reform in Egypt where supervisors moved from being inspectors to a source of guidance and support to promote active learning pedagogy. In the Research School, the leading teachers clearly embraced and supported the innovation. However, even with their endorsement, the need for explicit classroom focused support was evidenced. Yet for leading teachers to provide this level of classroom-based support, their role needs to shift from an administrative and evaluative focus to one centred around mentoring (K. Shareef, 2008) consistent with the study in Egypt (Megahed et al., 2012).

Connecting ideas to classroom practice: Infrastructure and material resources
Limited teaching resources and poor infrastructure have been identified in the literature as a constraining influence on teachers' uptake of active learning pedagogy (for example Altinyelken, 2010; M. Ginsburg, 2010). The availability of teaching resources was raised by all stakeholder groups in the World Café as a barrier to active learning, although, as discussed in Chapter Seven, this raised a number of tensions. Whilst teachers canvassed the need for additional resources, many others in the school community noted that the Research School was well-resourced, given its status as an atoll education centre and through the assistance provided by the parents. It was articulated within SMT interviews that the school endeavoured to supply whatever materials they could.

The issue of material resources is highly complex, given many classrooms in developing and middle-income countries lack adequate teaching materials (M. Ginsburg, 2006; Schweisfurth, 2011). However, this highlights a tension, raised by Schweisfurth (2013a), that teachers' focus on material resources locates the implementation difficulties outside of themselves. This is not to discount the importance of access to resources, but as documented through enacting the intervention, there were resources available which teachers did not always use, an issue likewise identified by Shareef (2007) in his evaluation of the CFS program. Interestingly resources supplied by UNICEF, after the tsunami, were found unopened in Maldivian classrooms and this was attributed to teachers not knowing how to use them (Di Biase, 2009; McNair, 2009).

During the intervention phase, a range of professional resources already in the school were not sought or used, as documented in Chapter Seven, particularly in relation to library based resources. The extra time to locate different materials brings the focus back to the need to change established routines. As Schweisfurth (2012) points out, traditional approaches require fewer resources and may offer the path of least resistance. The status quo of relying on what has been used before indicates the need for 'disruption' to established routines and practices, particularly when relying on using textbooks in traditional ways. Focusing on what is available and learning to use the available resources, such as textbooks, in innovative ways (Mohammad & Kumari, 2007), as described in my personal reflection in Chapter Six, is a way of utilising available resources. Hence, the availability of resources can be perceived as either a barrier, if it draws attention to the unattainable, or as an opportunity if teachers focus on innovative ways of working with what they have.

As such, change agents must build upon and strengthen the local constellation of conditions, which will look different, depending on the particular circumstances of the classroom and school (Schweisfurth, 2013b). Teachers may need to consider the available resources in new ways, which is part of the process of disruption, and changing their existing routines and how they work with available materials. Yet, I also acknowledged in Chapter Six the differences in working in CFS and primary classrooms, highlighting that the physical classroom does have a bearing on teachers' practice. It becomes another variable within the ZFI (Rogan, 2007) of what is practical and possible within the conditions of teachers' work. The use of pair and group work can also mean less demand on resources and, as this study has shown, teachers were receptive to using group work strategies.

Availability of resources clearly does make a difference for teachers, particularly when enacting new, more interactive pedagogies. In comparison, teacher transmission methods 'demand little more than one book and some chalk' (Schweisfurth, 2012, p. 177). In this current study, teaching and learning resources were both an enabler and a barrier, dependent on their availability, such as adequate reference texts for the Jigsaw strategy and teachers' willingness to find and use available resources. At other times it depended on how resources were used (for example, van der Werf et al., 2000). Existing resources in the school could be sourced and used in innovative ways as demonstrated with the example of illustrations in textbooks in the

reported Grade 1 and 7 Jigsaw activities. However, this does require that teachers move beyond their existing routines and the established normative behaviours within the island school. Whilst teachers were not seeking out books in the library they were making use of the AV projectors and internet facilities, recently provided in the school. It was clear these changes in the school had opened up opportunities for teachers in bringing new ideas into the classroom.

Access to the internet, as outlined in Chapter Seven, is a pertinent example for further discussion. Internet infrastructure in the country has given island inhabitants easier access to the rest of the world, and as documented in this study teachers have seized on the opportunity to access new ideas and resources available online. It was reported in Chapter Seven that in the Maldives there is not a reading culture, which may explain the preference for online resources over library books. Whilst internet usage across the country is high, there still remains a divide between Malé and islands. This required forward planning when preparing lessons in anticipation of connectivity issues, although I continued to experience the frustrations of unreliable internet. Whilst I demonstrated that these issues could be overcome, by downloading at times when connections were available, this may be an additional barrier for teachers embracing a new pedagogy. Moreover, the internet has the potential to allow small states to benefit from the revolution in information and communication technology (ICT), allowing islanders to access the same information as participants of large states (Crossley et al., 2011). Within the Research School, the internet is clearly a welcome resource, with teachers embracing it to seek new ideas for their lessons. Across the country the upgrading of internet infrastructure is still a work in progress and, whilst providing greater access to new ideas, it also highlights the disparity between Malé and islands where the internet is typically less reliable.

Refinement: approximations of practice over time

Working to translate theory into practice does not mean providing a prescription for teachers (Lattimer, 2015, p. 69). Instead, practices need to be adapted so they are suitable for the context, and teachers need to make refinements to their practice as they work toward their desired goal. Viewing active learning reform as a continuum has been a central tenet of this study, based on the rationale that teachers with minimal experience of active learning can expand their practice within the ZFI (Rogan, 2007). In seeking to extend their repertoire of teaching practices, the teachers enacted the GROR model and strategies in different ways (Box 7), and in Chapter Six

teachers' adaptations of the strategies were discussed in light of the notion 'approximations of practice'. Grossman, Hammerness, et al. (2009) refer to 'approximations of practice' in the context of pre-service teachers whereby novice teachers have the opportunity to experiment with particular features of their professional practice. This serves to break down the novel teaching practices into less complex components, consistent with O'Sullivan's proposition regarding LCE Yet, this notion is consistent with O'Sullivan's proposition regarding LCE, that novel teaching practices need to be broken into less complex components (O'Sullivan, 2004). Applying this process to Maldivian teachers, and noting the stage of development of the education system (Beeby, 1966), breaking down the novel and complex strategies of active learning pedagogy allows teachers to make approximations towards their desired practice, as identified in the World Café (Chapter Five). This was also noted in the aspirations they articulated for their own practice (Chapter Six), and in their definition of active learning pedagogy referred to in Chapter One that aligned with the MoE vision.

Acknowledging the need to accept 'approximations of practice' over time is consistent with viewing active learning pedagogy as a continuum of practice where teachers can make ongoing refinements as they work towards their desired outcome. The teachers' actions in operationalising the GROR model, outlined in Chapter Six, revealed their reflections on how they might improve on their teaching practice and outcomes for their students. The self-initiated queries around enacting the intervention strategies (Appendix V) also provide insights into teachers' engagement with the instructional model and the refinements they sought to make. These self-initiated queries were in contrast to the support I offered through more structured avenues, such as their weekly coordination meetings or scheduled planning times, and are examples of teachers' motivation to refine their practice.

In trialling the 'we do' strategies and the GROR instructional model, the teachers showed they had already embraced the innovative dimension of adaptive expertise (Hammerness et al., 2005). In seeking to improve their use of the strategies, teachers were also demonstrating the efficiency dimension. The need to 'practise and use' the intervention strategies was raised by the teachers as a necessary component in improving their competency with the strategies – in short, improving the efficiency dimension. It allowed teachers to make refinements, and for students to become more familiar with the innovation. How teachers reflected on their teaching

during the intervention phase provided further insights into the refinements they deemed important to improving their teaching and learning outcomes for the students, which were explored in Chapter Six. The process of enacting and experiencing success was also viewed by teachers as improving their confidence and motivation. Mindful of the stage of development of this school system, encapsulated earlier in this chapter as the context for change, the cycle of use and refinement is an example of teachers adopting the dimensions of innovation and efficiency. It also exemplifies their progress towards adaptive expertise that moved beyond relying on mechanical routines in their work.

Both the CFS and primary teachers raised the necessity to have support and encouragement from the leadership team to sustain the impetus for change and as an important authentication mechanism for teachers in their uptake of the intervention. In cultures where status is respected, Hallinger (2010, p. 414) in his earlier reference to the 'supreme law strategy' contends that a top down implementation approach may result in superficial compliance and ultimately lead to a failed reform. This raises an interesting tension as teachers perceived that leadership endorsement was an important facilitating condition for enacting and sustaining the new practices. Considering the model of teacher change raised in Chapter Three by Clarke and Hollingsworth (2002), change may be initiated in one of four domains (personal, professional, salient outcomes and external domains). In this study it was the external domain – the endorsement by the SMT and the activities surrounding the research – that fuelled teachers' professional experimentation. The salient outcomes in the form of students' responses to the intervention strategies and professional satisfaction then supported teachers' continued use and on-going refinement. In doing so, these outcomes meant teachers' were able to overcome some of the initial barriers voiced at the start of the intervention phase, facilitating further refinement over the intervention phase, such as learning how to plan for and manage group activities, how to give clear instructions, and how to create mixed gender groups.

In Maldivian society, where status and hierarchy are highly valued, as raised in Chapter Two, the role of leadership is critical. Therefore, it is important to note in this context that the disruption to existing routines came through the external domain and, in seeking to develop a contextually and culturally appropriate approach to change, leadership support was an essential condition. It is also important to recognise that leadership endorsement can come in a variety of

forms such as coercion, prescription, encouragement and support. Overcoming the possibility of superficial compliance, a concern raised by Hallinger (2010), leadership endorsement needs to encompass encouragement and support, as teachers in this study report.

Three design principles emerged, drawn from Bronfenbrenner's level of microsystem and the teachers' practice (Box 12). In recognising the issue of the knowledge-practice gap, these design principles encompass the following three areas; teacher knowledge, teacher practice, and teacher refinement.

Design principles: Overarching principles in facilitating teacher enactment of active learning *Knowledge-practice-refinement*
Knowledge: accessing new ideas *Teachers need access to new ideas about active learning pedagogy through multiple modes such as practical workshops, how-to guides – print and online resources.* With workshops being embedded practice for teachers' professional development in the Maldives teachers reported the need for workshops to be practical and model LCE, rather than relying on a transmission approach. The self-reference materials provided in the intervention phase offered additional information for teachers about the innovation practices. As part of a multi-mode approach catering for different teachers' needs they were particularly useful for those who wanted an independent reference point with practical ideas and step-by-step instructions.
Practice: putting new ideas into action *New ideas need to be enacted within the circumstances of teachers' work by creating space for reform, providing classroom-based support and drawing on available resources.* When teachers were busy with extra activities their attention to enacting new practices was reduced. Teachers voiced the need to see the innovation in their classroom. They found the classroom-based support strategies of co-planning and team teaching most useful in supporting them to embrace innovation. Whilst a lack of resources can be a barrier to active learning, this study also demonstrated how existing resources could be sought and used in innovative ways.
Refinement: adapting new ideas (active learning as a continuum of practice) *Active learning pedagogy, viewed as a continuum of practice, requires ongoing refinement of teachers' practice.* Leadership endorsement and support are needed to encourage professional experimentation and sustain the impetus for innovation. Active learning as a continuum of practice means that teachers need to continue adopting and adapting new practices as they embrace the dimensions of innovation and efficiency in refining their enactment of active learning approaches.

Box 12: Design principles in facilitating teacher enactment of active learning

A change-welcoming school culture

Classroom practice does not function in isolation from the context in which it is situated. The school at the centre of this study has features which provide a particular set of circumstances for teaching within the Maldivian education centre. Against a broader context of the problematic implementation of CFS, outlined in Chapter Two, it is an example of a school that Schweisfurth (2013b, p. 127) has referred to as a 'resilient school', which through its management practices and teacher commitment sets itself apart from general national trends. Since the Research School was designated as providing optimal conditions for operationalising the intervention, it posed particular interest in investigating what makes it work against the national trend. These features resonate with what Altinyelken (2012, p. 202) refers to as 'indigenized implementation' that involves analysing how global policies are mediated locally. Likewise, Mtika and Gates (2010, p. 403) stress the need to design and engineer pedagogical strategies to fit local contexts and the importance of a school culture and classroom structures that support LCE. Therefore, it is necessary to investigate what makes the Research School work differently (Schweisfurth, 2013b) and elucidate its particular circumstances, in order to understand how it has embraced change within the Maldives education system and the policy context that exists across the country.

Leading change: the role of school leadership

The leadership in the school is a critical aspect not only in leading change, but in creating a 'change-welcoming' school culture, a term used by Megahed et al. (2012) in identifying the factors that supported active learning reform in Egypt. With the emphasis of this study being on teachers and their classroom practice, the study of leadership was outside the specific scope of this investigation. However, a principal supportive of active learning was a pre-condition to selecting a school as the site for the study, as raised in Chapter Four. Interestingly Hallinger's (2010, p. 414) notion of the 'supreme law strategy' and the potential for this approach to result in superficial compliance, is in contrast to how the leadership team in this school managed the change process. The role of leadership has been critical in developing a 'change welcoming school'. The pivotal role of leadership was seen in not only endorsing change, as discussed earlier, but also evidenced in the planned and strategic approach of the CFS program and how this was managed across the school community. Embracing practices that are culturally sensitive also requires adopting an implementation method that works with and not against the

cultural context. The leadership in this school, as a driving force, took an inclusiveness approach across the different stakeholder groups that facilitated buy-in of CFS. According to Schweisfurth:

> If LCE implementation is taken seriously, shared clarity among teachers about its purpose and classroom workings needs to be fundamental to the process, and it needs to happen in a wider education context of purposeful order. (2013b, p. 137)

As reported in Chapter Three, the scope of LCE ambition at a policy level (Schweisfurth, 2011) may be unrealistic within the realities of the context (O'Sullivan, 2004). From the initial stages, the Research School began a process of adopting and adapting the CFS innovation into the school at the lower grades. In planning for change and recognising that the initial GSS model of CFS would not adequately fit with their circumstances, the school revealed a rationale for matching the desired change to their context. Comments from school leadership highlighted the difficulty they perceived with the original GSS model, citing a lack of resources, student class numbers, and teacher workload as constraints, making it unsuitable for their circumstances. The school's approach to implementing CFS highlights the power of influences within the mesosystem (Bronfenbrenner, 1979) when facilitating change.

Likewise, the active learning model used as the intervention in this study – the GROR instructional model, was also adapted. Following the introduction of the GROR model at the scheduled PD day early in the year, not only was there an openness to embracing the model across the school, but adaptations were made over a series of iterations. Whilst I introduced the model as building upon the findings from the World Café, it was the SMT that officially welcomed the innovation into the school and expanded its use beyond the teachers participating in the study. Also important was the dialogue between the SMT and the teachers in the process of evolving the GROR, giving all teachers an opportunity for feedback in the process. The leading teachers, in particular, used the intervention strategies in their own teaching, thereby providing a consistent message for teachers. The management team in this school were instrumental in managing innovation.

Parent-school collaboration

The idea of a culturally sensitive approach was illustrated by Hallinger and Kantamara (2001) in Chapter Three, with reference to Thailand. The notion of 'sanook', meaning fun, was

explained as having an important role in sustaining interest in change. Comparing such a culturally sensitive approach to the Maldives, the very 'islandness' of the country and the strong island identity that Maldivians hold, would seemingly offer a motivating force for change. As noted in Chapter Two, this is not always practised in Maldivian schools; yet the strong identification that Maldivians hold for their islands could potentially be harnessed to support reform.

> With independent island communities, and a strong interest in education, the vested interest of the stakeholders could be a powerful force for change through community dialogue. Each island has a unique character and this would be part of the community process in developing a plan or vision suitable for their island school and an indigenous adaption of key concepts. (Di Biase, 2009, p. 290)

Working with, not around the island community, as demonstrated in the Research School and its approach to introducing the CFS model into the school, is an enabling condition where community participation is not only welcome but sought after. Facilitating buy-in by stakeholders is an important condition for reform (C. Brock & Crossley, 2013; Sottie et al., 2013) which is confirmed in the context of this island community and the positive influence within the Research School.

The stakeholders' active involvement is a vital stepping stone for garnering support for reform and developing widespread agreement (Leyendecker et al., 2008). The World Café, as well as providing input into the design of the intervention, provided a platform for stakeholders to have a voice in the process of implementing active learning in the school. It could be considered as an initial stage of the intervention in deliberately facilitating dialogue within the school community. The need for creating dialogue among stakeholders has been well-documented as an enabling condition (for example Dembélé & Miaro-II, 2003; Hopkins, 2002). Moreover, Destefano and Crouch (2006) advocate dialogue as part of developing reform support infrastructure, and Westbrook et al. (2013) verify the important role parents play.

The introduction of CFS into the school saw the active involvement of parents as a way of developing resources and furniture for use in the CFS classes. The success of this approach saw an increased array of resources available for the targeted grades. Parents played an active role in assisting with improvements in the school and were also active in supporting the school to

provide projectors for the classrooms. Working with, not against parents is an important feature in the Research School, and as noted in Chapter Two, this is not always the case in other island schools.

School management and organisation of resources

The organisational conditions for learning were raised by teachers as impacting on their ability to enact active learning: school infrastructure, teaching resources, and time. Mtika and Gates (2010, p. 402) refer to the need for 'supportive settings in classrooms', highlighting the shortage of space and resources as challenges that teachers face. Within the school a number of issues around scheduling influenced teachers' use of the active learning intervention, notably lesson timing, the double session day, and teacher absences. How the school responded reveals aspects of the school which could be changed through the will and vision of the management, while other features were beyond the scope of the school to control.

Teachers cited time as a barrier to active learning. As reported in Chapter Seven, lesson times for the primary and secondary classes were changed to 45 minute lessons. This action shows the SMT's responsive to teacher requests. The extra ten minutes in lessons was raised by teachers as being helpful in enacting the GROR model. Rather than accepting the status quo, this troubleshooting approach by the school may help address teachers' difficulties. Seeking to solve issues where possible is a particular characteristic of this school. Bronfenbrenner's ecological model (1979) represents the intersection of the various layers of influence, and as Alexander (2001) contends in his study of culture and pedagogy the levels of influence are interconnected. Yet, such intersections can promote a blame game, where teachers and government blame each other and in the process undermine their own agency (see Chapter One). Such a scenario is also raised by Schweisfurth (2011, p. 430) where 'teachers blame policy-makers and administrators for unsuitable policy and lack of support, and policy-makers blame teachers for not implementing it'. Taking charge of the bell times is a proactive move by the school. I have visited many other schools in the country, where the limits of 35 minutes lessons were raised, but I did not witness other schools taking such a proactive approach. This is another example of challenging existing and long-held routines to facilitate innovation and change.

The double school session was reported as a further challenge, particularly in the sharing of classrooms and the limited furniture in the non-CFS classrooms which meant materials could not be stored. The argument was also made that desks had to remain in rows for secondary classes and that displays were not possible as they were frequently removed by older students. Mtika and Gates (2010) report a shortage of space and resources as a constraint to LCE. There was a difference between the use of physical spaces and teaching resources in CFS and primary classrooms, as recorded in Chapter Six, which served as a visible sign of the teaching practices being enacted. It also impacted on how the strategies could be used, adding another layer of organisational complexity when desks needed to be rearranged to facilitate group work and the lack of storage facilities. Such challenges with the infrastructure were something the school could not easily solve, but the inclusive approach with parents in the introduction of CFS, meant parents did play a role in helping to provide some additional classroom resources. This challenge also serves to distinguish between the different levels of constraints in that some can be more easily solved from within the school, while others are more problematic. Being able to differentiate these constraints is the crucial difference between the approach of the Research School and other schools, and a distinctive element of being a 'resilient school'.

Schweisfurth (2013b, p. 140) writes of the importance of finding a 'pedagogical nexus', a term proposed by Hufton and Elliot (2000) in reference to the Russian education context. This is a set of linked, interactive and mutually reinforcing influences on students' motivation to learn, and encompasses a range of 'ingredients' such as school, class, teacher, home-school relations, lesson patterns, pitch and pace, memorisation and assessment, to name a few. Each context, she contends, has its own unique array of ingredients with different levels of coherence. The Research School, I argue, comes closer to achieving coherency across the nested layers of influence of Bronfenbrenner's ecological model (1979), particularly in the CFS grades. Situated within the Maldivian education system, which is explored in the next section, this school embraced innovation in a way that has afforded it greater coherency across these 'ingredients'. Drawing on Schweisfurth's notion of the 'resilient school' that has gone against the dominant narrative of failed implementation is the goal to better understand how LCE practices have been mediated to fit the local context. The Research School was framed in this chapter as one such school that has an established tradition of hosting visitors to the school who are interested in seeing their model of CFS, raised in Chapter Five. The success of the introduction of CFS to

Grades 1-3, and later expansion to Grade 4, emphasised the school's proactive approach, both in its management of the process and the model they developed for their CFS classes. The findings from this study have drawn attention to the factors that led to this school's journey toward a more coherent pedagogical nexus.

Three overarching design principles focused on Bronfenbrenner's level of mesosystem; in particular the school context elucidates the features of the Research School as a resilient school (Box 13). In recognising the implementation issues of active learning in the Maldives, these design principles, relevant to the mesosystem, encompass the role of school leadership in leading change, the importance of school-community collaboration, and school management and organisation of available resources.

Design principles: Overarching principles in supporting change at the school level
Developing a 'change-welcoming' school
Leading change: the role of school leadership
School leadership needs to create a vision for change and to support and lead change within the school community.
The school leadership adopted a planned and strategic approach to implementing CFS/change in the school. Adapting the original model of CFS, as well as the GROR instructional model, has been a key feature of change in the school, orchestrated through an inclusive process. This responsive approach promotes dialogue in and between stakeholders and allows the innovation to be adapted and adjusted so that it is in harmony with the local community and fits with local circumstances. Therefore, the school leadership holds a critical role in leading, endorsing and supporting change within the school.
Parent-school collaboration
Harness the support of Maldivian island communities in educational reform through an inclusive process that mobilises community participation.
Mobilising school community support for reform is an important enabling condition in Maldivian schools. With schools forming an integral part of island life, parent support can be harnessed through an inclusive process of communication and collaboration, creating a vision for change relevant to the island community. The parents, as seen in this school, provide concrete support in the form of helping develop physical resources for the school.
School management and organisation of resources
Organisational features can influence teachers' enactment of active learning. A responsive approach by the school leadership in managing available resources is needed to address teacher and concerns.
Whilst some organisational issues are beyond the scope of the school to manage, the school leadership has been responsive to teachers' needs and made adjustments where it is possible to do so. The school leadership responded to teachers' concerns about managing the GROR model in short lessons (35minutes) and changed the school schedule which allowed for longer lesson times (45minutes).

Box 13: Design principles in supporting change at the school level

Understanding the systems surrounding the context: The Ministry of Education in a Small Island Developing State

McKenney and Reeves' (2012, p. 171) notion of the 'systems surrounding the immediate context' matters in setting the parameters for reform in terms of resourcing, supply and preparation of teachers (Schweisfurth, 2013b). The Ministry of Education faces the challenge of managing schools across a highly dispersed country, making the geography of the country a key contextual feature in the Maldives. Likewise, the political context, or what Schweisfurth (2013b) refers to as 'fragile states' or nations facing instability, places further challenges in effectively disseminating ideas nationally. The troubled transition to democracy in the Maldives (T. Ginsburg, 2012) and the ongoing political upheaval (Ramos-Horta & Rogers, 2015) details a context of instability, given the frequent changes within the ruling power structures affecting the appointment of Ministers and high-level officials. Whilst commenting upon the recent political turmoil was not within the scope of this study, the differing priorities of the government, following the downfall of the first elected President in 2012, were evident from interviews conducted across three administrations and two consecutive Ministers of Education over the course of my fieldwork.

Policy process

Policies are vital as an enabling process in 'setting the tone, conditions and framework for reform' (Leyendecker et al., 2008, p. 68). In 2012, the policy for active learning in the Maldives was embedded in wider policy developments rather than being a standalone directive (Di Biase, 2015b). This lack of clarity was detailed in Chapter Two. The more recent NCF, which began roll out in 2014, is more explicit about endorsing constructivist pedagogy. Like the situation in The Gambia, first raised in Chapter Two, this is another small state where Schweisfurth (2002) points out that policy creates the space that is generally supportive, while not being directive of LCE. This can result in a situation where there is rhetoric around LCE at a system level without there being clarity about what is expected at the school level (Schweisfurth, 2013b). As documented in the Maldives through reports on the Child Friendly schools project, reform has generally stagnated on the physical changes or produced a literal translation of child friendliness that involves developing a friendly teacher-student relationship, with limited attention given to the pedagogical aspects in the classroom (McNair, 2009; UNICEF, 2010). Likewise, Sriprakash (2012), when referring to India, accentuates the lack of detail about what child-centredness

means in reform initiatives. This lack of operational clarity has contributed to implementation challenges both in the Maldives and beyond, as discussed in Chapters Two and Three.

The shortcomings of the policy process in the Maldives raised in Chapter Seven highlighted tendencies for the government to make surprise announcements without consultation with relevant stakeholders. This risks a lack of planning across institutions that may end up working in isolation (Leyendecker et al., 2008). One such example is illustrated in the following comment from within the university:

> *We got a political surprise when they said there will be a secondary school in every island where there are enough students. So these kinds of policies actually are not coordinated well enough.* (Official 7)

This had consequences for preparing an adequate numbers of pre-service teachers in preparation for the expansion of secondary schooling across the islands.

Consequently, institutions may be unable to plan adequately for new developments which can then exacerbate the issues around a lack of system coherence, such as misalignment of assessment, pre-service, in-service and inspection regimes (Leyendecker et al., 2008; Schweisfurth, 2011). Such a policy process can result in a lack of operational clarity for teachers, where competing pressures may add more challenges for implementing the intended changes of LCE reform, as they juggle conflicting pressures (M. Ginsburg, 2006; Leu & Price-Rom, 2006; Schweisfurth, 2013a). Moreover, teachers may not feel supported by other parts of the system. However, the creation of the National Institute of Education (NIE) in 2013 brought together several MoE departments, potentially facilitating greater coherence across the MoE.

The visit from the Education Supervision and Quality Improvement Department (ESQID) to the school during the intervention phase is a case in point. There was some misalignment between the ESQID teams' intentions and how the teachers perceived the visit. There was no obvious ill feeling that I experienced, just a mismatch in views, documented through interviews from both sides during the visit. The visit had other repercussions for the teachers. Whilst the team was there to assess the school against CFS Quality School Indicators (Ministry of Education, 2010b) based on the CFS dimensions, this study could be seen as directly relevant; specifically Dimension 2 encompasses learner-centred teaching and learning. In fact the study's intervention was directly relevant to this dimension. Yet the teachers reported they had limited time to focus

on using the strategies during that week. Standard 2.3 'Teaching and Learning Strategies' is described as:

> Varied teaching and learning strategies are experienced by students to enhance active participation and improve achievement for both boys and girls according to their interests and abilities. (Ministry of Education, 2010b, p. 8)

Specifically, the indicators cover many of the ideas embedded in the instructional model such as students learning to work in groups, evidence of flexible and differentiated teaching and learning approaches where students are encouraged to share opinions. However, the connection between the intervention and the ESQID visit was not apparent to teachers and the teachers did not embrace the intervention strategies during the visit.

This example draws further attention to the necessity of clearing space for reform and space for new ideas (Destefano & Crouch, 2006; Villegas-Reimers, 2003). Whilst the intervention strategies were directly related to the mission of the ESQID team's visit, the teachers did not have the time to develop their lessons in this way, nor, I suspect the time to seek out my support for co-planning in that week. Since I kept a low profile during the week of the visit and observed that teachers were busy and pre-occupied, I didn't question them on this. Also noteworthy in this visit, is how the concept of child-friendliness was taken literally by the inspection team, with some of the CFS teachers receiving feedback that they did not smile enough in class. The inhibiting effect of contradictory messages and pressure from inspections regimes on LCE has been well-documented (M. Ginsburg, 2006; Leu & Price-Rom, 2006; Schweisfurth, 2011). The ESQID visit also demonstrates how teachers react under pressure when there are multiple demands on their time. As they attempt to understand and enact new practices, the innovation can be shelved and more pressing needs addressed. The need to minimise conflicting pressures on teachers, as well as clearing space for reform, would seem an important precondition for supporting innovation in the classroom. As the findings in this study indicate, when teachers had additional pressures or were distracted by other events, their focus on enacting the intervention strategies declined.

Teachers' professional development

The idea of providing more training or knowledge for teachers continues to manifest as a default position in underpinning change. Yet, as established in Chapter Three, knowledge alone

is not enough to change practice (Dembélé & Lefoka, 2007; S. Johnson et al., 2000). Training itself often assumes a transmission approach and is based on the premise that providing teachers with more knowledge will lead to behaviour change. A common response to adopting innovation from MoE officials was the need for training. A similar finding from Reimer (2012) in Cambodia was that the dominant solution proposed by people at all levels in the education system was 'more training' and 'campaigns'. In the Maldives more training is perceived to hold the answer to successful implementation of new initiatives such as the new NCF. Certainly training was voiced as being a central to the implementation of CFS, as determined by MoE interviews as well as the SMT and CSF teachers in the Research School. Yet as raised in Chapter Two, and confirmed by the findings of this study, there are concerns in the training methods used across the Maldives, notably off-site training, lack of classroom-based support, and the need for explicit support from school leadership. Whilst off-site workshops are, in part, a product of the country's island geography, off-site and cascade training is widespread across many developing countries with the shortcomings of this approach well-documented (for example see Little, 2006; Orr et al., 2013).

The history of external facilitation of PD remains established practice across the country (A. Shareef, 2011). The preparation of teachers for active learning remains a challenge in both pre-service and in-service training. Whilst the TRCs were an attempt at decentralising PD, a number of concerns remain around the nature of how PD is conducted as reported in Chapter Seven. The offsite nature of PD raises concerns around who is selected to attend, and the motivation to attend may be tied up with the opportunity to travel. The intensity of off-site PD can result in workshop fatigue and the TRC coordinators, who have experience across all the atolls, report that ideas from workshops are not being applied in classrooms. They also stressed the teachers' need for school follow up and classroom support following PD. This is a cogent finding from this study, both from the support strategies in the intervention phase and from reports of practice across the country. In such a small, highly dispersed country such support poses a challenge. This is tied with the role of leadership support as reported by Megahed et al. (2012) in Egypt. In dealing with the geographic constraints of the country the school-based leading teachers hold a critical role in either supporting or blocking teachers' experimentation with new teaching approaches. The role of leading teachers in this study, confirms the need for appropriate endorsement that includes active support and encouragement for innovative pedagogy, as

opposed to coercion and prescription (Hallinger, 2010). As discussed earlier, the need for localised classroom-based support together with the use of IT or print-based exemplary materials (Orr et al., 2013; Ottevanger, 2001; Teclai Tecle, 2006) may help counter the shortcoming of the widespread use one-short off-site PD, and teachers' need for access to new and practical teaching ideas.

Teachers' salary and conditions

The teachers' reference to working conditions is a complex issue. Maldivian teachers do not face large class sizes, which has been frequently reported as a barrier to pedagogical reform across other developing systems (for example Altinyelken, 2010; Schweisfurth, 2013a). The reality of small island schools is that an average student-teacher ratios of 11:1 in the country in 2012 (Ministry of Education, 2012), is low compared to other developing and middle-income countries where teachers may face classes of 80 (Mtika & Gates, 2010) with high teacher-student ratios reported as a barrier to LCE (for example Mtika & Gates, 2010). As such, the teacher-student ratio in the country, whilst another outcome of the dispersed islands, in this case is an enabling factor when it comes to supporting active learning reform.

Inadequate teacher salaries, which were a recurring theme during the teacher interviews, need to be considered in light of small island populations, dispersed schools and the resultant low teacher-student ratios. As identified in MoE interviews, any increases in teacher salaries would be a huge drain on the national budget in fiscally difficult times. The higher cost and large numbers of expatriate teachers is another related issue. Whilst expatriate teachers are employed to meet the shortfall of teachers, a high attrition rate of Maldivian teachers is also a contributing factor. A local study found that increased workload, a lack of respect for teachers as professionals, dissatisfaction with salary-levels and limited support from management were the key factors in teacher attrition (F. Mohamed, 2014). A related factor is the forthcoming teacher licensing requirements.

Assessment

The tension between traditional assessment measures and active learning has been well-documented (for example Altinyelken, 2010; Vavrus, 2009). The teaching strategies of the primary teachers during the revision period indicate their return to traditional teaching methods

when under pressure from the accountability of term test results, serving as an example of teachers reconciling with conflicting pressures. According to Clarke (1997, p. 1), 'it is through our assessment that we communicate most clearly to students those activities and learning outcomes we most value', and in this study the centrally driven assessment practices communicate to teachers the sort of learning that is considered most important. The predominance of pen and paper testing across the country was first raised in Chapter Two. The findings of this study confirm the emphasis given to marks, ranking and test scores. The public accountability of O-level exam results in the Maldives emphasises on these exam scores. The finding in this study of the primary teachers resorting to traditional teaching practices during the revision period is another example of the effect that assessment pressure has on pedagogy. All this takes place in an environment of prize days, which reward high-achieving students', and competition between schools where they are ranked according to their exam results.

The tension between the assessment environment of high stakes testing and teachers' willingness to use active learning methods was recognised within the MoE by some officials, with great hope invested in the new curriculum being the innovation that will bring change. Interestingly, Hopkins (2002) argues that it may be possible to demonstrate successfully the power of constructivist pedagogy to improve student outcomes on traditional measures. Farrell (2002, 2008) reports strong learning through traditional measures in settings using active learning methods, as reported in Chapter Three. However, as acknowledged by Schweisfurth (2013b), teachers need to be motivated to embrace active learning methods, and the accountability from traditional assessment has been documented as disincentive and presents a conflicting message about the value of active learning and consequently downplays its importance.

Global context

The CFS model, as a global UNICEF approach, provides a policy framework for reform whilst recognizing the need for local interpretation in which schools 'are able to establish their own distinctive learner-centred ethos' (Schweisfurth, 2013b, p. 127). As such, the CFS model is responsive to local circumstances, and the pedagogy can be tailored to the realities of the working environment. In striving to mediate a fit between a model of active learning and the context, the World Café provided an effective method for understanding stakeholders'

perspectives and priorities regarding active learning reform in this island context. In line with Crossley's argument (2010, p. 423) that implementation strategies are often not well tailored to grass roots realities and therefore prevent ownership of the reform by the local people, the results in this study provide a window into the local desires and practical realities of this island school community. The World Café, explicitly valuing and facilitating collaborative conversations, provided the means for developing a shared vision of active learning in this school community.

In considering the interplay between the global and the local, Tan (2010), drawing on Johnson' five metaphors (D. Johnson, 2006), proposes a move away from the 'politics of telling' to the notion of 'gelling' as a way of reconciling global and local sources of knowledge allowing for borrowed policies to be adapted locally. Brock and Crossley (2013, p. 399) assert that 'the processes of mediation' seen in some small states reveals a 'reworked global agenda to better meet local needs'. Therefore, this study is a story of policy borrowing and the process of mediation in seeking to reconcile global and local sources of knowledge. Furthermore, moving beyond the question of what works, this study considers what works together as discussed in this chapter (Schweisfurth, 2013b), which is where Bronfenbrenner's (1979) conceptualisation of context is helpful in recognising that what happens outside the classroom influences what happens inside the class.

Chapter Summary

This chapter provided a detailed analysis of the findings by moving the debate beyond reporting what works but instead considering the question 'What worked for whom and under what conditions?' This is consistent with DBR and its intent to explore the various layers of influence on the enactment of the intervention. The practical outputs of this DBR study were discussed in the Chapters Six and Seven. The other output of DBR, the theoretical outcomes, were presented in this chapter as design principles across three broad areas.

The first set of design principles accounted for the reform itself focusing on how to move from conceptual ambiguity to operational clarity. This was designated to include the need for a contextually relevant model of active learning that reflects local priorities, is tailored to the

circumstances of teachers work, and works with the available resources. The model itself needs to be structured, practical and easy to follow with change encouraged in modest steps.

The second set of design principles acknowledged the key role of teachers. The design principles addressed teachers' need to access to knowledge about the new pedagogy and have access to new ideas through multiple modes. To put new ideas into practice teachers need support to enact the innovative practices in the circumstances of their work, by clearing space for reform, through classroom-based support and learning how to use existing resources in innovative ways. Viewing active learning as a continuum of practice requires ongoing refinement.

The third set of design principles dealt with establishing a change-welcoming school. The key role of school leadership to support and lead change, the need for parent-school collaboration and a proactive approach to the organisation of school resources were all foregrounded as important factors.

In acknowledging the influence of the systems surrounding the context (McKenney & Reeves, 2012) the chapter ended with an analysis of wider education sector factors, small state features and the global context for active learning reform as having influence on the reform process. In Chapter Nine the design principles and contextual factors, presented in this chapter are brought together into a conceptual framework.

CHAPTER 9: CONCLUSION - WHY SMALL STATES OFFER ANSWERS TO LARGE QUESTIONS

If you keep on doing what you've always done, you'll keep on getting what you've always got. (W. L. Bateman)

Introduction

I was to depart the island, the site of my research, at 2.30am on a fishing boat. More than one tear had been shed at the prospect of leaving the island community. This single event epitomised much about this research experience. The sense of being wrenched out of a community to which I had become a fixture also tells the story of the evolving partnership on which this research project was based, working with teachers during my eight month stay on the island to investigate the conditions under which active learning pedagogy could be operationalised within the Maldivian school system. This event illustrates powerfully the challenges of transport in a country where 99% of its area is water. After several frustrating delays I chose to travel back to Malé on a fishing boat for the nine hour journey, despite fearing the sea conditions in the middle of the monsoon. Such are the challenges of living and travelling within this country of islands, which I had faced more than once in my movements between the Research School Island and Malé during my fieldwork. This brought an authenticity to living in such a geographically unique country. The consequences were real as I could potentially miss my flight home. Yet, these are challenges Maldivians faces on a daily basis; the cost and availability of transport, the vagaries of the weather and accessing centralised services.

This event tells the story of Maldivian lifestyle – of island communities and fisherman by tradition. On this boat the fishermen were travelling to Malé to stock up on ice where it is possible to access resources not available on local islands. It also tells the story of personal relationships within this small nation. The fishermen were acquainted with the school; perhaps their children attended; perhaps they were related to teachers with whom I had worked. I was no longer a stranger on the island and to leave in this way, for the final journey, seemed a fitting end, and symbolic of the web of relations within the island community.

The smallness of Maldivian islands has posed challenges for the country, as discussed in Chapter Two. Yet smallness also has some advantages (see Crossley & Sprague, 2012) and in this study it rendered more visible both the school and island activities, providing insights into the factors that influenced the enactment of the intervention. This final chapter draws together the findings of the study to respond to the research questions which are revisited here.

The central research question of this study was formulated as follows:

How can teachers enact active learning pedagogy within the Maldivian education system?

Three sub-questions supported this study. These are:

1. What form does active learning pedagogy take in the Maldivian context?

2. What are the enabling conditions that support the use of active learning pedagogy?

3. What are the factors that hinder the use of active learning pedagogy?

My focus in this chapter is 'what has been attempted, what has been learned, and what new questions have been raised' (Walcott, 2009, p. 114). First, I contextualise the findings within the broader context of small states. Then I summarise the key outcomes from the contextual analysis which identified the salient features of active learning in response to the research question – what form does active learning take in the Maldives? Next, in response to the study's overarching research question, I present the major findings by way of design principles embedded within a conceptual framework. I conclude this chapter with some recommendations for further research, to build upon the findings and design of this investigation, acknowledging that all studies have limitations.

As indicated in Chapter One, the impetus for this research arose from my work in the Maldives, following the 2004 tsunami. But the experience of living on a local fishing island during my fieldwork broadened my knowledge and experience of the country far beyond what I encountered when I was based in the capital, Malé between 2006 and 2008. Through my engagement with the intervention, integral to design-based research, that necessitated an extended period of living on the Maldivian fishing island, I was afforded the opportunity to gain a deeper understanding of island life in this small, geographically unique country. Crossley (2010, p. 422) laments, 'How rarely the findings of educational research seemed to reflect the lived experience of educational practitioners'. But through my immersion in the field, I came to experience some of the contextual factors first hand and better understand the central role of the

school on the island, the routines of island life and the tyranny of distance. I would also observe the particular social relations of small islands and the notion of 'managed intimacy' (Lowenthal, 1987) through my involvement in the school. These personal experiences of island life accords with Crossley's (2010) reference to the importance of developing an understanding of context.

> In studying foreign systems of education we should not forget that the things outside the schools matter even more than the things inside the schools, and govern and interpret the things inside. (Sadler cited in Crossley, 2010, p. 422)

The critical influence of context has been foregrounded throughout this thesis, with Bronfenbrenner's ecological framework providing a basis for understanding the various interacting layers of influence. The importance of contextual factors is argued as being particularly acute for small states, given their distinctive characteristics and priorities (Crossley, 2010). In particular their 'smallness' raises challenges around limited human and material resources and a high degree of openness in seeking solutions beyond their borders to address problems they face. Consequently, this outward international orientation of small states accentuates the importance of sensitivity to context and why potentially 'small states offer answers to large questions' (Veenendaal & Corbett, 2014, p. 1) in the process of policy transfer and navigating a reworked global agenda (C. Brock & Crossley, 2013).

As raised earlier, smallness has some advantages. In light of Crossley et al.'s (2011, p. 32) contention that it is not uncommon to see tension between curricular and pedagogic reform at the national level and implementation at the school level, what can be rendered more visible in a small state or a small island has the potential to offer insights into larger questions. As discussed in Chapter Two, educational innovations were seen as critical to the development of small states and due to their smallness, they tend to be outward looking. Therefore the heightened awareness that comes from investigating, within the microcosm of a small state, can provide heightened visibility of how reform is negotiated locally and the influencing factors. Consequently research on education in small states highlights why contextual factors deserve greater attention (Crossley & Sprague, 2012).

As seen in the Maldives, the Child Friendly School's (CFS) project became a driver of pedagogical reform in the country with educators referring to CFS methodology, a term synonymous with active learning or learner-centred education. Yet it was also recognised that

local ownership was required with greater emphasis on the cognitive dimensions, rather than relying simply on the organisational and physical changes in Maldivian classrooms (McNair, 2009; UNICEF, 2010). Responding to these observations and recommendations of the CFS program, along with my own experience in the country, this investigation endorsed the need for greater community participation and ownership of the reform process and a commitment to participatory principles in the research design.

According to Schweisfurth (2013b, pp. 133–4), context matters in terms of what elements of LCE policy and practitioners buy into and therefore in striving to develop a contextually relevant model, it is necessary to determine what is prioritised as well as what is tolerated. Through the participatory underpinnings of the study and using the World Café to facilitate community dialogue, the following salient features, prioritised by the school community were identified through the contextual analysis phase of the study and are summarised in Table 38.

Table 38: The salient features of active learning prioritized by the school community

The World Café findings
Student participation
Student participation is an essential component of active learning that improves students' motivation and potential learning
Practical learning activities
The 'learning by doing' with practical activities is foregrounded
Use of group work
Group work offers opportunities for students to work together, have discussions and generate ideas
Friendly classroom environment
A safe, friendly and flexible classroom environment facilitates active learning
Teachers as facilitators
The teachers' role extends beyond transmitting information, with the onus on teacher to facilitate learning to meet the learning needs of students
Equity: catering for all students
Active learning caters for the different learning needs of students, in contrast to a one size fits all approach

In striving for contextual relevance, these active learning features, prioritised by the school community, provided input into the intervention design and implementation. The intervention also drew on the literature to learn from previous research and conceive 'promising solutions' to the well-documented challenges of active learning reform (Table 2).

In seeking to solve a real-world problem (McKenney & Reeves, 2012), the intervention in DBR is designed to advance both theory and practice simultaneously. The practical implications of the intervention in the Research School were considered in Chapter Six when reporting the teachers' use of the GROR instructional model and the 'we do' strategies. The theoretical outcomes were then abstracted from these empirical findings (McKenney & Reeves, 2012) and were presented as a series of design principles in Chapter Eight, that embodied the circumstances which supported the operationalisation of the active learning intervention. Three key areas were identified: the characteristics of the intervention; the enabling conditions for teachers' enactment; and features of a 'resilient' school, all explored in light of the specific conditions of the Maldivian context. Since DBR explicitly 'strives to make a theoretical contribution of value to others outside the research setting'(McKenney & Reeves, 2012, p. 28), the context has been richly delineated so that the design principles emerging from this study can be assessed for their suitability for other similar or applicable contexts.

The 'manifold enterprise' (McKenney & Reeves, 2012, p. 27) that is DBR and the vast amount of data that are generated consequently mean there are many stories to tell (McKenney & Reeves, 2012). (p210). Acknowledging this challenge, the following heuristic statement was the starting point in distilling the multiple findings into a coherent narrative:

> If you want to design intervention X for the purpose/function Y in context Z then you are best advised to give the intervention characteristics A, B and C (substantive emphasis) and to do that via procedures K, L and M (procedural emphasis) because of arguments P, Q and R. (2006, p. 73)

What evolved from the findings was a dynamic, non-linear process with intersecting components, reflecting the messiness and complexity of real-world practice and the multi-faceted influences on teachers' practice in this study. This heuristic, however, does draw attention to the relationships among the context, intervention characteristics, and procedural guidelines that are supported by empirical and theoretical arguments. Trying to portray the

findings in this linear way was complicated and consequently what evolved in portraying the dynamic interactions is conceptualised in Figure 35. Here the design principles presented in Chapter Eight are articulated, whilst explicitly acknowledging the influencing contextual factors.

In responding to the overarching research question – how can teachers learn and enact active learning in the Maldivian Education system? – the focus in this diagram is on identifying the enabling conditions as guidelines for the implementation of active learning beyond the Research School, since design principles are intended for use beyond the research site.

Active learning innovation
Moving from conceptual ambiguity to operational clarity

Develop a contextually relevant model
The model of active learning needs to reflect and respect local priorities, fit with the circumstances of teachers' work and take into account the available resources.

Balance what is desirable and what is feasible
The model of active learning needs to be conceived within the zone of feasible innovation, promoting a staggered approach to reform so that teachers can build on their current practice.

Provide operational clarity for teachers
The model of active learning needs to be clearly and simply articulated, providing practical guidelines within a structured approach.

Teachers' professional development
Teacher knowledge-practice-refinement

Knowledge: accessing new ideas
Teachers need access to new ideas about active learning pedagogy through multiple modes such as practical workshops and how-to guides (print and online resources).

Practice: putting new ideas into action
New ideas need to be enacted within the circumstances of teachers' work by: creating space for reform; providing classroom-based support; and drawing on available resources.

Refinement: adapting new ideas
Active learning pedagogy, viewed as a continuum of practice, requires ongoing refinement of teachers' practice.

School context
Developing a "change-welcoming" school

Leading change: the role of school leadership
School leadership needs to create a vision for change and to support and lead change within the school community.

Parent-school collaboration
Harness the support of Maldivian island communities through an inclusive process that mobilises community participation.

School management and organisation of resources
Organisational features can influence teachers' enactment of active learning. A responsive approach by the school leadership is needed to address teachers' concerns about managing available resource.

Operationalising active learning in the Maldivian education system

Influencing factors: SIDS
Characteristics of SIDS
Remoteness, small size, limited natural and human resources, vulnerability to external influences.
Contextual features of the Maldives
Highly dispersed country of small islands with challenges for delivering services across the country.
Economically – heavily dependent on tourism which is subject to fluctuations.
Politically – problematic transition to democracy, unstable political context
Socially – unified by language and religion. Strong island communities.
A "particularistic culture" resulting in less neutral bureaucracies.
Education in the Maldives
Disparity between Malé and island schools.
Unequal access to and attainment in O and A-level examinations across islands.
Cycle of 'richer' and 'poorer' schools.

Influencing factors: Policy level
Policy process
Policy creates the space for reform although lacks clarity around the concept of active learning. A lack of system alignment was indicated in the example of assessment expectations/accountability and surprise announcements by government.
Teachers' Professional Development
Workshops are often carried out off-site in intensive blocks given the highly dispersed island schools. Teachers cited information overload and difficulty translating new knowledge into classroom practice. Leading teachers play a key role.
Teachers' salary and working conditions
Low salaries were cited as a difficulty teachers face and a disincentive to undertaking extra responsibilities.
Assessment
Tensions reported between active learning methods and traditional assessment. Pressure from O and A-level examinations was raised as a barrier to active learning.
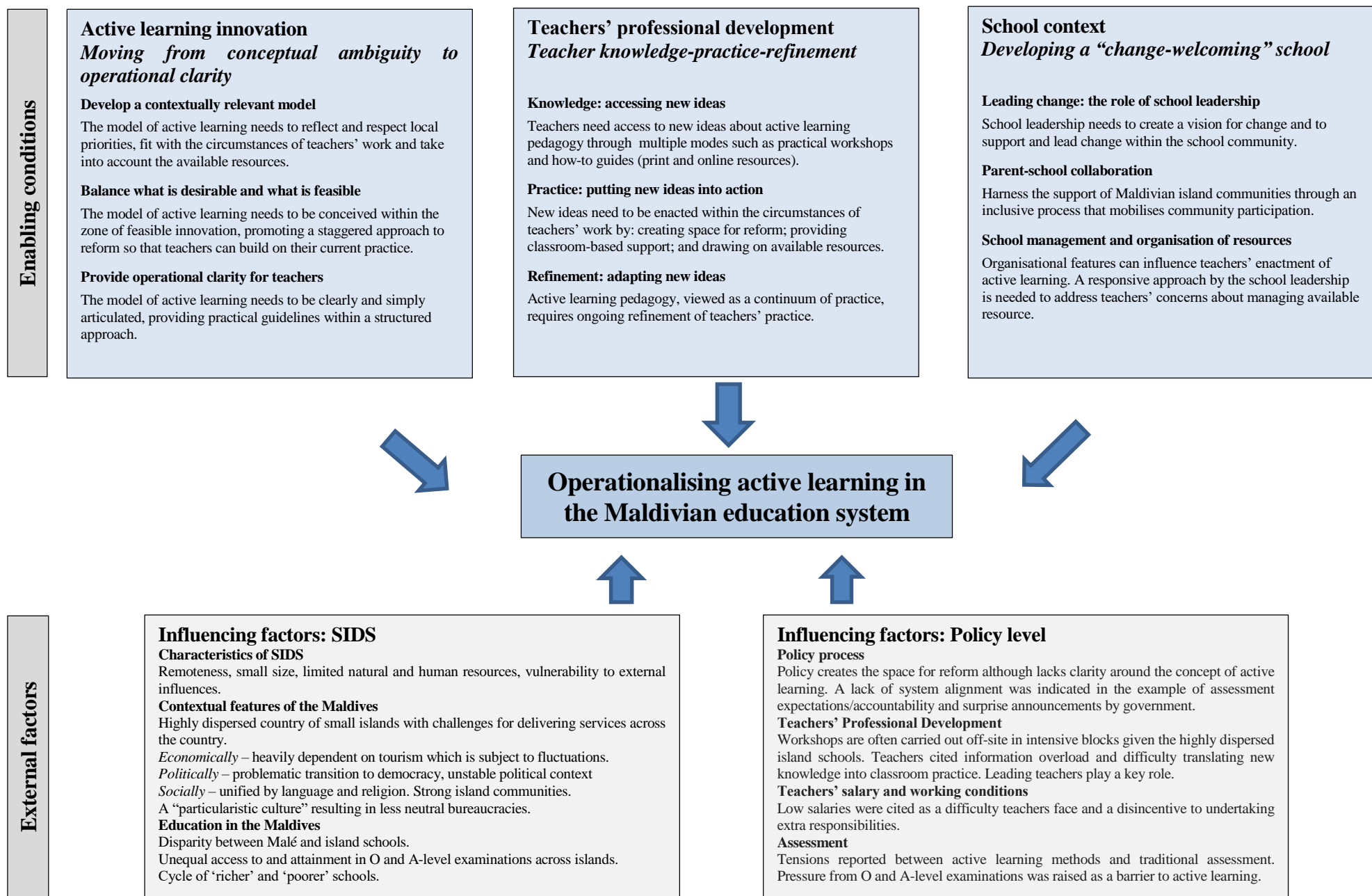
Figure 35: Overview of influencing factors for active learning reform presented as design principles

This conceptualisation acknowledges the macro level contextual details; the specific features of the Maldives, as detailed in Chapter Two and specific findings pertaining to the MoE and policy level details.

The operationalisation of the active learning intervention at the Research School demonstrates it is possible to embrace pedagogical change within the Maldivian education system, given a supportive setting and a staggered approach to reform. Moving beyond the polarization of pedagogy and embracing a hybrid approach that allowed teachers to build on their existing practice, whilst also embracing new practices, is consistent with the notion of 'contingent constructivism', a term Vavrus (2009, p. 303) associates with LCE reform in Tanzania when acknowledging conditions within the country. Whilst Schweisfurth's (2013b) has proposed minimum standards for learner-centred education (LCE), these were published after the intervention phase of this study, but they were applied as an analysis and validation tool, revealing that teachers' enactment encompassed the standards, albeit with differing emphases. Those that were prioritised included: standards 1 (Lessons are engaging to students, motivating them to learn); standard 2 (mutual respect between teachers and learners); and standard 4 (Dialogue [not only transmission] is used in teaching and learning).

Explicit in DBR is that substantial elements of the design are determined by contextual realities (McKenney & Reeves, 2012). In Chapter Three, two perspectives on the contextual realities for change were discussed acknowledging the particular circumstances of teachers in developing countries. These perspectives encompass the stages of development of the education system (Beeby, 1966) and the context for change, acknowledging there are multiple pathways to change teachers' practice (Clarke & Hollingsworth, 2002). As succinctly highlighted by Johnson et al. (2000), the mechanisms for change at one level may be inappropriate at another level. For example, this was illustrated by Raval (2010) in detailing how paraprofessional Indian teachers developed learner-centred teaching strategies, and the design of a conceptual model that was based on identified needs and contextual factors. The intervention in this study built upon the contextual analysis findings to develop a contextually relevant model of active learning that acknowledged the contextual conditions. Chapter Two identified the four areas relevant to Maldivian needs around active learning reform which were addressed in this study

and which have implications for future implementation of active learning initiatives in the Maldivian context.

- **Mobilise island school communities to facilitate local ownership of innovation**

School community stakeholders were engaged in a process of collaborative dialogue through the World Café approach and the local priorities regarding the salient features of active learning were identified and subsequently informed the intervention design.

- **Develop a clear, local vision for active learning**

The GROR instructional model both addressed the community priorities ascertained through the World Café and provided a clearly articulated framework that was designated easy to follow and user-friendly. Teachers' explanations of the components of the instructional model indicated their understanding of the framework, prioritising student participation and undertaking a more integrative approach to teaching.

- **Preparing teachers for active learning**

The one shot off-site PD structure, so prevalent in the country, was addressed in the intervention phase by responding to teachers' requests for support to bring the innovation into their classroom through team teaching and co-planning. A role for leading teacher to lead change by supporting teachers in a mentoring rather than a supervisory role was proposed.

- **Material resources and organisational conditions**

Recognising that teachers need teaching resources if they are to make a shift from the traditional transmission approach. Utilising available resources was a focus of this study, drawing on professional resources available in the library and using textbooks in innovative ways.

These areas represent the practical outcomes of this study but their conversion into design principles in Figure 35 provides potential guidelines for other schools to embrace active learning approaches. With the roll out of the new National Curriculum Framework (NCF) and the CFS Baraabaru quality school indicators, which are framed around the CFS dimensions and specifically addressed Dimension 2—learner-centred teaching and learning, these design principles explicate the guidelines for schools that aspire to embrace active learning pedagogy. The 'depressing study' (Schweisfurth 2013b, p. 154) of LCE reform across multiple developing country contexts has been well-documented and, as Farrell (2008) notes, much more is known

about what doesn't work than about what does. Therefore, in acknowledging these challenges identified in the literature and seeking to learn from previous studies in developing countries, I have outlined the contextual realities facing teachers in this school setting and establishing practices that are acceptable to the community as key conditions in addressing policy implementation challenges. In addition, these conditions provide a series of design principles that can be used as guidelines in other suitable settings.

CFS, as a global reform, calls for local interpretation and local priorities as identified in this study and demonstrates the possibility of 'gelling', as proposed by Tan (2010), a process which was started in this school through the inclusive approach to CFS in the lower grades and has been continued through the participatory underpinnings of this investigation. The outward looking tendency of small states, necessitated by their small size, makes them particularly vulnerable to global influences, as discussed in Chapter Two. I have outlined a process for identifying community priorities and provided input into developing a contextually relevant pedagogical model that is consistent with the policy environment but that also respects and reflects local realities (Schweisfurth 2013a). Therefore, in conclusion I return to the title of this chapter, why small states offer answers to large questions. The example of this small island and the Research School in this study, illustrates how small states, or in this case a small island, can elucidate answers to the implementation challenges of active learning.

Returning to the title of this chapter and why small states may offer answers to large questions, this study has illuminated how one small island has mediated global and local influences to enact active learning. This study also elucidates the effectiveness of implementing a distributed model of active learning, responding to the literature that more structured pedagogical models may be more effective in the reform process. Finally, the design principles, identified as the theoretical outcome of this study, are designed to be of use to those implementing similar reforms in other relevant settings. The detailed analysis of this investigation will hopefully make a meaningful addition to the emerging literature on educational change in developing countries (Rogan 2007).

Recommendations for further research

Recognising that all studies have their limitations and taking this into account, the following recommendation are made for further research. The study contributes to deepening our knowledge of the active learning reform within the Maldivian context and specifically within a traditional island school where most children attend school in the country. This study was undertaken in a school offering optimum conditions for implementing the active learning intervention. The features of this school were then identified and reported as enabling contextual conditions. Several recommendations for future research are presented that may extend our understanding of this complex area of pedagogical renewal and the well-documented implementation challenges reported in the literature.

1. As I was unable to carry out the study as planned in a second school (see Chapter Four) and enact the intervention in a school offering 'typical' conditions, the first recommendation proposes that the active learning intervention (Gradual Release of Responsibility instructional model) be implemented in another Maldivian school that offers more 'typical' school conditions to investigate teacher uptake of the model and a comparison of the enabling conditions in a different school setting.

2. This study followed a single iteration model (Ma & Harmon, 2009) of DBR (see Chapter Four) in response to the time in the field and the contextual constraints. Since the intervention typically evolves over several iterations in design-based research, the GROR model could be refined and studied over further iterations.

3. Providing a rich description of the contextual details of the Maldives allows for the design principles to be evaluated for their suitability in other contexts. In responding to the literature and recommendations that more structured approaches to active learning reform may be more effective, it would be useful to investigate the process of operationalising the GROR model in other countries undergoing similar reform.

4. The findings from this study outline the support deemed necessary for teachers to change their practice. In light of the roll out of the new National Curriculum Framework, it would be timely to apply the findings on how teachers access new

knowledge and ideas, the support needed to enact the new ideas, and the conditions for ongoing refinement, to the curriculum reform process.

5. In defining the characteristics of a 'change-welcoming' school, it is recommended that the design principles be studied and refined to help determine how school principals serving Maldivian communities can best harness the support of the island communities in the process of reform, as parents have been typically excluded from this process. As a clear enabling condition in this school, it would be timely with the roll out of the National Curriculum Framework to investigate whether the collaboration with parents, so evident in the Research School, can be applied as effectively in other Maldivian island school communities.

Epilogue

I began this research with the belief that active learning pedagogy was possible in Maldivian schools if the right set of circumstances could be found, despite the many challenges I had confronted in my work, witnessed in schools up and down the country, and discussed with people across islands. It was my assessment, as I observed teachers in Maldivian schools through my post-tsunami work, that the CFS model of active learning advocated through the CFS training program was too complex for teachers. It called for a level of planning and preparation for lessons that was too far removed from teachers' established routines. I undertook this research with these beliefs, as expressed in Chapter One, and I was interested in what a contextually relevant model of active learning might look like in the Maldives. At the end of this research journey I reiterate that it is still my belief that Maldivian teachers are interested in teaching methods that differ from the traditional transmission approach to teaching and that, by and large, they experienced themselves as students. It is my belief, however, that once teachers have had a positive experience of active learning they generally do not want to return to a traditional transmission approach, as they voiced very clearly in this story. The findings do not portray active learning reform as an easy or straightforward process. Yet, I believe schools that face the challenges of reforming teachers' practices to embrace more interactive and participatory methods can achieve more positive outcomes if teachers are given encouragement and guidance in a school environment that, as Schweisfurth (2013b) writes provides coherent and sustained support.

Living on a tropical island may equate to notions of paradise and I have been fortunate to visit a number of resorts for which that the Maldives is so famous. To have been part of a school community for eight months, an experience far removed from luxury resorts and the tourism industry, was a special opportunity and a privilege not afforded to many people. In better understanding the ebbs and flows of island life and teachers' work, I believe even more strongly that reform is possible in Maldivian schools given the right conditions. I hope this thesis goes some small way to supporting reform so Maldivian students are no longer simply 'learning by rote, bored out of their mind, physically present but psychologically absent' (Leadbeater, 2012, p. 70).

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APPENDICES

Appendix A: Ministry of Education Permission

MINISTRY OF EDUCATION
MALE'
REPUBLIC OF MALDIVES

29th November 2010

To whom it may concern

This letter is to certify that the Ministry of Education supports the research idea proposed by Rhonda Di Biase, to be undertaken in Maldivian schools, as part of her Doctorate of Education.

Her focus on how teachers can best learn and use student-centred pedagogy is timely for our current needs. The Ministry of Education is currently advocating the use of this pedagogy in Maldivian schools.

Rhonda has experience working in the Maldives. She previously worked at the Faculty of Education, Maldives College of Higher Education, for over two years (2006 – 2008) as part of a tsunami funded aid package. In this capacity she worked as a teacher educator in pre-service training.

The Ministry of Education fully supports this research and will provide access to schools during the process. Rhonda is aware that she will need to complete a Survey Approval Form through the Department of National Planning outlining her data collection methods. She will be allowed access to both Male and island schools.

We will provide support required for this research to be undertaken, including transport to islands. A local supervisor will be available for the duration of the fieldwork. This is Dr Ahmed Ali Manik, State Minister for Education and a previous Dean at the Faculty of Education.

Yours sincerely,

Dr. Aamaal Ali
Permanent Secretary

Department of National Planning

Ministry of Finance and Treasury

Finance Building , Ameenee Magu, Male' 20379, Rep. of Maldives

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No: 100 – ST3/NDV/2011/13

26th June 2011

Rhonda Di Biase

Clinical Specialist
Teach for Australia program
Melbourne Graduate School of Education
University of Melbourne

Dear Rhonda Di Biase,

<u>Understanding the factors that influence active learning reform in the Maldives.</u>

With reference to your application form, we hereby approve conducting of the above mentioned survey from 12th September to 16th October 2011.

Attached please find the official form "Permission to Conduct Survey" .We would appreciate it if you could inform us if there is any change in the survey period.

Yours sincerely,

Aishath Shahuda
Deputy Executive Director

Appendix B: Teacher Initial Questionnaire

Teacher Questionnaire
Part 1 - Lesson structure and activities

How often do you use the following activities in your lessons?	MOST LESSONS	SOME LESSONS	ALMOST NEVER	NEVER
1. Explanation given by teacher				
2. Copy notes from board				
3. Teacher demonstration				
4. Students complete written work in textbooks				
5. Students complete written work in workbooks				
6. Group work (or pair work) activity				
7. Student practical work				
8. Whole class discussion led by teacher				
9. Small group (or pair work) discussion				
10. Games				
11. Other: _____				
12. Other: _____				

Describe the structure of a typical lesson.

Activity	Percentage of the lesson

Part 2 - Active learning

How many years have you been teaching? _____

How many years have you been teaching at this school? _____

How many years have been teaching CFS/active learning?_____

Have you had CFS training? Yes/No

Please indicate your response to the following statements about active learning.	Not true	Somewhat true	Very true	Do not know	Not relevant
16. I have been given information about active learning.					
17. I am happy to try and use active learning methods.					
18. I am worried about using active learning methods.					
19. I need more time to learn about active learning and how best to use this method in my class.					
20. I do not feel prepared because I have limited knowledge of active learning.					
21. I am concerned about how active learning affects my students.					
22. I would like to know more about how active learning is better than what we did before.					
23. I will need more training to be able to use active learning.					
24. I can ask advice from others in my school if I have a problem with active learning.					
25. I have been able to raise concerns about active learning in my school.					

26. I talk with my colleagues about active learning.					
27. I support active learning being in our school.					
28. The training I received has helped me with active learning.					
29. Teachers and School leadership have worked together to make active learning work in the school.					
30. Teachers and parents have communicated with each other about active learning.					

Questions about active learning

1. What do you like/dislike about active learning?

Like	Dislike

2. What is the main barrier you have experienced in trying to use active learning methods? Describe the main one for you.

3. What type of assistance would you like to help you with carrying out this active learning?

Thank you for completing this questionnaire. If there is anything else you would like to communicate please do so in the space below.

Appendix C: Ranking Activity

Teachers were asked to rank the following statements about how people learn.

They agree or disagree with other people
They ask questions
They discuss things with other people
They do things more quickly
They find answers to questions
They get help to do things that they would not be able to do by themselves
They give their own opinion
They know more
They make decisions about what is important and what is not
They make sense of the things they do
They memorise facts
They make sense of the things they know
They practice until perfect
They repeat the facts when asked
They try out new ideas

Ranking activity adapted from Akyeampong, Pryor, & Ampiah (2006)

Appendix D: Teachers' Interview Questions

Teachers' semi-structured interview questions

First Interview
1. Describe a lesson you taught that you were happy with and when really good learning took place.
2. Describe a good teacher?
3. What changes have taken place (in the way you teach) since you began teaching CFS grades and using active learning methods?
4. What has helped you to do this?
5. What has made it difficult to use active learning methods?
6. How would you like to improve your teaching using active learning methods?
7. What would you like to learn more about to assist with active learning methods?

Final interview
1. How would you explain active learning? Have your ideas changed since using the 'I do, we do, you do' planning model?
2. From your perspective, what, if any, changes have taken place in the way you teach since using the new planning format and learning new 'we do' strategies?
3. Involvement and participation of students is seen as an important feature of active learning. Why is it important to involve the students? How does this help their learning?
4. Which of the 'we do' strategies do you find most useful? Why?
5. How do you know if your students have learnt something when using group work?
6. To what extent have you been able to use the 'we do' strategies in your classes?
7. What has supported in the use of the 'we do' strategies?
Refer to - Personal factors/School factors/Ministry factors
8. What has made it difficult to use the 'we do' strategies in your classes?
Refer to - Personal factors/School factors/Ministry requirement factors
9. Have you been able to overcome any of the challenges in using active learning in your classes? If so what did you do?
10. What recommendations would you suggest for supporting teachers in using more active learning methods?

Appendix E: Senior Management Team – Examples of Questions

Principal questions

School information
1. Teacher statistics
How many local teachers and how many expatriate teachers?
2. Student statistics
What is the breakdown in student numbers – by grade level and gender?
3. What do you see as the strengths of the school overall?
4. What areas in the school do you think need improvement?
5. I know the O and A level exams are very important – what results are you able to share? (e.g. how does this school fit with the rest of the atoll and the Maldives in general).

Active learning
6. This school is seen as a model school for CFS. How do you think it came to embrace CFS so explicitly?
7. How would you explain active learning?
8. What is your vision for active learning in your school?
9. What are the strengths of active learning in your school?
10. What areas would you like to see improved in terms of use of active learning methods?
11. What do you think has helped teachers use active learning methods?
12. What do you think would help teachers use active learning methods more effectively?

Overall school improvement planning
1. I am trying to understand the link between CFS and active learning. CFS seems to have been a driver of change in the lower primary classes in this school. Since this school is seen as a model school for CFS do you have plans to expand CFS to higher grades, particularly in light of the CFS indicators being applicable to Grade 10 now?
2. What are your plans for the future in the school to improve learning?
3. What do you think are the mechanisms that support improvements in the school:
   o in general,
   o in regards to improving teaching methods
   o in regard to increased use of more active learning methods?

Leading teacher final interview questions

Planning model
What do you think of the 'I do, we do, you do' planning model?
How do you find the teachers' use of it?

'We do' strategies
At the beginning of this research project the teachers said they needed more help with learning how to use a range of strategies in the 'we do' section of the planner.
How do you see teachers' use of group work in relation to:
-student response to group work
-teachers' planning for group work
-teachers' use of group work
-other_____?
To what extent were the 'we do' strategies suggested through this research project useful for teachers from your perspective?
What other ideas do you have for expanding teachers' methods in 'we do' instruction?

Assessment
What are Ministry assessment and reporting requirements for your grade level?
How are teachers accountable in terms of their assessment methods?

Future ideas
In what areas would you like to see improvement in teaching and learning-
   Generally:
   With active learning:

Classroom observations
How do you undertake classroom observation?
What is the purpose?

In what way(s) is feedback given after the observation?

Any other comments?

Appendix F: Expatriate Teacher Questionnaire

Questionnaire for expatriate teachers (anonymous and confidential)

1. How long have you been in the school?

2. Describe your overall experiences teaching in the Maldives? What do you like/dislike? How does it compare to teaching in your own country?

3. How is it different teaching Maldivian students to students in your own country?

4. Do you use active learning methods in your classes? If so can you give some examples of ones you have tried to use?

5. Describe your experiences using any active learning methods? (positive or negative)

6. What are some of the challenges you face when using active learning methods?

Thank you for answering these questions

Appendix G: Schedule of Research Activities

Schedule of initial activities 2012 – pre-intervention
(from arrival in Malé – to island – to May 25ᵗʰ)

Date	Person	Nature of activity
8 Mar		Arrive in Malé
12 Mar		Fly to Research site Island
13 Mar	CFS parents	The World Café (80 people – groups of 6-8)
14 Mar	Teachers and SMT	The World Café (60 people – 7 groups)
16 Mar		Return to Malé
26 Mar		Atoll School 1 visit
27 Mar		Atoll School 1- PD assessment
28 Mar		Return to Research site island
2 Apr		Prepare PD
3 Apr		Prepare PD
4 Apr		Travel to Malé
6 Apr		Prize Day School
9 Apr		Malé/FE
10 Apr		Return to Research site island
12 Apr	All teachers	Scheduled PD day/TRC
14 Apr		Survey Monkey
15 Apr	Teacher 7	Initial interview
	Teacher 2	Initial interview
16 Apr	Teacher 6	Initial interview
	Teacher 3	Initial interview
	Teacher 1	Initial interview
17 Apr	Teacher 1	Initial lesson observation (Eng)
	Teacher 3	Initial lesson observation (Maths)
	Teacher 3	Debrief lesson
	Teacher 2	Initial lesson observation
	Teacher 1	Initial lesson observation
18 Apr	Teacher 7	Initial lesson observation
	Teacher 7	Debrief lesson
	Teacher 4	Initial interview
	Teacher 6	Initial lesson observation (maths)
	Teacher 4	Initial lesson observation (ES)
	CFS teachers	Weekly Planning meeting 8.30pm
19 Apr	Teacher 5	Initial lesson observation (ES)
	Teacher 5	Debrief lesson
	Teacher 4	Debrief (lesson 18 Apr)
		Due to ESQID visit other lesson debriefs were not possible
22-29Apr	ESQID	ESQID quality assurance school visit

24 Apr	All teachers	PD I do, We do, You do workshop
29 Apr	SMT 5	Interview
	Teacher 1	Meeting re class
30 Apr	Teacher 8	Meeting
	Teacher 6	Lesson observation (Maths)
	Teacher 5	Lesson observation (Maths)
	CFS teachers	Request for team teaching
Long weekend – off the island		
7 May	FE staff	Presentation to staff
8 May		FE - Prepare lesson observation template
9 May		Return to Research site island
12 May	Teacher 1	Atoll school 2 PD
14 May	CFS teachers	Meeting re intervention priorities (group meeting)
17 May	SMT 5	Discussion about CFS/active learning
	CFS teachers	Meeting – arrangements for ongoing meetings
18 May	School	O level subject forum/junior sports training
20 May	CFS teachers	ICT training (no classes operating)
21 May	Teacher 3	Scheme of work planning
24 May		Fly to Malé
28 May	Meeting	Skype meeting in Melbourne
29 May	Meeting	World Bank meeting (Colombo)
	Meeting	MoE Colombo (postponed)
9 Jun	Meeting	UNICEF Advisor social policy (Regional)
	Meeting	UNCEF Education Regional Advisor
11 Jun	Official 3	Meeting in Malé

Schedule with teachers 2012 – implementing group work strategies
(from return to island June 14th- to Ramadan departure)

Date	Person	Nature of activity
14 June	SMT	Meeting re plan for group work strategies
17 June	All CFS teachers	Meet in session groups explain booklet 11.30 and 1.15
18 June	TRC co-ordinators	Group interview
19 June	All CFS teachers	Weekly Planning meeting 8.30
21 June		Term 2 PD workshop in school (asked to conduct by SMT)
24 June	All CFS teachers	Meet in session groups 11.30 and 1.15
25 June	Teacher 2	Observation
	Teacher 7	Observation
	Teacher 7	Debrief (lesson 25 June)
	Teacher 6	Observation
	Teacher 3	Observation
26 June	Teacher 5	Observation
	Teacher 1	Planning
	Teacher 6	Debrief (lesson 25June)
	Teacher 5	Debrief (lesson 25June)
	Teacher 2	Debrief (lesson 25June)
	Teacher 3	Debrief (lesson 25June)
27 June	Teacher 1	Observation
	Teacher 2	Observation
	Island council	Interview
	All CFS teachers	Weekly Planning meeting 8.30pm and 9pm
	Gr 5-7 teachers	Weekly Planning meeting 8.45pm
28 June	Teacher 2	Debrief (lesson 27 June)
	Teacher 1	Debrief (lesson 27 June)
1 July	CFS teachers	Meet in session groups 11.30 and 1.15
	Teacher 2	Meeting – reflection booklet
2 July	Teacher 7	Observation
	Teacher 7	Debrief lesson (2 July)
	Teacher 1	Reflection booklet
3 July	Teacher 2	Observation
	Teacher 2	Debrief lesson (3 July)
	Teacher 3	Observation
	Teacher 3	Debrief lesson (3 July)
	Teacher 4	Observation
	SMT4	Meeting re Grade 5-7 teachers (new group)
4 July	Teacher 5	Observation (beach trip)
	Teacher 5	Debrief lesson (4 July)
	Teacher 4	Debrief (lesson 3 July)
	All CFS teachers	Weekly Planning meeting 8.30pm
5 July	CFS teachers	Meet in session groups 11.30 and 1.15 – jigsaw organisation

7 July	Teacher 1/2	Sat Planning meeting
8 July	Teacher 6	Planning jigsaw
	Teacher 6	Observation TBC
	Teacher 7	Observation
	Teacher 2	Planning ES
	Teacher 3/ 4	Planning jigsaw
	Teacher 2	Observation
	Teacher 1/2	Planning
	SMT5	Interview re Sri Lankan CFS trip
10 July	Teacher 2	Observation ES shop
	Teacher 1	Debrief (lesson 10 July)
	Teacher 2	Observation
	Teacher 2	Debrief (lesson 10 July)
	Teacher 6	Team teaching Jigsaw
11 July	Teacher 3	Team teaching Jigsaw part 1
	Teacher 1	Team teaching Rosie's walk
	Teacher 2	Team teaching Rosie's walk
	Teacher 4	Team teaching Jigsaw part 1
12 July	Teacher 3	Team teaching Jigsaw part 2
	Teacher 6	Debrief (lesson 11 July)
	Teacher 6	Planning for guided instruction
	Teacher 2	Debrief (lesson 11 July) team teaching
	Teacher 4	Team teaching Jigsaw part 2
	Teacher 3/4	Debrief (lesson 11 and 12 July) team teaching/Jigsaw
	SMT4	Meeting to prepare for new group of teachers
	Teacher 5	Planning for guided instruction
	Teacher 1/2	Planning
	Teacher 1	Debrief lesson (11 July) team teaching TBC
15 July	Teacher 5	Team teaching guided instruction
	Teacher 5	Debrief (lesson 15 July) – guided instruction
	Teacher 5	Midway questionnaire
	Teacher 6	Team teaching guided instruction
	Teacher 6	Debrief (lesson 15 July) – guided instruction
	Teacher 6	Midway questionnaire
	Teacher 1/2	Midway questionnaire
16 July	Teacher 3/4	Midway questionnaire
	Teacher 7	Midway questionnaire
	Gr 5-7 teachers	Introductory meeting/baseline questionnaire

Schedule with teachers 2012 – implementing group work strategies (After Ramazan)

Date	Person	Nature of activity
29/8	Teacher 8/SMT4	meeting
	CFS	Planning meeting 8.30pm
	Primary	Planning meeting 8.30pm
30/8	Teacher D	Initial interview
	Teacher C	Initial interview
	Teacher B	Initial interview
1/9	Teacher C	Planning
	Teacher F	Initial interview
	SMT 5	*Initial interview - cancelled*
	All CFS teachers	Give out new booklets (Block 2)
2/9	Teacher A	Initial interview
	SMT4	*Cancelled*
3/9	SMT 5	Initial interview
4/9	Teacher B	Planning
	CFS	Planning meeting 8.30pm
	Primary	Planning meeting 8.30pm
5/9	Teacher C	Observation 5A
	Teacher B	Observation SS
6/9	Teacher A	Observation English
	SMT 5	Observation Maths
9/9	Teacher C	Planning
	Teacher A	Observation part 2
	Teacher A	Debrief (lesson 6/9)
	SMT 5	Debrief (lesson 6/9)
10/9	Teacher F	Planning
	Teacher F	Observation Maths
	Teacher D	Observation 5B
11/9	Teacher F	Debrief
	Teacher C	Team teaching
	Teacher 5/ 6	Planning
12/9	Teacher C	Debrief
	CFS	Planning meeting 8.30pm
	Primary	Planning meeting 8.30pm
13/9	Teacher 1	Planning
	Teacher C	Observation
	Teacher A	Observation
16/9	Teacher A	Planning
	Teacher B	Planning
	Teacher 1	Observation
17/9	Teacher F	Planning

	Teacher A	Team teaching
	Teacher 6	Team teaching 1
	Teacher 5	Team teaching 1
	Teacher B	Team teaching
	SMT 5	Observation
18/9	Teacher 5	Team teaching 2
	Teacher 1	Debrief (lesson 16/9)
	Teacher D	Planning
	Teacher 2	Planning
	Teacher 2	Team teaching (Jigsaw)
	Teacher 6	Team teaching 2
19/9	Teacher 5	Observation
	Teacher 5/ 6	Planning
	Teacher F	Planning
	Teacher 2	Team teaching
	Teacher B	Team teaching (Jigsaw)
	CFS	Planning meeting 8.30pm
	Primary	Planning meeting 8.30pm
20/9	SMT 5	meeting
	Teacher B	Debrief (lesson 19/9)
	Teacher A	*Debrief (cancelled)*
23/9	Teacher D	Planning
	Teacher 1	Planning
	Teacher F	Planning
	Teacher E	Planning
24/9	Teacher D	Planning
	Teacher A	*absent*
	Teacher 1	Observation
	Teacher 2	Team teaching
	Teacher F	Observation
	SMT 5	*Observation (absent)*
NCF workshops Ungoofaroo 25-26Oct		
26/9	CFS	Planning meeting 8.30pm
	Primary	Planning meeting 8.30pm
27/9	Teacher D	Team teaching
	Teacher 1	Planning
	Teacher F	Debrief
	SMT 5	Debrief
	Teacher A	Debrief (brief)
International Teachers' Conference Malé Oct 1-3		
7/10	Teacher 3	Planning
	Teacher 3	Team teaching
8/10	Teacher 3	Debrief
9/10	Teacher 1	Observation
	Teacher 7	Planning

10/10	Teacher 7	Team teaching 1
	Teacher D	Observation
	CFS	Planning meeting 8.30pm
	Primary	Planning meeting 8.30pm
14/10	Teacher 7	Team teaching 2
15/10	Teacher 1	Observation
	Teacher 6	Planning
	Teacher 6	Team teaching
	Teacher 2	Observation
	Teacher 7	Debrief
16/10	*Teacher A*	*cancelled*
	Teacher 2	Observation
	Teacher 1	Observation
	Teacher B	Revision questionnaire/interview
	Teacher E	Revision questionnaire/interview
	World café	*cancelled*
17/10	Teacher D	Observation
	Teacher F	Revision questionnaire/interview
	CFS	Planning meeting 8.30pm
	Primary	Planning meeting 8.30pm
18/10	Teacher D	Revision questionnaire/interview
	Teacher C	Revision questionnaire/interview
	Teacher A	Revision questionnaire/interview
	Teacher F	*Forgot (final interview)*
	SMT4	*Cancelled (final interview)*
21/10	Teacher E	Final interview
	Teacher 6	*Final interview (cancelled)*
	Teacher 1	Final interview
	Teacher 2	Final interview
22/10	*Teacher 5*	*Final interview (cancelled)*
	Teacher A	*Final interview (cancelled)*
	Teacher B	Final interview (outdoors)
	SMT 4	Final interview (outdoors)
23/10 – 30/10 Eid break/Malé/Colombo		
30/10	Teacher 8	MoE interview (PD)
31/10	Official 5	MoE interview (curriculum)
1/11	SMT	Meeting/discussion of preliminary findings 9pm
	Teacher 3	Final questionnaire
3/11	Teacher 5	Final interview
	Teacher 6	Final interview
	Teacher 3	Final interview
4/11	Teacher 8	Final interview
	Teacher A	Final interview
	SMT4	Meeting (re next year)

Appendix H: Teacher Recording Booklet Samples

Week 1: 26 -30 August

Subject _Din relm'_ Topic_____ Date_____

Teaching strategy used:

- [✓] Think-pair-share,
- [ ] Numbered Heads,
- [ ] Placemat,
- [ ] Jigsaw,
- [ ] Guided instruction (without differentiation)
- [ ] Guided instruction (with differentiation)
- [ ] other _____

Why did you choose to use this strategy for this lesson?

I believe it was suitable for this class because _____

very often we use it .

Place in order of importance whichever ones apply:

- [ ] I find it easy to use
- [✓] Students enjoy it
- [2] It helps involve all students in the lesson
- [ ] It helps students participate more fully in group work
- [ ] Students can be given more challenging tasks
- [ ] It can help students learn more by_____
- [ ] _____ (other)

Grouping students [✓] random, [ ] ability grouping, [ ] same sex, [ ] other_____

In the class:

What happened in the class?

* Students share their ideas in group and after they share for the whole class.

What challenges did you face?

* Some students feel difficult to share their ideas.

In what ways did this strategy help or not help with student learning? How do you know?

It helps to learn them because they will get ideas from others and they understand each other.

What would you change or improve next time you use this strategy?

* Grouping.
* give to them some challanging topics.

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Week 1: 2-6 September

Subject __English__ Topic __Writing a Re-__ Date __17ᵗʰ September 2012__
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Teaching strategy used:

☑ Think-pair-share,

☐ Numbered Heads,

☑ Placemat,

☐ Jigsaw,

☑ Guided instruction (without differentiation)

☑ Guided instruction (with differentiation)

☐ other _____

</td><td>

Why did you choose to use this strategy for this lesson?
I believe it was suitable for this class because _____

_____

Place in order of importance whichever ones apply:

[4] I find it easy to use

[3] Students enjoy it

[1] It helps involve all students in the lesson

[2] It helps students participate more fully in group work

[6] Students can be given more challenging tasks

[5] It can help students learn more

[7] _____ (other)

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Grouping students ☐ random, ☐ ability grouping, ☑ same sex, ☐ other_____

In the class:

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What happened in the class?

- Students were shown pictures (a demonstration) to increase their motivation.
- Explained it using power point presentation.
- After that students were grouped and was given a task to complete - placement.

</td><td>

What challenges did you face?

- In using the correct tense, they've little bit confusion.
- I had to put guide the lower ability throughout the lesson as it was a writing task and they felt difficult to complete it.

</td></tr>
<tr><td>

In what ways did this strategy help or not help with student learning? How do you know?

- Each student could write their own recount (as a roughones)
- Before writing their final draft, they've clear idea about recount writing, by involving in their group.

</td><td>

What would you change or improve next time you use this strategy?

- Grouping Strategies like mixed abilities.
- Different and relevant topics for different levels.

</td></tr>
</table>

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Appendix I: Classroom Observation Form

Date:					
Grade: Subject:					
Teacher's goals:					
Time	**Organization of interaction**	**Description of activity**		**Description of content**	**Notes/Ideas**
		Teacher	**Students**		

Description of activity

Activity type:

- Teacher talk or demonstration to class (students listen)
- Teacher talk or demonstration and student participate
- Teacher talk to individual student
- Explaining a task (related to content)
- Setting up the task (organising the task)
- Students working on task

Appendix J: Mid-way Questionnaire

CFS teachers – 2nd interview (mid-way data)

Planning
1. What do you consider when planning a lesson?
   Scheme of work
   Previous lesson plans
   Textbook
   Teachers guide
   Interest of students
   Ability of students

2. How do you decide which activities to include in a lesson?

'We do' group work strategies booklet

3. Which of the strategies did you find most useful? Why?
4. Which of the strategies did you find most difficult? Why?
5. What would help you to continue using these strategies again after Ramadan?
6. What has helped you the most to try new active learning ideas in your class? (in order)
   Workshops _____
   Assistance with planning lessons

   Team teaching

   Getting new teaching resources

   Feedback after observations

   Other_____

I do, we do, you do **planning format**
7. Which sections of the planning document do you find easy to use?
8. Which sections do you find difficult to use when planning?
9. What assistance do you think would be useful to help with using the planning model?

Appendix K: Ministry of Education/System Level Interviews (Sample questions)

Official 4

Assessment practices/policies
What are the official assessment and reporting requirements for schools? – to parents? To MoE?
What do you think guides school assessment practices?

Vision for assessment
Where would you like to see changes in assessment practices?
How do you think this can be brought about?
What changes to assessment will be required as the NCF is implemented?

Barriers
Teachers regularly cite MoE requirements as constraining their opportunity to change their assessment practices? Whilst we know there is a mismatch between what teachers perceive the ministry wants and what the ministry would actually like to see, how do you respond to this? Do you see any solutions to this?
Teachers (at a recent workshop) told me the leading teacher is often the person who prevents teachers from trying new activities. They attend workshops and then go back and are not allowed to practice what they have learnt. Do you see this as an issue? Are there ways/plans to overcome this problem?

Results and ranking
There is a lot of focus on O level results. How do you think helps or hinders student learning overall?
What is the objective of ranking schools according to their O level results?
Does this mean the schooling system is only catering for a small number of academic students?

Official 9

1. Can you give a brief overview of the courses offered at Faculty of Education?

2. What are the entry requirements for these courses?

3. How many students are enrolled?

4. How many students graduate as teachers in each year (approximately)?

5. What challenges do you see for pre-service training?

6. What aspects do you think Faculty is doing well?

7. What are the priority areas for pre-service training?

8. What reports do you get regarding the TP experience? Common feedback was that students were often prevented from using the strategies taught at FE. Have you had any feedback on this issue or other feedback about trends emerging from the TP experience?

Appendix L: Data Analysis Matrices

The World Café data display
Example from photo ranking activity across seven groups – completed for 29 groups

1 P	4 — All children participate and do group work. All students get opportunity in a friendly environment	6 — Gets opportunity to work with interest. Can work with interest.	1 — Many students can work together with teachers. Students learn a lot. Can having a close relationship with teachers.	3 — Motivation is because they learn through play.	5 — In class all children cooperate and study. All have equal opportunity.	2 — Children obediently listens to teacher. Motivates students.
2 P	2 — Working in cooperatively in groups and enjoy each other	3 — Explaining things each other and working cooperatively. Working cooperatively.	1 — Explaining to all. Students working cooperatively. Students being interested/motivated. A lot of students taking part.	4 — Teacher helping and explaining difficult concept. Teacher working cooperatively with students.	5 — Explaining things properly. Student it easy to do the task. Students independently.	6 — Discussion of the work done and how it was done with students. Discussion of the work done and how it was done with parents.
3 P	4 — This picture shows that students doing their group work. There are four students at the group	6 — This showing some students reading and other students writing others enjoy the books they are very active students.	1 — There is, so many students because they are studying with the teacher. They are enjoy. with teacher.	3 — This picture showing that student doing something with teacher. Others looking for the works that doing good.	5 — This picture showing students doing their maths work. They are very enjoy in their lesson.	2 — This pictures we knows that the students sitting listening to the teacher that teacher what to saying.
4 P	4 — Group work is good. They know together, sharing their work together	6 — Having the freedom to sit in any way that they like in order to the work.	1 — All students participating teacher and student same level.	2 — After teacher gave work is near students and checking how is going.	5 — They are very interested to their lesson.	3 — The classroom is decorated for the students.
5 P	5 — All children are participating and doing group work	6 — Seems all children are working with interest.	1 — Lots of children work together. Shows how interested many children are. Teacher is interested.	3 — When students work in class, seems teachers help more. Seems every students is working with interest.	4 — Seems children are working in one group. Every child, carefully doing the work.	2 — Can see lots of pictures related to teaching. Students seem more interested when teachers teach.
6 P	4 — Students working in groups	5 — Students working independently. Students on task and being together.	2 — Teacher motivating students and working with students. Involving students explain to all.	3 — Whilst student work teacher helping. Student with task	6 — Students working quietly.	1 — Start of lesson. Teacher beginning class in a interesting way.
7 P	4 — All together do group work. Shows children working independently. Improves friendship among students.	5 — Can work at any place comfortable to them.	2 — Explains by involving others. All can contribute orally. Shows children's interest motivation.	1 — A child can be at 5-6 different places to work. Shows that students and teachers are working together.	6 — Students re working independently and freely.	3 — Easy for teachers to get students attention. Easy to explain.

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Data reduction example (sample coded matrix)
Benefits of active learning– coded concept map responses

Develop skills- general	Increased interest in learning	Students more cooperative	Increased motivation
Develop their skills Improve their skills Students will become more creative in many fields Students will solve problems on their own Good for students This methods is good	Enjoying Gain students interest Interesting Show interest Interest - enhance learning Students have fun Student enjoy the works Children can work with interest Students interested when teaching takes place Students find lesson interesting and working with interest Increasing students' participation and increase students' interest	Students will be cooperative Students work cooperatively Working cooperatively x2 Students cooperation Students working cooperatively Working cooperatively x2	Increase motivation Motivate students Students are self-motivated **Improve confidence** Student will build self confidence Develop confidence of students
Self-development	**Enhance learning**	**Enhance understanding**	**Equity**
Students understand their feelings Physical, mental and spiritual development Students gain confidence to achieve their goals in life	Student do own work and being more confident Improve leadership and quality of works Develop individual idea of students So many students can enjoy and learn things Children's knowledge and information get richer So many things can learn with teacher Enhancing learning and facilitating learning	Easy to understand and learn Understanding lesson and good cooperation Students learning easily Matter is clear to students Topics will be covered clearly Students gaining a lot of information	Talented ones may be more active and beneficially Giving extra help to lower ability Teacher helping lower ability students Being fair to all/equal opportunity No discrimination of students No discrimination x2
Social skills	**Increased academic skills**	**Enhance memory**	**Parents**
Create relationships Students can build leadership quality Improve student leadership and cooperation	They can improve their mental ability Students will improve thinking ability Help create better ideas	Students can remember for long time what they have learnt Long lasting memory Remembering To know long lasting	Teacher and parent participation increased Parent and teacher cooperation Parents work in a friendly way

Coded by Font

Conclusion drawing through 'cut and sort' (Examples from two World Café themes: group work and equity)

EQUITY

No discrimination of students
No discrimination x2

Teacher helping lower ability students

Giving extra help to lower ability

Give more attention to the students who are poor in their studies

Being fair to all/equal opportunity

going well,
equal opportunity

Equity

Students get equal opportunity

Equal opportunity for all students

Some teachers arrange extra schedules to help students

Teacher works with groups to explain to low ability students

Conduct extra/remedial classes

needs improvement
attention to 'weaker' students

Give student equal chance to group... every student to participate

other

Differentiation

Students are doing different tasks

Easier for T to recognize the level/ability of students

Those who don't understand much should be given extra attention

Activity according to level

Help students depending on the help required

Based on ability level

Activity according to their level

Give tasks according to ability level

students with disabilities

Give extra to those with disabilities

high achievers

Talented ones may be more active and beneficially

No discrimination

Solve discrimination problems

some students left behind

Provide equal opportunity

Equal opportunity among a class

World Café Themed Grids

Group	Teacher role	Student responsibilities	Types of tasks	Teacher/student relationship	Group work	Participation	Benefits	Equity	Classroom environment
L	Good classroom mgt T guides only Active teachers	Work independently Independently student do most of the tasks Initiate in their studies	Learning resources to be used Meaningful activities be included Practical work Continuous feedback should be given Learners have their own choices	Good relationship between T and st	St engagement Group work and pair work – coop learning Inquiry based learning should be practised Group discussing Sharing…could be implemented	Physically and mentally involved in the task x2 interactive	Physical, mental and spiritual development Interesting		Environment set up St work must be displayed
5ST		Making st involve in the work	Learning by doing Activity according to level		Group participation Sharing ideas through group work Weak and slower learners will be active as they discuss each other Instructions must be clear Activity according to their level	Ch will be very active Active participation of students St must be involved Making st involve in the work	Matter is clear to students	Weak or slower learners will be active with each other Each and every student get their chance to share ideas Activity according to their level	
6ST	T gives guidance and instructions T acts as a guide and supervisor	St should be able to relate things and understand things form they are seeing and hearing St share knowledge with others	Based on ability level They learn by playing		More interested to tell opinion and idea in the groups They do work in groups	Activity oriented Active learning includes activity by doing St participation in learning activity All students will be participated in the discussion St are actively participate in the lesson Active participation from student	St are self-motivated Topics will be covered clearly Talented ones may be more active and beneficially	Weaker ones will get more participation All st individually gets the chance to learn according to their skills and abilities Weaker st actively participate Everyone gets a chance to show their talents All students get equal opportunity	

Why is it important to involve students?

Teacher	Nature of involvement	motivation	learning	opportunity for all	group work	learn from peers
1	everyone must tell something so their ideas, they have to care, so they involved in their activities	They have to care – so they involved	Increase their language, their vocab, their writing skills, speaking also			With other students and teacher also
2	In group all the students involved in writing, drawing, colouring in all the activities Involvement together share the work					
3	When I give information students involve, must involve. No? (I don't know)					
4	If they involve only they understand *Involving more means they can understand more and share ideas*		Involving more means they can understand more and share ideas If they are not involved they may not learn the lesson			Share ideas
5	If don't involve how they learn (what is involvement?) They did the work	More confidence to speak now (English)	They did the work – they know the things, the lesson old was very few students involve – we speaking very few st involved – very few want to speak – now all want to present their work Improve English writing, speaking, reading – more confidence	We give the chance to every student (participation for all puts a focus on differentiating)		

Appendix M: Adaptation of the Gradual Release of Responsibility Instructional Model

LESSON PLAN				ފުރަތަމަ ފިލާވަޅު
Subject މާއްދާ		**Date** ތާރީޚް		
Class ކުލާސް		**No of Periods** ޕީރިއަޑް އަދަދު		
Topic ސުރުޚީ				

SMART Objectives ސްމާރޓް މަޤްޞަދުތައް **Specific** - *Objectives should specify what they want to achieve* **Measurable** - *You should be able to measure whether you are meeting the objectives or not.* **Achievable** - *Are the objective achievable and attainable?* **Realistic** - *Can you achieve the objectives with the resources you have?* **Time** - *When do you want to achieve the set objectives?*	
Resources ބޭނުންވާ ތަކެތި އާދި	

Which levels will be addressed? ކޮންލެވެލްތަކެއް ހިމެނޭތޯ؟	☐ Remembering ހަނދާންކުރުން	☐ Analyzing ދިރާސާކުރުން	☐ Applying ބޭނުންކުރުން
	☐ Understanding ދެނެގަތުން	☐ Evaluating ވަޒަންކުރުން	☐ Creating އުފެއްދުން

Hook – How you *"HOOK"* students' interest? ސަމާލުކަން ހޯދާނީ ކިހިނެއް؟   Time: ވަގުތު

_____

Introduction "I do" – Teacher direct instruction ޓީޗަރ ފިލާވަޅު ބާރު ނަންގަވައިދިނުން Time: ވަގުތު _____ _____ _____	*How will you check for understanding during the lessons?* ކިޔަވައިދޭ ވަގުތު ފިލާވަޅު ރަނގަޅަށް ދޭހަވެފައިވޭތޯ ޔަޤީންކުރާނީ

Activities "We do" – Teacher student interaction and student work in groups ޓީޗަރ ކުދިންނާއިއެކު ގުޅިގެން ހަރަކާތްތައް ގްރޫޕްކޮށް ކުރިއަށްގެންދިއުން Time: ވަގުތު	*How will you check for understanding during the lessons?* ކިޔަވައިދޭ ވަގުތު ފިލާވަޅު ރަނގަޅަށް ދޭހަވެފައިވޭތޯ ޔަޤީންކުރާނީ

Activities "You do" – Challenging meaningful independent tasks ކުދިން ފަރުދީގޮތުން ޗެލެންޖިން މަސައްކަތްތައް Time: ވަގުތު	*How will you check for understanding during the lessons?* ކިޔަވައިދޭ ވަގުތު ފިލާވަޅު ރަނގަޅަށް ދޭހަވެފައިވޭތޯ ޔަޤީންކުރާނީ

Teacher Reflection ޓީޗަރ ހިޔާލު What worked well? އެންމެ ރަނގަޅަށް ދިޔަކަންތައްތައް ކޮބާ؟ _____ What would you like to change next time? ދެން ފަހަރަކަށް ބަދަލުގެންނަން ކަންތައްތައް ކޮބާ؟	**Checked by Supervisor:**

Appendix N: Plain Language Statements and Consent Forms

Melbourne Graduate School of Education

PLAIN LANGUAGE STATEMENT FOR PARTICIPANTS (School Principals)

Project Title: *Understanding the factors that influence pedagogical reform in the Maldives*

Dear Participant,

Your school is invited to take part in this research project, which is being conducted by Rhonda Di Biase (Student Researcher), Dr. Sally Godinho (Principal Investigator) and Professor David Clarke (Co-Researcher) from the Melbourne Graduate School of Education at The University of Melbourne. This project forms the basis of a Doctorate of Philosophy (PhD) degree. The research has been approved by the University's Human Research Ethics Committee.

The aim of this research is to investigate active learning in Maldivian classrooms and the conditions that support its use. This research is supported by the Maldives Ministry of Education. This letter will explain some of the details about the research project and invite your school's participation.

What is required of your school?
The project will involve five schools in total: two schools as part of the pilot study and three schools in the main study. If you are interested for your school to be involved this will begin with a community forum called The World Café with teachers, parents and school leadership personnel. This is a series of activities in which members of the school community will be invited to communicate their ideas about active learning through a series of structured activities.   This session will run for approximately 90 minutes. Participants will be asked to work in small groups with other members of the school community to consider responses to questions about active learning. Each group will be given a structured format to record their responses for each activity. These answers will be collected at the end of the session to be analysed.

Following The World Café, teachers will be invited to participate in a professional development program to support the use of active learning methods. The time period for this program is to be negotiated with each school and is expected to range from half to a full school term. This program will be developed in consultation with teachers in each school so their needs can be addressed within the program.

In order to understand how active learning is being used in classrooms the following activities are planned with teachers:
- A short questionnaire (10 minutes) - at the beginning of the study to document teachers' attitudes to active learning.
- Semi-structured interviews (30 minutes each) - at the beginning and end of the professional development program to document teacher's thinking around the use of active learning methods.
- Focus groups - to discuss the use of active learning methods being trialled by teachers through the period of the professional development program (the frequency and length of these meetings is to be determined in consultation with the participating teachers).
- Classroom observations – to observe active learning being trialled by teachers (minimum of three observations of each teacher).

With teachers' permission, focus groups and individual interviews will be audio-recorded to ensure an accurate record is made of what is said.

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Participation and confidentiality
Involvement in this project is voluntary. Participants are free to withdraw consent at any time and to withdraw any unprocessed data collected.   It is important to emphasise that the purpose of the research is not to judge teachers or schools but to look for patterns in how active learning is being used and what factors influence its use.   Teachers and schools will not be evaluated during this research project.

The raw data collected from the activities will only be viewed by the researchers. In writing any reports of this project, the school name will not be used and we will leave out any details that might allow someone to identify participants or the school.   However with the small number of schools involved it is possible that someone could guess the identity of participants or the school.

Once the thesis from this research project has been completed, a summary report of the research will be sent to the school. Results from this study may also be presented at conferences or in journal articles.

The data will be kept safely at the Melbourne Graduate School of Education for five years after the thesis is completed. After this it will be destroyed following the University's regulations.

What if you have some questions?
This project has been approved by the University of Melbourne Human Research Ethics committee. If you would like more information or have any questions or concerns, you can contact any of the researchers listed below. Or you can contact the Executive Officer, Human Research Ethics, The University of Melbourne, on phone: +61 3 8344 2073, or fax: +61 3 9347 6739.

How do you agree to participate?
If you are happy for your school to be a part this project, please make sure you have read the information in this letter and sign the consent form attached.

Thank you for your interest in this project.

Yours sincerely,

Rhonda Di Biase
Doctor of Philosophy Candidate
Melbourne Graduate School of Education
The University of Melbourne

Principle Investigator:
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Melbourne Graduate School of Education

CONSENT FORM FOR PARTICIPANTS (Principals)

Project Title: *Understanding the factors that influence pedagogical reform in the Maldives*

Name of Principal:

Name of School:

Name of investigator: Ms. Rhonda Di Biase, Dr. Sally Godinho, Professor David Clarke

1. I consent for the research as described in the Plain Language Statement to be conducted at this school. A written copy of the information has been given to me to keep. This will involve:
    (i) members of the school community being invited to participate in a community forum, known as The World Café;
    (ii) teachers (number to be negotiated with the school) to be involved in a Professional Development Program which involve classroom observations (minimum of three), focus groups (number to be negotiated with teachers) and two interviews.

2. I consent for teachers and parents at my school to be invited to participate in the project named above.

3. I acknowledge that:
    a. I have been informed of the purpose of the study and the commitment required of teachers, parents and school leadership personnel participating in this project;
    b. I have been informed that participation in the project is voluntary and that I am free to withdraw the school from the project at any time, and that parents and staff are free to withdraw their participation at any time without explanation or prejudice and to withdraw any unprocessed identifiable data that has been have provided;
    c. the project is for the purpose of research;
    d. the name of the school and participants will not be used in any publication arising from the research;
    e. the confidentiality of any personal details for information provided will be subject to legal requirements;
    f. any references to personal information that might allow someone to guess a participant's identity will be removed. However, as the number of people involved in the study is not large, it is possible that someone may still be able to identify participants;
    g. I have been informed that a summary report of the research findings will be forwarded to the school;
    h. once returned, this consent form will be retained by the researchers.

Signature

                                   Date
(Director/Principal)

Melbourne Graduate School of Education

PLAIN LANGUAGE STATEMENT FOR PARTICIPANTS (The World Café)

Project Title: *Understanding the factors that influence pedagogical reform in the Maldives*

Dear Participant,

You are invited to take part in this research project, which is being conducted by Rhonda Di Biase (Student Researcher), Dr. Sally Godinho (Principal Investigator) and Professor David Clarke (Co-Researcher) from the Melbourne Graduate School of Education at The University of Melbourne. This project forms the basis of a Doctorate of Philosophy (PhD) degree. The research has been approved by the University's Human Research Ethics Committee.

The aim of this research is to investigate active learning in Maldivian classrooms and the conditions that support its use. This research is supported by the Maldives Ministry of Education. This letter will explain some of the details about the research project and invite your participation.

What will you will be asked to do?
The project will involve five schools in total: two schools as part of the pilot study and three schools in the main study. If you are interested to be involved you will be invited to attend a community forum called The World Café with teachers, parents and school leadership personnel. This is a series of activities in which members of the school community will be invited to communicate their ideas about active learning through a series of structured activities.   This session will run for approximately 90 minutes.   Participants will be asked to work in small groups with other members of the school community to consider responses to questions about active learning.   Each group will be asked be given a structured format to record their responses for each activity. These answers will be collected at the end of the session to be analysed.

Participation and confidentiality
Involvement in this project is voluntary. You are free to withdraw consent at any time and to withdraw any unprocessed data collected from you.   It is important to emphasise that the purpose of the research is not to judge teachers or schools but to look for patterns in how active learning is being used and what factors influence its use.   Teachers and schools will not be evaluated during this research project.

The raw data collected from the activities will only be viewed by the researchers. In writing any reports of this project, we will leave out any details that might allow someone to identify you or your school. However with the small number of schools involved it is possible that someone could guess the identity of you or your school.

Once the thesis from this research project has been completed, a summary report of the research will be sent to the school. Results from this study may also be presented at conferences or in journal articles.

The data will be kept safely at the Melbourne Graduate School of Education for five years after the thesis is completed. After this it will be destroyed following the University's regulations.

What if you have some questions?

This project has been approved by the University of Melbourne Human Research Ethics committee. If you would like more information or have any questions or concerns, you can contact any of the researchers listed below. Or you can contact the Executive Officer, Human Research Ethics, The University of Melbourne, on phone: +61 3 8344 2073, or fax: +61 3 9347 6739.

How do you agree to participate?
If you are happy to participate in this project, please make sure you have read the information in this letter and sign the consent form attached.

Thank you for your interest in this project.

Yours sincerely,

Rhonda Di Biase
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Melbourne Graduate School of Education

CONSENT FORM FOR PARTICIPANTS (The World Café –Community Forum)

Project Title: *Understanding the factors that influence pedagogical reform in the Maldives*

Name of participant:

Name of investigator: Ms. Rhonda Di Biase, Dr. Sally Godinho, Professor David Clarke

1. I consent to participate in the project named above, the particulars of which – including details of The World Cafe (group participatory activities) have been explained to me. This will include a short questionnaire for teachers. A written copy of the information has been given to me to keep.

2. I acknowledge that:

   a. the possible effects of participating in *The World Cafe* has been explained to my satisfaction;

   b. I have been informed that participation in the project is voluntary and that I am free to withdraw from the project at any time without explanation or prejudice and to withdraw any unprocessed identifiable data I have provided;

   c. the project is for the purpose of research;

   d. I have been informed that the confidentiality of the information I provide will be safeguarded subject to any legal requirements;

   e. my name, nor the name of the school, will not be used in any publication arising from the research;

   f. I have been informed that a summary report of the research findings will be sent to the school;

   g. once returned, this consent form will be retained by the researchers.

Participant signature: Date:

Melbourne Graduate School of Education

PLAIN LANGUAGE STATEMENT FOR PARTICIPANTS (Teachers)

Project Title: *Understanding the factors that influence pedagogical reform in the Maldives*

Dear Participant,

You are invited to take part in this research project, which is being conducted by Rhonda Di Biase (Student Researcher), Dr. Sally Godinho (Principal Investigator) and Professor David Clarke (Co-Researcher) from the Melbourne Graduate School of Education at The University of Melbourne. This project forms the basis of a Doctorate of Philosophy (PhD) degree. The research has been approved by the University's Human Research Ethics Committee.

The aim of this research is to investigate active learning in Maldivian classrooms and the conditions that support it being used. This research is supported by the Maldives Ministry of Education. This letter will explain some of the details about the research project and invite your participation.

What will you will be asked to do?
The project will involve five schools in total: two schools as part of the pilot study and three schools in the main study. During the main study teachers will be invited to participate in a professional development program to support the use of active learning methods. The time period for this program is to be negotiated with each school and is expected to range from half to a full school term. The program will be developed, in consultation with teachers in each school. Participating teachers will be asked to take an active role in defining their needs and how the program can support their professional development in using active learning methods.

In order to understand how active learning is being used in classrooms the following activities are planned with teachers:
- A short questionnaire (10 minutes) - at the beginning of the study to document teachers' attitudes to active learning.
- Semi-structured interviews (30 minutes each) - at the beginning and end of the professional development program to document teacher's thinking around the use of active learning methods.
- Focus groups - to discuss the use of active learning methods being trialled by teachers through the period of the professional development program (the frequency and length of these meetings is to be determined in consultation with the participating teachers).
- Classroom observations – to observe active learning being trialled by teachers (minimum of three observations of each teacher).

With your permission, focus groups and individual interviews will be audio-recorded to ensure an accurate record is made of what is said.

Participation and confidentiality
Involvement in this project is voluntary. You are free to withdraw consent at any time and to withdraw any unprocessed data collected from you. It is important to emphasise that the purpose of the research is not to judge teachers or schools but to look for patterns in how active learning is being used and what factors influence its use. You will not be evaluated in your teaching during this research project.

The raw data collected from the activities will only be viewed by the researchers. In writing any reports of this project, we will leave out any details that might allow someone to identify you or your school. However with the small number of schools involved it is possible that someone could guess the identity of you or your school.

Once the thesis from this research project has been completed, a summary report of the research will be sent to the school. A personal copy will be available upon request. Results from this study may also be presented at conferences or in journal articles.

The data will be kept safely at the Melbourne Graduate School of Education for five years after the thesis is completed. After this it will be destroyed following the University's regulations.

What if you have some questions?
This project has been approved by the University of Melbourne Human Research Ethics committee. If you would like more information or have any questions or concerns, you can contact any of the researchers listed below. Or you can contact the Executive Officer, Human Research Ethics, The University of Melbourne, on phone: +61 3 8344 2073, or fax: +61 3 9347 6739.

How do you agree to participate?
If you are happy to participate in this project, please make sure you have read the information in this letter and sign the consent form attached.

Thank you for your interest in this project.

Yours sincerely,

Rhonda Di Biase
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Melbourne Graduate School of Education

CONSENT FORM FOR PARTICIPANTS (Teachers)

Project Title: *Understanding the factors that influence pedagogical reform in the Maldives*

Name of participant:

Name of investigator: Ms. Rhonda Di Biase, Dr. Sally Godinho, Professor David Clarke

1. I consent to participate in this project, which has been explained to me and a written copy has been given to me to keep. My participation in the Professional Development Program associated with this project will involve observations of my classes (minimum of three classes), focus groups (number to be negotiated with teachers) and two interviews.

2. I acknowledge that:

    a. the possible effects of participating in the Professional Development Program, have been explained to my satisfaction;

    b. I have been informed that participation in the project is voluntary and I am free to withdraw from the project at any time without explanation or prejudice and to withdraw any unprocessed identifiable data I have provided;

    c. the project is for the purpose of research;

    d. I have been informed that the confidentiality of the information I provide will be safeguarded subject to any legal requirements;

    e. any references to personal information that might allow someone to guess a participant's identity will be removed. However, as the number of people involved in the study is not large, it is possible that someone may still be able to identify participants

    f. my name, nor the name of the school, will not be used in any publication arising from the research;

    g. I have been informed that with my consent the interviews may be **audio-taped** and I understand that audio-tapes will be stored by the researcher and will be destroyed after five years;

    h. I have been informed that a summary report of the research findings will be sent to the school;

    i. once returned, this consent form will be retained by the researchers.

Participant signature: Date:

Appendix O: Professional Development Day Outline

I do, we do, you do

TEACHER RESPONSIBILITY

Focus Lesson / Modeled Instruction — "I do it" (You Watch)

Shared Instruction — "We do it" (Together)

Guided Practice / Collaborative — "You do it" (I Watch/Guide)

Independent Practice / Independent — "You do it alone" (Reflect)

STUDENT RESPONSIBILITY

I do, we do, you do

In this session:
We will explore each section of the model
by using the model:

I do – explanation of elements of the model
We do – work with subject teachers to consider
appropriate instructional strategies
You do – plan a lesson using the model

I do

The hook

How will you 'hook' student interest?

Consider the list provided.
What strategies have you used?
Could you use?

Overview of the model

I do, we do, you do
The stages need to be used so they can achieve
your objectives.

You can be flexible with the order of the stages.

Watch this YouTube clip.

YouTube

Focus Lesson
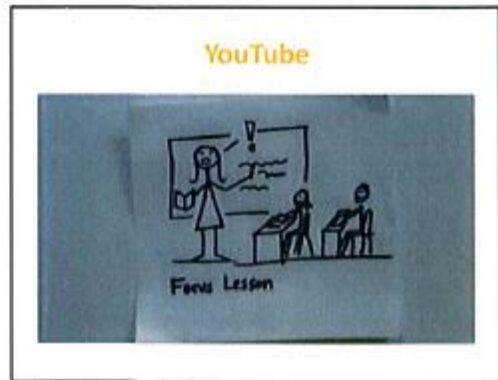
We do

Instructional strategies

What are appropriate strategies at each stage?

Work in a group with other subject teachers and fill in your ideas for instructional strategies appropriate at each stage?

Numbered heads

Write in the space on the sheet provided

You do

You do

Individually plan a lesson using the new format to use next week

Appendix P: Final Teacher Questionnaire

Final teacher questionnaire: active learning strategies

1. How often do you use the following activities in your lessons?

	Most days	**Every week**	**Sometimes**	**Rarely**
I do				
Explanation given by the teacher				
Class discussion led by the teacher				
PowerPoint presentation explained by the teacher				
PowerPoint presentation used interactively with students				
Other ICT _____				
Linking to previous lesson(s)				
We do				
Think pair share				
Numbered Heads				
Placement				
Guided instruction **without** differentiation				
Guided instruction **with** differentiation				
Jigsaw				
Grouping strategies				
(Other) pair work				
-With discussion only				
-With some written notes				
-With written project				
-With pair work presentation				
(Other) group work				
-With discussion only				
-With some written notes				
-With group written project				
-With group presentation				
You do				
Work from textbook				
Work in exercise books				
Worksheets				
Project work _____				
Assignment_____				

When do you think it is best to use:

pair work_____

group work _____

individual work_____

2. 'I do, we do, you do' planning model

What do you **like** about the 'I do, we do, you do' planning model?	What do you **dislike** about the 'I do, we do, you do' planning model?

3. 'We do' strategies
a) **At the beginning of this research project teachers said they would like to learn more 'we do' strategies. Which strategies have been the most useful (rank in order)?**

Rank	Strategy	I am willing to try using on my own	I don't feel ready to try on my own	Did not use yet
	Think-pair-share			
	Numbered Heads			
	Placemat			
	Grouping strategies			
	Jigsaw			
	Guided instruction without differentiation			
	Guided instruction with differentiation			

b) **Please give reasons for your first and second rank?**

1st choice

2nd choice

c) A number of methods were used to support teachers. Can you rank the following in terms of what was the most helpful to you?

_____Planning lessons together or planning discussions
_____Planning meeting (Wed)
_____Team teaching
_____Observation with feedback for improvement
_____Workshops_____ (which ones)
_____Information to use in your lessons

_____Other (_____)

d) **Have you been able to:**

	YES A LOT	YES A BIT	NOT REALLY
Learn more about new strategies			
Use the 'we do' strategies in your classes - with some support			
Use the 'we do' strategies in your classes – independently			

4. **In order to help students learn what are the important features for teachers to remember when planning lessons using the 'I do, we do, you do' planning model?**

I do

We do

You do

5. **Peer observations**

a) **How many observations were you able to complete?**

➢ As the teacher 0, 1, 2, 3, 4 (circle)
➢ As the observer 0, 1, 2, 3, 4 (circle)

If did complete ⬇	**If did not complete** ⬇
Did you complete the discussion after each observation? Yes / No	What stopped you participating in this?

b) Do you think peer observations can help you learn? Yes / No

Why or why not?

6. Any other comments you would like to make

Thank you for completing this questionnaire

Appendix Q: 'We Do' Strategies Information Booklet (Summary)

Strategy 1 - Pair work

Pair work provides good experience for students to gain skills for use in group work activities.

Think-pair-share

How can I do it?

1. Arrange students in pairs.
2. Explain the discussion topic or question to be discussed.
3. Give students at least 10 seconds of think time to **THINK** of their own answer. (Research shows that the quality of student responses goes up significantly when you allow 'think time.')
4. Ask students to **PAIR** with their partner to discuss the topic or answer.
5. Finally, randomly call on a few students to **SHARE** their ideas with the class.

Strategy 2 - Group work structures

The following strategies are designed to support students to **work as a group** (not just in a group).

1.   Numbered heads

This cooperative learning strategy promotes discussion and both individual and group accountability. After direct instruction of the material, the group supports each member and provides opportunities for practice, rehearsal, and discussion of content material.

How can I do it?

1. Divide the students into groups (four is a good number) and give each one a number starting with one.
2. Pose a question or a problem to the whole class.
3. In their groups students think about the question and need to make sure everyone in their group is ready to give an answer.
4. Ask the question again and call out a number randomly.
5. The student with that number in each group raises their hands, and when called on, the student answers on behalf of his/her group.

2.   Placemat

This activity is designed to allow for each individual's thinking in response to a question or task to contribute to a cooperative effort in a group activity.

How can I do it?

1. Form participants into groups of four.

2. Distribute one placemat for each group (photocopied or drawn on paper).
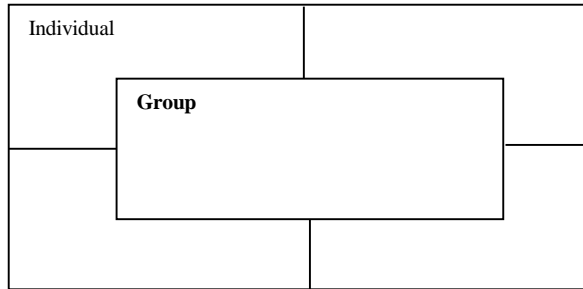
3. Allow enough time for each student to write their own ideas about the topic.
4. Then each student shares their ideas in the group.
5. Each group then creates a group answer which they can share with the class.

Strategy 3– Grouping strategies

There are different ways to group students. Before the class consider which students you want to be working together. Sometimes this will be random selection, sometimes by ability groupings, sometimes by their level of understanding of the current topic. See the information sheet explaining the advantages and disadvantages of different methods of grouping students.

1. Grouping cards

How can I do it?

1. Create cards with different attributes: e.g. colour, shapes or number.
2. Give out cards to students.
3. Assign students to a group based on the given attribute.

Your cards could look something like this or could be different shapes and colours:
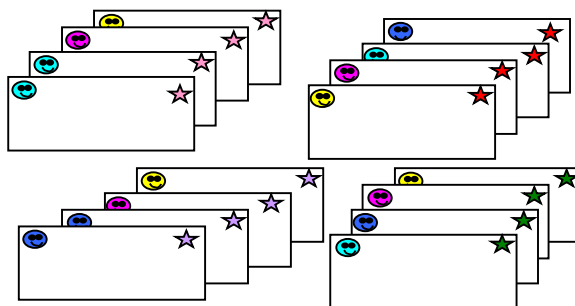
2. Group work role cards

How can I do it?
Once you assign students to a group you can also assign different roles to each member of the group. This helps give students a focus in the group – they have a specific role rather than just being in the group in a non-specific way.

Some examples of group roles could be:

1. **Leader-** The leader directs the action for the day once the teacher has given the instructions.
2. **Recorder-** This group member does the writing for the entire group; he or she uses one sheet, which saves paper.
3. **Timekeeper -** The timekeeper monitors the time and that students in the group are staying on task.
4. **Reporter-** This member reports the group's work to the other groups or to the teacher.

See the attached ideas for different ideas for group roles. You can choose or amend as needed for your particular activity.

Strategy 3– Grouping strategies

3. Role of the teacher

What is the teacher's role during group work? Teachers have a role to intervene as needed. This need will depend on what they observe as the groups are working.

How can I do it?
Monitor and observe groups during group work.
- How do you know when a group is working well? What do you look for?
- What is the teacher's role when a group is working well?
- How do you know when a group is NOT working well? What do you look for?
- What is teacher's role when a group is not working well?

You can use a recording sheet such as this below.

Group	Observations	Assistance provided

Jigsaw is a group work structure that gives each person a clear role and creates group accountability.

How can I do it?
Students from each group become experts on different aspects of one topic of study.

1. Students begin in a home group. Each student in the group is numbered to move to an *expert group*. (Number of students in a group depends on number of topics to be studied in*expert groups*).
2. Students work in*expert groups*. Students will discuss one aspect of the topic and become experts on this topic.
3. Together, each expert groups plans ways to teach important information when they return to their home groups.
4. Students return to their home groups and take turns to teach their information to their home group.

A planning form has been included to work through the steps of planning a jigsaw activity.
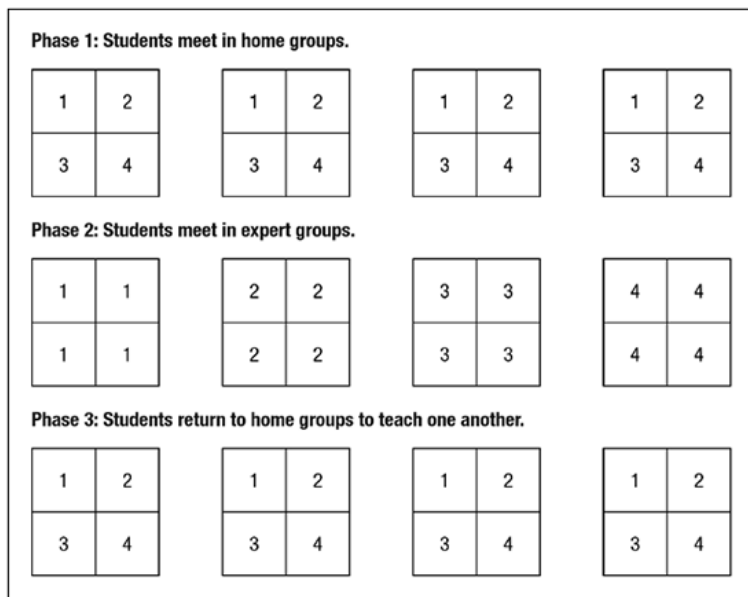
Strategy 5 –Differentiated group work/guided instruction 1

Group works provides an opportunity for the teacher to work with small groups one at a time and give more targeted assistance to students.

Guided instruction provides students with opportunities to practice under your guidance. It requires extensive interaction between you and your students.

How can I do it?

1. Plan the group work activity.
   - What will each group be doing?
   - How will the teacher work with each group – in the same lesson or over a number of lessons?

2. Explain the procedure to students and ensure each group knows what they have to do.
3. Begin working with your first group according to your plans and allotted time per group.
4. Move to a new group according to your planning.

Strategy 6 –Differentiated group work/guided instruction 2

It is possible to work with different groups in different ways. You can plan different tasks for different groups and/or you can sit with groups and work with each group differently according to their particular needs.

When planning the group activities consider the following: Will each group do the same task? Or will you plan different tasks for different groups to help the students in each group in a different way?

You can differentiate by content (the information the groups use), process (how the groups will complete the task) or product (what the groups produce).

Appendix R: Revision Activity Ideas

Revision ideas

1. Students make up questions about the topic you give them and also provide the answers on (different) cards/paper. The teacher will need to check the information is correct. Then the questions can be shared with other groups and answers checked by the group that made up the questions or by providing the written answers. This can be an oral activity (like a quiz) or a written task.

2. Use these questions and teachers direct a class quiz all together (rather than working in groups as above).

3. Numbered Heads – give groups a revision concept or question to discuss and then call the numbers so groups can report their discussions.

4. Quiz show – teacher writes revisions questions and organises it in a game/quiz format. (If there is a quiz show on TV and you can follow the format the students usually enjoy this.) – see example you can modify.

5. Teacher chooses topic for revision. In groups students write key points related to the topic (this will show how much they understand from the topic rather than memorising information) and they can record their ideas in a graphic organiser. *Placemat* would also work well for this type of revision activity.

6. Think-pair-share – Teacher gives the topic/question for discussion – students think (individual), pair (with a partner) and then 2 pairs join together and share. (So they keep joining ideas together – this requires thinking).

7. Jigsaw is possible if you have aspects of one topic you want to revise. Give each expert group a subtopic to make notes on and then they teach their part of the topic to their home group (teaching something to others means you need to understand it).

It depends whether your emphasis is on whether you want students to memorise information [for the assessment] or whether you are focused on students understanding the key concepts of the topics and have the ability to apply them.

Appendix S: Example of Schemes of Work

Grade 1 English

Wk	Date	Topic/Focus Book	Objectives	Ideas for activities	Assessment
13	1st -5th April	Shafa's school U sound	- To identify the places what are in school. - To describe simple abilities. - To write text about a topic. - To write sentences to describe their school. - To use sight words in written sentences. - To identify 'o' sound for spelling words.	English teachers guide A Page: 131,132	U sound Write sentence. Page 51 b.A
14	8th -12th April	Animal friends Short vowel review	- To recognize the difference between letters and numbers. - To identify media vowel sounds for spelling words. - To use number words in sentences. - To recall a story after the listening. - To order the story and write.	English teachers guide A Page: 159,160	Sound Write numbers in words with objects 20m
15	15th -19th April	Daddy's late for work ee sound (part,1)	- Draw / write diary of how to care for your body. - To use the correct words in correct sentence. - To begin a sentence with a capital letter and end it with a full stop (I). - Understanding and matching verbs to nouns (e.g. brush my hair, wash my face..) -To talk about their dad.		-ee sound - write sentence 20 marks
16	22nd -26th April	Molly the lazy fish Sh sound	- To use knowledge of the story to predict and write words. - To write text about a topic. - To read some familiar words in different context. - To retell simple stories read in class (ans 'who' and 'what' questions. - To identify 'sh' sound words.	Page: 22, 73 English teachers guide Page: 199,200	Sh sound - write words from the picture - (15m)

Grade 4 Mathematics

Wk	Date	Topic / Focus Book	Objectives	Ideas for activities	Assessment
1	10-14 June	Multiples & Multiplication	- Give the multiples of 1- digit numbers. - Find the lowest common multiple of two 1-digit numbers. - Use the commutative property of multiplication.	(pg: 1 – 8) - Group work - Games -Forming groups.	Exercise Questioning Worksheet
2	17-21 June	Multiples & Multiplication	- Multiply 3-digit numbers by 1-digit numbers. - Multiply mentally, numbers whose product is not greater than 90.	(pg: 09 – 15) - Group work - Games -Forming groups.	Exercise Questioning Group works Work Sheet
3	24-28 June	Multiples & Multiplication	- Multiply 3-digit numbers by 1-digit numbers. - Multiply mentally, numbers whose product is not greater than 90.	(pg: 16 – 20) - Group work - Games -Forming groups.	Exercise Questioning Group works Work Sheet
4	01-05 July	Division & Word problems	- Divide 2-digit numbers by 1-digit numbers using long division method. - Divide 3-digit numbers by one digit numbers (using long division method) with or without renaming.	(pg: 22 – 29) - Puzzles - G. Work	Exercise Questioning Group works Work Sheet
5	08-12 July	Division & Word problems	- Divide 2-digit numbers by 1-digit numbers (using short division method) with or without renaming. - Divide mentally, whole numbers with dividends 81, by 1-digit divisors without remainders.	(pg: 30 – 37) -Group work -G. Quiz	Exercise Questioning Work Sheet

Grade 5 Environmental Science

SCHEME OF WORK FOR SECOND TERM

YEAR:	[2012]	WEEK NO.:	[3]	DATES:	[June 24 - 28]	GRADE:	[5]	SUBJECT:	[Environmental Studies]

NO. OF PERIODS	TOPIC	OBJECTIVES	RESOURCES	ACTIVITIES	EVALUATION
[1]	[Pests/ mosquitoes]	[Identify and write the diseases spread by mosquitoes Discuss and write the ways of avoiding mosquitoes.]	⬜	⬜	⬜
[1]	[Pests/ mosquitoes]	[Draw the life cycle of mosquito]	⬜	⬜	⬜
[2]	[Pests/ Rat]	[Identify and write the diseases spread by rats Discuss and write the ways of discouraging rats from multiplying.]	⬜	⬜	⬜
[1]	[Pests/ Mosquitoes & rats]	[Able to answer the questions given in the worksheet]	⬜	⬜	⬜

Grade 7 Social Studies

SCHEME OF WORK FOR THE FIRST SEMESTER 2012

YEAR:	[2012]		[5]		[8th July – 12th July]		[7]		[SOCIAL STUDIES]

NO. OF PERIODS	TOPIC	OBJECTIVES	RESOURCES	ACTIVITIES	EVALUATION
[1]	[International trade]	[Explain the reasons why countries have to specialize in certain industries.]	⬜	⬜	⬜
[1]	[International trade]	[Discuss the advantages of internal specialization and International trade.]	⬜	⬜	⬜
[1]	[International trade]	[Write about the developments of International trade and the importance of it in the modern life.]	⬜	⬜	⬜
[1]	[International trade]	[Complete a survey on commodities found in a local store and presents their own view on international trade.]	⬜	⬜	⬜

Appendix T: Post-Intervention Teacher Questionnaire (2014 visit)

Follow up questionnaire
1. 'I do, we do, you do' planning model

What do you **like** about the 'I do, we do, you do' planning model?	What do you **dislike** about the 'I do, we do, you do' planning model?

2. 'We do' strategies
e) **Which 'we do' strategies do you use?**

Strategy	I use a lot	I use sometimes	I rarely use or I don't use
Think-pair-share			
Numbered Heads			
Placemat			
Grouping strategies			
Jigsaw			
Guided instruction without differentiation			
Guided instruction with differentiation			

f) Which are most useful? Why

Appendix U: Post-Intervention Data

What teachers like about the model

Sample comments about what teachers like about the instructional model.

> *Students are interested (lesson is more interesting). Planning is easier. Easier to manage the classroom* (Teacher 2).

> *Good for students because active learning. It is active learning because they study themselves. Very easy and clear for planning. Easy to collect resources for each section.* (Teacher 3)

> *I like 'we do' a lot. In that students get a chance to practically participate in the lesson* (Teacher E).

> *Easy to manage when we plan using this this model* (Teacher F).

Teachers were also asked about their use of the 'we do' strategies

Strategy	I use a lot	I use sometimes	I rarely use or I don't use
Think-pair-share	4	9	0
Numbered Heads	2	5	5
Placemat	0	5	6
Grouping strategies	4	8	0
Jigsaw	0	5	7
Guided instruction (without differentiation)	5	5	2
Guided instruction (with differentiation)	1	5	2

Teachers were asked to selected which ones were most useful.

	Sample comments
Ease of use	*Because easy to manage.* (Teacher 1)
Improves student motivation:	*Because very interesting and students enjoy.* (Teacher A)
Helps students learn:	*Students also like these things – it helps them to learn a long-time in memory.* (Teacher 5) *It will help the students to have a long memory of it.* (Teacher 4)
Encourages every student to participate	*Because students will get chance to discuss in pairs and share what they discussed to whole*

	class. If group is more than 2, some will not participate. Then everyone will understand what each and every pair discussed. (Teacher 7) *All the children are forced to participate in doing the task.* (Teacher E)

Other strategies were also used, albeit less frequently with teachers noting — *all are useful but it takes time to organise and plan* (Teacher 5) and *sometimes I forget to use* (Teacher 3). The strategies were reported as being useful in different ways:

> *Guided instruction is useful because they work in group with help and teacher can guide each group.* (Teacher 6)

> *Jigsaw because students can share ideas in the group.* (Teacher 6)

> *Placemat – used to make a story – students writing in each corner – beginning, middle, end to make a story (over 2 classes). Result was a good story.* (Teacher 4)

Appendix V: Teacher Self-Initiated Queries

Record of teachers' self-initiated queries/questions – coded
Specific queries/questions – strategies

Date/time	Person	Key discussion point
17/6 2pm	Teacher 5	Asked for an example of an appropriate question to use with TPS for sun/earth topic
18/6 8pm	Teacher 7	Met on street and he volunteered that he had tried TPS – very nice – but low ability students find it difficult – what to do? (I started to respond but since we were on the street with students nearby I said I would continue the conversation in the school)
19/6 12.15	Teacher 7	Discussion about how to provide support for low ability students -either from teacher for from other students using Dhivehi -try to use TPS in subject other than English
26/6	Teacher 6	During her debrief session Soby asked for suggestions to deal with a difficult boy in her class
4/7	Teacher 4	Tomorrow we are doing prepositions – can you tell me if this is good →give a passage all the same and students identify prepositions (guided instruction) → own practice
5/7	Teacher 7	Requested assistance to plan jigsaw activity
11/7	Teacher 4	Had prepared a slideshow for beginning of team teaching session on own initiative
7/10	Teacher 3	Calls me into classroom – asks for help with present continuous (immediate need)then suggests team teaching
7/10	Teacher 1	I need help with poster ES (following discussion on My island is special topic) Asks for planning for communication
9/10	Teacher 6	Planning for ES (Thurs class) and guided instruction

Seeking assistance/support

Date/time	Person	Key discussion point
19/6 *Planning meeting*	*Teacher 6*	*Asked for assistance to write notes* *Discussion about TPS*
27/6	Teacher 2	Request for planning 'Can you help me again please?'
1/7	Teacher 4 Teacher 3	Found me – need your help Asked about planning ideas for Eng, Maths and ES and which was best for group work This is the first time they have initiated contact for planning purposes English transport →language focus English – ideas for task Maths subtraction ideas
12/7	Teacher 5	Planning for guided instruction – turned up my room
5/9	*Teacher 1*	*Fill recording book* *Can we do jigsaw in Gr 1*
23/9	Teacher 1	We want planning for English (I want to use different activities and use textbook for homework)

1/9	Teacher B	Wanted to plan a lesson – had come to find me in office but I was home
		-saw me when I went to staffroom
		-came to my office with textbook, teacher's guide and wanted to plan
		--understand idea of getting students to do the work
		I sent datachart example by email.
4/9	Teacher B	*See other notes*
9/9	Teacher A	Suggested I attend Speaking assessment class
		Also decided on TT and planning time
9/9	Teacher F	Request for planning help
12/9	Teacher E	Called for planning and requested I come to a class

Specific class query

7/7	Teacher 1 and Teacher 2	Suggested meeting on weekend for planning (topic materials)
12/7	Teacher 1	Text about Rosie's Walk – ask about classwork or homework
17/10	Teacher 1	We need to plan for communication topic ES

Recording booklets assistance

19/6 Planning meeting	Teacher 2	General offer to help with recording and planning – offer taken up
19/6 Planning meeting	Teacher 6	Asked for assistance to write notes
		Discussion about TPS
1/9	Teacher 1	-used TPS last week – will let me know if he want help to record
1/9	Teacher 3	Asked for help to fill in recording sheet
5/9	Teacher 1	Fill recording book
		Can we do jigsaw in Gr 1?

General request for support or feedback

17/7	Teacher 3	Asked for maths problems
18/9	Teacher 3	Why don't you come?
14/10	Teacher 1	Request I come to a class

5/9	Teacher E	Will text time for observation (he instigated the observation)
17/10	Teacher E	Can you come to observe?
5/11	Teacher D	Asked advice on what he should do to improve

General feedback/comment

11/7	Teacher 7	I used Maths website you sent – they like very much
		Did you use as a class? Yes.
		After they are familiar and can us in Lab.
17/7	Teacher 5	Thank you for your ideas
11/9	Teacher 6	Would like to plan like this every week

Reassurance

8/7 8am	Teacher 1	English class – last activity we don't finish – is it OK? It is good they enjoy very much.

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