

Learning from a small state's experience: Acknowledging the importance of context in implementing learner-centred pedagogy

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The challenges of implementing learner-centred pedagogies have been well documented, noting that many reform efforts fail to consider important contextual factors. With attention to the disparity between policy and practice, this study investigated the conditions under which teachers can enact learner-centred pedagogy in the Maldives using design-based research; a theoretically oriented, participatory methodology exploring practical solutions in real-world settings. Working collaboratively with teachers from an island school, a pedagogical intervention based on learner-centred principles, was designed to fit the Maldivian context. This article discusses the process of implementing the intervention, the challenges influencing its use, and the particular contextual factors impacting on learner-centred reform. Analyses of the research data and the reflection on the research process, highlight the importance of addressing the particularities of small states in the development of educational interventions and reinforces the need for close attention to contextual factors within reform efforts.

Keywords: design-based research; participatory research; learner-centred pedagogy; implementation; context; education reform

INTRODUCTION

Living on a tropical island in the Maldives, known for its beautiful beaches and luxury resorts, would likely conjure up images of paradise. Yet island living, whilst appealing to tourists, poses particular challenges for Maldivian island communities. Isolation, insularity, and access to services are challenges faced by island populations (Royle, 2010). Small islands have few benefits except perhaps exclusivity—which becomes a commodity in its appeal to tourists (Royle, 2001). In the Maldives, there is a dramatic contrast between life on the resort islands and local fishing islands. This paper highlights my experience of living on a local fishing island and working within a school community as part of a doctoral research project on educational reform in the Maldives.

The seeds for this research project were sown during an earlier period of work in the capital, Malé, as part of a post-tsunami aid project. I worked with local educators to support pedagogical reform in local schools. The reform efforts and related challenges shaped this research project that sought to investigate how teachers learn and enact active learning in the Maldivian education system. I used design-based research (DBR), which is a theoretically oriented, participatory methodology that explores practical solutions in real world settings, and immersed myself in the

field for eight months. During this time I lived on a local island working collaboratively with teachers in the school on the design and use of a pedagogical intervention. I came to know intimately the context in which the teachers worked, and I experienced the circumstances of living on a small island and working within the Maldivian education system.

This paper draws on critical accounts of my day-to-day experiences on the island, with attention to the interplay between pedagogical reform and island life. First I provide an outline of the context—the naturalistic setting being central to DBR where understanding “the messiness of real world practice” is critical to the study (O'Toole & Beckett, 2009, p. 72)—before presenting an overview of the overarching DBR methodology. I then explore the factors I encountered that impacted on the process of pedagogical reform within the Maldives education system during the process of living on the island and working in the school. I conclude with a reflective analysis of my experiences and a discussion around the characteristics of small island states.

My experiences offer unique perspectives and insights into on-the-ground complexities that influence learner-centred reform within the Maldivian education system and other contexts where tensions between reforms at the national level and implementation at the school level are evident. In particular I explore the particularities of small states and how these characteristics influence the process of implementing the pedagogical intervention. The importance of sensitivity to context during reform is central to this study and is a key theme throughout this paper.

LEARNER-CENTRED PEDAGOGIES

I discuss “learner-centred education” (LCE) in this paper but recognise there are a variety of similar terms used in the literature: active learning; student-centred learning; child-centred learning; and learner-centred pedagogy. In this paper, I use the term “active learning” in recognition of its use in Maldivian schools. Discussions of the process of pedagogical reform are often polarised as teacher-transmission versus student-centred pedagogies (Ginsburg, 2010). This dichotomy presents an oversimplification of a complex process and is unhelpful in the reform process, as both approaches are needed at different times in the teaching and learning process (O'Sullivan, 2004; Schweisfurth, 2011). Schweisfurth (2011), elaborating on the notion of “learning-centred” proposed by O'Sullivan (2004), suggests this focus helps take us beyond the crude binary of simply contrasting teacher-centred and student-centred pedagogies.

Both LCE and active learning are based on constructivist approaches to education in which the learner has an active role in the learning process. Some key aspects of LCE are that knowledge is a mentally active process which builds on prior knowledge and experience (Chisholm & Leyendecker, 2008). The emphasis is on helping students to develop conceptual understanding and critical thinking skills rather than rote learning and passively receiving information transmitted by the teacher.

THE MALDIVES: A SMALL ISLAND DEVELOPING STATE

The Maldives is an archipelago of 1190 coral islands located in the Indian Ocean. It is a highly dispersed country with a population of approximately 350,000 living on 197 inhabited local islands spanning 800 kilometres in length. Malé is one of the most densely populated capital cities in the world with a third of the country's population living within two square kilometres. In contrast, 72 inhabited islands have populations of less than 1000. Despite the geographical diversity the Maldivian people are connected through bonds of language and religion (Mohamed,

2013). The national language is Dhivehi and the official religion is Islam, which plays a central role in family life.

A key contextual feature of the Maldives is that it is a nation of islands. Royle (2001) distinguishes two features of islands: isolation and boundedness. The islands are, paradoxically, both the appeal of the Maldives—especially for tourists—yet a constraint because of their insularity and access difficulties to resources and services (Royle, 2001). The appeal of tropical islands has driven the development of tourism in the Maldives, leading to strong economic growth over the past two decades. The Maldives transitioned from developing country status to a middle-income country in 2011 through this expansion in tourism. Yet, there are some significant economic challenges facing the country. The overdependence on tourism, which accounts for 30 percent of GDP, and an over reliance on imports for goods and services (50% of GDP) are major barriers for sustainable development (Sareer, 2013). Crossley (2010) contends that small states have an ecology of their own with distinctive priorities and dilemmas. Geographical remoteness, small populations and a narrow resource base make them particularly vulnerable to global forces. Yet, due to their size small states tend to be more outward looking, seeking innovative approaches beyond their own borders to help exploit the slender resources they do have (Bacchus, 2008).



Figure 1: Maldivian islands



Figure 2: Inhabited Maldivian island

Consequently, education systems have a major role in helping build human resource capacity in small states (Bacchus, 2008). However, small states face distinctive challenges in delivering education to a small number of students from a restricted institutional base, across a geographically dispersed region (Crossley, Bray, & Packer, 2011, p. 8). Essentially the need is to educate students to contribute to technologically advanced knowledge economies (Bacchus, 2008; Crossley, et al., 2011) so that small states can interact in the international arena. The need for educational innovations is seen as critical to the development of small states. Yet, as Crossley et al. (2011, p. 32) argue, it is not uncommon to see tension between curricular and pedagogic reform at the national level and implementation at the school level. They state that 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 when striving for successful implementation (Crossley et al., 2011, p. 31).

The Maldives education system is organised into four stages: pre-primary, primary, lower secondary and higher secondary. Primary education is based on a national curriculum while secondary education is subject to international examinations, as illustrated in Figure 1. Expansion

of educational services means access to schooling has improved, with the provision of at least a primary school in each inhabited island. Schools in the capital, Malé, and on the larger islands also offer higher secondary schooling. Many schools operate double sessions (morning and afternoon) due to a lack of classrooms. Of the 70,000 students, most attend government schools. The medium of instruction is English, which was adopted across the country in the late 1990s (Mohamed, 2013).

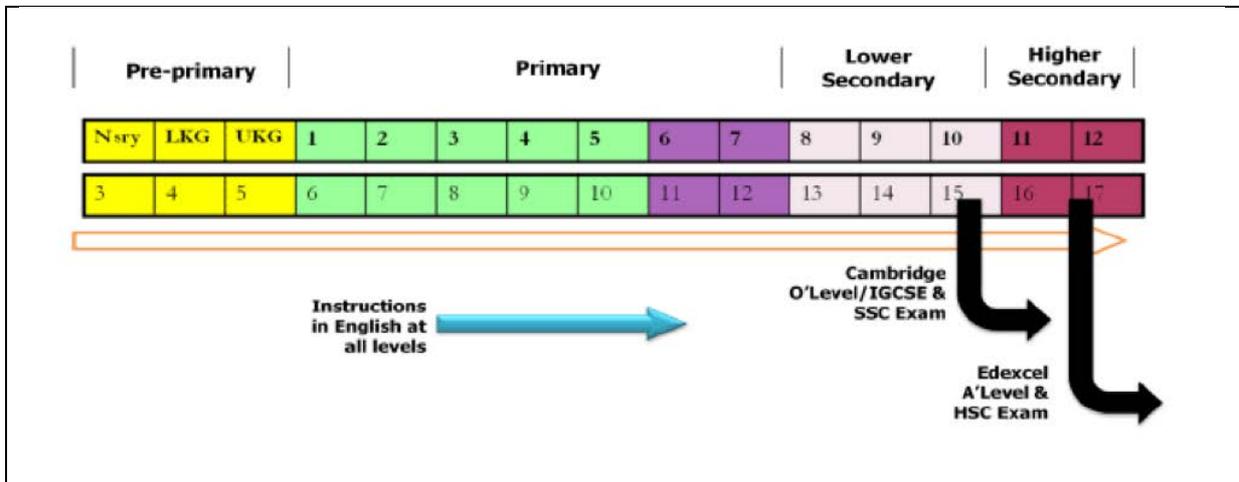


Figure 3: Organisation of the Maldivian Education System (Source: Ministry of Education, Maldives 2010)

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, mostly 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 for providing equitable education resources across the country. Services are heavily concentrated in the capital. Malé schools, therefore, have better teaching resources and higher numbers of trained teachers compared to island schools, which typically face a higher concentration of untrained teachers. The insularity of island living also means in-service training is provided to teachers in short, intensive blocks—often by visiting trainers—thereby limiting opportunities for ongoing in-school support.

With the expansion of schools across the country, universal primary enrolment was achieved by 2002. Focus has since shifted to improving the quality of education through a number of initiatives, including the Child Friendly Schools (CFS) project that promotes LCE and the new National Curriculum Framework (NCF). The CFS project began in 2002, addressing the needs of the most disadvantaged schools in the country. Implicit in CFS is the pedagogy of active learning, based on constructivist approaches to learning. Therefore, CFS has become a major driver of pedagogical reform in the country. Active learning principles are embedded in the new CFS Quality Schools Indicators, a quality assurance framework and the NCF, which is currently being piloted.

IMPLEMENTING LEARNER-CENTRED PEDAGOGIES

The experiences of implementing LCE have been well documented as a challenging process, particularly when teacher-centred pedagogy remains embedded practice. Government and

international development efforts may promote such reforms, yet practice at the classroom level remains largely unchanged. In a review of 72 LCE projects in developing countries, Schweisfurth (2011) writes “that implementation of LCE in different contexts is riddled with stories of failure grand and small” (p. 425). In her analysis of barriers associated with LCE reform Schweisfurth (2011; 2013) offers the following explanations: the nature of the reform and how it is implemented; limited material and human resources; interaction of divergent cultures; and questions of teacher power and agency. Other factors include: how students respond to the new pedagogy (Altinyelken, 2011; O’Sullivan, 2004); and the contradictory demands arising from within the system. With teachers having to complete content-intensive syllabi, the accountability arising from exam pressure may be a disincentive for using active learning methods (Casale, 2010; Chisholm & Leyendecker, 2008; Leu & Price-rom, 2006). Taking into consideration failures in implementation, Mohammed, and Harlech-Jones (2008) contend that the practical and professional realities of the teachers are often ignored and the focus is typically on a kind of utopianism, which leads to defective implementation.

Compounding these implementation issues are challenges around the professional development (PD) needed for teachers for such reform to take place. Hope is invested in various modes of training but these are often inadequate or inappropriate (Schweisfurth, 2011; Schwille, Dembele, & Schubert, 2007). Pedagogical renewal “is a challenging endeavour because it is inseparable from teacher professional development” (Dembele & Lefoka, 2007, p. 534). But not all forms of teacher development are equally effective (Schwille et al., 2007). The dominant form of the one-off workshop is unlikely to change teachers’ behaviour (Schwille et al., 2007). In fact Schweisfurth (2012) notes that traditional teacher training methods are rarely effective in replacing the traditional teaching methods teachers have experienced as learners. This raises the necessity of exploring and challenging teachers’ beliefs as part of any PD, because these beliefs act as a filter for learning new ideas and changing practice (Schwille et al., 2007). In particular teachers need to see, experience and try new teaching methods (Schwille et al., 2007). Teachers are also learners. Therefore, active learning methods need to be modelled by trainers so teachers can experience constructivist pedagogy and the message and the medium are consistent (Schweisfurth, 2011). What has been shown to work is sustained support in contrast to the one-off PD. Where success has been reported, teachers have been scaffolded to learn new practices within their capacities and circumstances (Schweisfurth, 2011, p. 428). This includes school-based support providing mentoring and guidance to teachers to trial new practices (Hardman, Abd-Kadir, & Smith, 2008). A further dimension is the need to start with teachers’ current practices, taking into account the realities of the classroom and the environment in which teachers work (O’Sullivan, 2004; Schwille et al., 2007; Hardman et al., 2008).

The implementation of CFS in the Maldives has not been without issues. A UNICEF report (2010) identified a lack of coherency and consistency in the implementation of CFS. They found that CFS had been mostly organised around physical and organisational features. McNair (2009, p. 3) found that “no-one discussed the merits of CFS pedagogy for engaging children in all grades, in higher-level thinking, meta-cognition and stronger self-efficacy” and that physical classroom changes had been the most notable effect of the introduction of CFS. With the goal of providing better teacher education opportunities for teachers, UNICEF funded the building of Teacher Resource Centres, in each atoll. This was an attempt to provide more localised teacher education opportunities for island schools.

DESIGN-BASED RESEARCH: DESIGNING A PEDAGOGICAL INTERVENTION

The central question of this qualitative study is: how can teachers enact active learning pedagogy within the Maldivian education system? It was conceived using design-based research (DBR), which is an interventionist methodology. The essential feature of DBR is developing practical solutions to real-world problems. Therefore, interventions are implemented in authentic settings and the researcher often embraces various roles in the complex enterprise of DBR (McKenney & Reeves, 2012).

In DBR, the context is critical to the study and is richly delineated (O'Toole & Beckett, 2009, p. 72). 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. Acknowledging the call for better attention to context in reform efforts, DBR, with its attention to context and 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 acknowledgement of context, its flexibility and potential for capacity building. Numerous studies (e.g. Johnson, Hodges, & Monk, 2000; O'Sullivan, 2004) outline the necessity of acknowledging, explicitly, 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 a contextually relevant pedagogical intervention.

This study was designed on participatory principles in order to harness non-academic local knowledge to better understand issues of importance within the community (Ozerdem & Bowd, 2010) and identify local needs. Underpinning the decision to frame the research in participatory terms is the belief that the participatory approach seeks "to increase local ownership, local capacity and local control" (Pamphilon, 2006, p. 1). The Humanities and Applied Science Committee at the University of Melbourne granted ethical clearance for the implementation of the study, and written permission was also provided by the Maldives Governments.

Site and participants

The site for the study was a small island, in a northern atoll, with a population of almost 2000 people living on approximately one square kilometre. The school, with 412 students from grades 1-12, was selected as offering optimum conditions for implementing a pedagogical intervention. The school is well known for its enthusiastic uptake of CFS, adopted since 2005. CFS has been the vehicle for introducing new ideas about pedagogy into the school, currently focused on lower primary grades, but with a desire to increase the use of active learning methods across the school. The school, managed by a principal, an assistant principal, and a number of leading teachers, had 43 teachers; 26 were Maldivian and 17 were Indian expatriate teachers. Students attended morning or afternoon sessions with one class each of grades 1-3, grade 4 and secondary classes being offered in the morning (6.45 – 12.30) and the other classes of grades 1-3 and the primary grades (5-7) being conducted in the afternoon (12.55 – 5.30).

The study took place within the school over an eight-month period in 2012 and was structured in two phases: a contextual analysis phase; and an intervention phase. Stakeholder groups—teachers, parents and the leadership team—were participants in the contextual analysis using The World Café (Brown & Isaacs, 2005), a participatory approach to data collection. Data were collected through a series of visual and graphic elicitation activities, illustrated in Figure 4 (next page), designed to document local perspectives and priorities on active learning.



Figure 4: The World Café activities: Photo and graphic elicitation activities

Fourteen teachers participated in the intervention phase of the study: 7 CFS class teachers (Grades 1-4); and 7 primary subject teachers (Grades 5-7). Multiple data collection methods, which included questionnaires, classroom observations, semi-structured interviews and teacher reflection booklets, were used during the intervention phase with the two groups of teachers. Table 2 (below) gives an overview of participants and data collection tools for the two study phases. Further data sources included my field notes, which was a log of activities, daily reflections, and notes from meetings (both planned and incidental) within the school.

Table 2: Data collection tools that were used in different phases of the study

Study phase	Participants	Data collection tools
Contextual Analysis phase	Parents, teachers, leadership team	The World Café: <ul style="list-style-type: none"> • Photo elicitation activity • Graphic elicitation activity
Intervention phase	7 Group A teachers – Grades 1-3 (CFS classes – Generalist teachers)	<ul style="list-style-type: none"> • Teacher questionnaire • Semi-structured interviews
	7 Group B teachers – Grades 5-7 (Primary grades– Subject teachers)	<ul style="list-style-type: none"> • Classroom observations • Teacher recording booklets

The Intervention: A pedagogical innovation

The aim of this project was to design and operationalize a contextually relevant pedagogical intervention. Typically in DBR, the design of the intervention responds to needs arising from the literature and the local context (McKenney & Reeves, 2012). The pedagogical intervention evolved from the findings of The World Café, embracing the priorities of active learning identified by stakeholders as important in active learning. The intervention design also drew on previous research, seeking to learn from the successes and recommendations of implementing LCE in other relevant contexts. Specifically, the UNESCO Global Monitoring Report (UNESCO, 2004) acknowledges challenges with the implementation of learner-centred, discovery-based

approaches in contexts where there are limited resources and traditionally held views about learning, suggesting a more structured approach may be a more pragmatic option to help overcome these issues. Other studies reporting on LCE reform also advocate forms of direct instruction as a promising alternative (Altinyelken, 2011; Dimmock, 2000; O'Sullivan, 2004).

What evolved was an adaption of an instructional model known as the “gradual release of responsibility” (GROR) model (Fisher & Frey, 2008). This model was initially chosen as offering a pragmatic framework for encouraging student participation within a structured teaching model, building on current practice, without losing sight of constructivist principles. The GROR model was introduced to teachers through two school-wide workshops in which the core features of the GROR model—I do, We do, You do—were modelled through the workshop activities. A decision was subsequently made within the school to design a planning template adapting the Fisher and Frey model to the needs of their school. This planning template (Figure 5, below) was adopted across the school and encouraged teachers to consider their lessons in three parts:

- I do (teacher direct instruction);
- We do (incorporating elements of co-operative learning); and
- You do (independent student work).

LESSON PLAN		مخطط الدرس	
Subject موضوع		Class فصل	No of Periods عدد الدروس
Topic موضوع			
SMART Objectives مقاصد ذكية محددة 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 objectives 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 موارد			
Which levels will be addressed? مستويات التعلم التي سيتم تناولها؟	<input type="checkbox"/> Remembering تذكر	<input type="checkbox"/> Analyzing تحليل	<input type="checkbox"/> Applying تطبيق
	<input type="checkbox"/> Understanding فهم	<input type="checkbox"/> Evaluating تقييم	<input type="checkbox"/> Creating إنشاء
Hook - How you "HOOK" students' interest? مقدمة - كيف ستجذب اهتمام الطلاب؟ Time: _____			
Introduction "I do" - Teacher direct instruction مقدمة "أفعل" - توجيه مباشر من المعلم Time: _____		How will you check for understanding during the lesson? كيف ستتحقق من الفهم أثناء الدرس؟	
Activities "We do" - Teacher student interaction and student work in groups أنشطة "نحن نفعل" - تفاعل المعلم والطلاب والعمل في مجموعات Time: _____		How will you check for understanding during the lesson? كيف ستتحقق من الفهم أثناء الدرس؟	
Activities "You do" - Challenging meaningful independent tasks أنشطة "أنت تفعل" - مهام مستقلة ذات معنى وتحدي Time: _____		How will you check for understanding during the lesson? كيف ستتحقق من الفهم أثناء الدرس؟	

Figure 5: Adaptation of Gradual Release of Responsibility model

The teachers participating in the study then chose the “we do” component of the model for in-depth focus during the intervention phase, highlighting this as an area in which they felt they had the least expertise. As a result a number of explicit co-operative learning approaches (Think-pair-share, Numbered Heads, Jigsaw and Placemat) were selected as offering clear strategies in promoting cooperative learning, whilst also building on teachers’ receptivity to using group work. In this phase the aim was to support teachers in their use of the strategies in small, incremental steps with classroom-based support.

CHALLENGES OF USING ACTIVE LEARNING METHODS IN MALDIVIAN CLASSROOMS

Through the contextual analysis, a number of factors were identified as barriers to using active learning methods in this school. Table 3 summarises these challenges.

Table 3: Articulated challenges in implementing active learning in the island school

Lesson planning	Lack of time to adequately prepare lessons
Resources	Limited resources
Teaching	<ul style="list-style-type: none"> Increased noise Giving clear instructions difficult Language level of students Different level of students Longer time to complete activities
Parents	Increased parent awareness needed
Syllabus	Required to cover syllabus (active learning takes longer)

The contextual analysis data also revealed that attitudes to active learning were overwhelmingly positive with the teachers being very receptive to this change. Therefore teachers’ motivation, or lack of, was not a barrier to using active learning methods.

Moving to the intervention phase, this paper now seeks to explore the enabling and inhibiting factors in enacting the model of active learning within the professional and contextual realities of the island school context. It also makes explicit the changing nature of my role through the intervention phase. Within DBR, the researcher may take on multiple roles (McKenney & Reeves, 2012). While approaching the intervention through a teacher education role I also came to adopt a teaching role within the school. The analysis that follows focuses on my teaching experiences within the intervention phase and the insights this provided into the particular contextual factors that influenced my use of the active learning model. Within DBR the processes of adoption and enactment of an intervention are strongly influenced by the immediate context (McKenney & Reeves, 2012) and my experience attests to this. The reflective analysis of these contextual challenges is based on my field notes that detail the story of how the nature of the collaboration with teachers changed in the field. These notes helped me to better understand the contextual factors that influence reform in this setting.

LIVING THE CHALLENGES OF USING ACTIVE LEARNING METHODS IN MALDIVIAN CLASSROOMS

A personal perspective

Through the participatory underpinnings of the study, I set out to establish myself and teachers as equal partners in the research process. The goal was for teachers to have an explicit voice in defining their needs and have direct input into the intervention design. However, it quickly became clear that the teachers had positioned me as the expert and, therefore, for the intervention to gain impetus, I was expected to lead the process. Once I had adjusted to this expectation, the collaboration took on a new form. At the request of the teachers this involved team teaching a series of lessons. Teachers strongly advocated their need to see the new strategies enacted in their classroom. Stuart, Akyeampong, and Croft (2009, p. 26), writing about teacher education in developing countries, state that teachers “need to see and understand alternative methods and concepts demonstrated”. While I was initially hesitant that accepting a team teaching role would reinforce my role as expert, I found, instead, that by embracing this unplanned aspect to my role, the process of team teaching and co-planning created an opportunity for me to be privy to additional insights. The collaboration between us provided openings for me to question teachers on their existing practices and their reasoning in the ideas they use, thereby enabling me to explore their beliefs during the process. So I was afforded an eight-month immersion in the school and in teachers’ classrooms, working closely with teachers to support the use of the pedagogical intervention within the realities of their classrooms and in the island setting. What follows is an analysis of factors that I experienced through my teaching role within the DBR process, of attempting to enact the model. Reports in the literature about similar reform efforts along with data from The World Café provided the starting point. These were elaborated upon during my eight-month immersion in the school through my day-to-day teaching activities.

Syllabus/schemes of work

The current school syllabus, created in 1992, is focused on discrete objectives and specific content. A number of issues arose for me in working from this planning document:

1. Schemes of work, written against the syllabus document, are presented as discrete objectives and dictate the content and objectives for each lesson over the week including when the formative assessment (typically pen and paper tests) should be conducted. In retaining the schemes, each lesson tended to take a narrow objective focus, often on discrete skills, leading to individual textbook exercises or worksheets to practise these skills.
2. Consistent with the findings of Schweisfurth (2011), teachers often communicated that they felt pressured to “cover the syllabus” in preparation for unit assessments or term tests. Consequently, some teachers felt less inclination to use the active learning strategies, which were seen to take more time.

In working with the syllabus and moving beyond teaching discrete skills, my approach was to look for opportunities to combine objectives, thereby allowing for more in-depth study of a topic while still following the schemes of work. The new NCF, with a broader perspective than the current syllabus, is currently being piloted. Its roll out has been stalled several times.

Textbooks

Textbooks, aligned to the syllabus, offer easily accessible student activities consistent with the schemes of work. Yet an analysis suggests that their general structure runs contrary to active

learning (Di Biase, 2010). Established procedures in how textbooks have typically been used make it difficult to break these routines. The textbooks tend to emphasize drill and practise exercises but they also include pictures, explanations, and activities that can be used to promote active learning depending on how they are used (see Mohammed & Harlech-Jones, 2008 for discussion on textbook use in Pakistan). Therefore I was able to demonstrate how the textbook could be used in new ways to compensate for a lack of reference materials. The teachers reported limited resources as a barrier to active learning and, since all students have textbooks, the textbook provides an easily accessible resource that could be used as a source for active learning if used in innovative ways. Two examples follow of how the textbooks were used to support the use of active learning strategies where students were involved in structured investigations rather than the transmission of knowledge through traditional methods.

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 the lesson. Explanation of the causes of World War 1 (WW1) and information on World War 2 was provided 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:

- The traditional way in which the lesson had typically been taught;
- The textbook offering dense information without explicit exploration of broader concepts; and
- Only two lessons could be spent on the topic with term tests approaching and a need to complete the syllabus.

Therefore, we used the textbook information as a reference on WW1 for a co-operative learning jigsaw activity (Aronson, 1978). The four headings of WW1 became the topics for four expert groups. Students worked in groups to locate key information about WW1 from the textbook and then reported their findings to another group. Although the students were new to this type of activity, they were observed as being energized and engaged in the task. Difficult vocabulary was an issue, which was exacerbated by the lack of pre-teaching of key terms. 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.

Scenario 2: Environmental Studies—Maldivian food

(Grade 1 Scheme of work—To identify our basic foods and to describe Maldivian food).

Initially the two Grade 1 teachers had been hesitant about trying the jigsaw activity given the age and reading ability of grade 1 students but decided they would trial it if an opportunity arose. Pictures of Maldivian food in the textbook presented an opportunity and were used as a reference for the jigsaw activity. 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 on the ingredients of their particular Maldivian meal, and each group created a poster on Maldivian meals. The textbook provided an easily available reference for the activity. 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.

Teaching resources

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). Given the insularity of island life, the Internet was an important link to the outside world and a source of new teaching ideas. It provided opportunities to promote active learning when used strategically in lessons.

In a number of lessons, we used Internet resources that provided an engaging and stimulating introduction. These included:

- A film showing a storm as an introduction to a creative writing activity;
- A film of an octopus camouflaging against coral as an introduction to a research activity on sea creatures; and
- Several CFS teachers found online stories corresponding with class books that they could use for reading activities.

Although the Internet can be an enabling opportunity for teachers, 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 when used in this way. The Internet was also a barrier with ongoing connectivity issues. Many times we went to plan a lesson only to find there was no connection. 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.

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. 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. However, local teachers were generally not making use of these resources. Attempts to ascertain the reasons for this were not fruitful, although the extra time required for finding resources and planning lessons using different resources is one experienced by teachers regardless of context.

Generating new teaching materials/resources

With the shortage of teaching resources noted as a barrier in both the literature (Altinyelken, 2011; Ginsburg, 2010; Schweisfurth, 2013) and the contextual analysis data, my goal was to work with teachers so they could experience how resources could be made and reused in contrast to spending time making one-off resources. Courtney (2008) found 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" (p. 551). This resonates with my observations of Maldivian teachers, as I, likewise, found that teachers typically do not file resources for re-use. I attempted to model how to create resources that could be reused by

organising a session to create coloured grouping cards so these cards could be reused during group work.

Classroom physical environment

Johnson et al. (2000, p. 185) argue that the physical environment has a strong bearing on what teachers can do. I was able to experience the difference in teaching in the physical environment of CFS and primary classrooms. CFS classrooms were generally inviting classroom environments. UNICEF had initially supported schools implementing CFS by providing tiles for the floor and an array of classroom resources. Tiled floors enabled floor activities to take place, whereas the dusty concrete floors of non-CFS classrooms inhibited floor activities. Extra furniture also meant there was greater flexibility as to where CFS students could work.



Figure 6: Traditional classroom



Figure 7: CFS classroom

In the non-CFS classrooms, the desks were arranged in rows and arranging 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. In team teaching sessions, the local teachers were always responsible for forming the groups given their familiarity with the students. 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 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.

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 more, not less, demands on teachers (Nykiel-Herbert, 2004; O'Sullivan, 2004). I also observed the out-of-class activities, such as weekly planning meetings,

that teachers were required to attend. 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, PD sessions, 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 I faced. Working around extra commitments became part of the norm of my scheduling but it did highlight the demands made on teachers as part of their jobs. 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.

Students and learner-centred education

LCE puts more responsibility on students because they need to be more actively involved in their learning. Altinyelken (2011), reporting on a study in Turkey, maintains that not all students are prepared or willing for this extra responsibility, some preferring to remain in a more passive role. In my teaching role, I experienced how students responded to the active learning strategies we used. My overall observation was that students were eager to engage productively in the class when they understood what was expected. The change in teaching/learning activities was challenging for some but, over a number of classes, students generally reacted positively when the task had clarity. It was not my experience that students preferred the rote teaching approaches. From my classroom observations, they appeared visibly engaged with learning. Supporting my observations, teachers reported improvement in the quality and standard of their students' ideas when active learning methods were used.

Group work

Group work was discussed favourably in The World Café data, and presented as a means of involving students more actively in their learning, increasing student motivation and improving learning outcomes. Group work was well-established as a routine in CFS grades and using more group work to improve the quality of instruction was an aspiration for the primary teachers. However, teachers raised several issues about the use of group work:

- They were concerned that not all students contributed equally in a group task and wanted to learn how to encourage all students to participate equally.
- In the primary classes, the physical environment was less conducive to group work.
- In primary classes, mixed gender grouping was more challenging because traditional grouping was gender-based, making group allocations problematic at times.
- Questions were raised on how to manage students who were not compliant in the group activities.

Added to this were my observations that students were often put in a group to complete tasks that could easily be completed individually, and the formation of groups was done without attention to the suitability of the task or how group work structures could be used to improve learning opportunities. This is a well-documented issue with group work (Johnson & Johnson, 1999). The co-operative learning strategies that formed part of the intervention were chosen to address the teachers' concerns. The specific strategies were selected as structures to enhance individual student's accountability in groups and to help facilitate co-operative learning by providing clear procedures for all students. The following examples reveal some of the difficulties along with potential solutions.

Example 1: Giving instructions

As noted earlier, 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. One of her colleagues had created PowerPoint slides for his students that visually 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 slides to use in their classes.

Example 2: Gender issues in group formation

It initially appeared problematic to form mixed gender groups in class work in primary classes. In the CFS classes, boys and girls worked together without issue. The issue around mixing gender seems to first arise in Grade 5 and become entrenched by Grades 6 and 7. One teacher informed me this was a cultural issue. However another teacher did not confront these same problems. In our team teaching sessions he stated to the class that girls and boys would be required to work together and, despite some initial hesitation, they did work together and successfully completed the task. During final interviews, I was told by several teachers that boys and girls were now willing to work in the same group. It seems that by challenging their own expectations of what students could do, the students had responded accordingly and the initial obstacle eased over time.

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 education roles I could provide opportunities to scaffold the teachers to trial new practices that were feasible within their classroom context. Experiencing the circumstances of the Maldivian teachers highlighted some of the challenges they face in using active learning methods. In some lessons our combined effort allowed us to overcome some of the stated difficulties 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).

A REFLECTIVE ANALYSIS OF THE ISLAND EXPERIENCE

While the participatory intentions of the study were modified in response to circumstances in the field, the unintended consequences were beneficial in providing me with authentic perspectives on the conditions and realities in which teachers work. This rendered a better understanding of the particular contextual factors that impact on teachers' use of active learning within this setting. Despite my background experiences with constructivist teaching, I was confronted by very real constraints in attempting to use active learning methods within the Maldivian island context. These are challenges that teachers also struggle with, particularly in light of contradictory messages and inconsistencies within the system (Chisholm & Leyendecker, 2008). Through my initial participatory focus, my plans were centred on teachers and myself as equal partners bringing different sets of knowledge to the research process. It was necessary to adapt to the

circumstances where I was clearly positioned as the expert and I needed to acknowledge that equal partnership with the teachers would be problematic. The conclusions of Mdee (2010), based on her work in Tanzania, resonate with my own experience. She questions whether absolute equality is possible given imbalances in knowledge, power and resources. It was immediately obvious that my broader knowledge and experience with constructivist pedagogies would position me as an expert. This was made all the more acute by the insularity of island living, where access to outside resources and expertise was limited for teachers due in part to the difficulties with travel and unreliable Internet access.

Elaborating on the notion of partnership in the research process, Mdee (2010) points to the limits of “handing over the stick” (p. 41) to participants who may not want the stick, feel it is not appropriate they should have the stick or have resources to use the stick. The equivalence of the “stick” in this case, was expecting teachers to direct the form that the pedagogical intervention would take. They were reluctant to accept this role and the corresponding responsibilities. Yet, over time, the Maldivian teachers were increasingly willing to make explicit requests around operationalizing the active learning model, thereby becoming more active participants and developing a voice in the process. Participation came through a process that evolved, rather than one that was planned. Dale (2005, p. 184) 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. It also allowed participants to accept decision-making responsibilities for their learning on their terms rather than according to my timeline. My acceptance of the “expert” role enabled the empowerment nature of teachers’ participation to evolve, and provided me with access to teachers’ classrooms and experience of the circumstances in which teachers work.

Consequently, this is not only a discussion of the contextual factors I experienced that impacted on using the active learning model, it also serves as an account of DBR in action and how my role changed in the field and the insights arising from this. Initially I was not only “expert” but also an outsider to the island, albeit with some insider knowledge of the Maldivian education system from my earlier work. While this background was known in the school, I would also learn the importance of establishing personal relationships on the island. I experienced first-hand the advantages of the particular social ecology of small states and the highly personalised nature of relationships (Farrugia & Attard, 1989). The smallness allowed things to happen through personal connections. This opened doors in having access to people for a range of research activities, both on the island and within the country. In the particular circumstances of the island, this meant that, as personal relationships developed in the school over time, the teachers responded more openly, actively and explicitly. Despite my assigned role as expert, a familiarity grew through our daily interactions. Through the professional responsibilities of team teaching, the interactions, from my perspective, became less hierarchical and expanded my opportunities to delve and ask questions about classes and explore teachers’ beliefs in a more relaxed environment. This was an unanticipated contextual factor which eventually played a critical role in the intervention process.

Through my extended stay on the island, I became increasingly part of the island community and achieved some insider status as I came to understand the day-to-day workings of the school as well as the ebbs and flows of island life. Moreover, by living on the island, I also felt my own world shrink as I focused on the daily routines of island life. I acutely felt the insularity of island living and understood the value of being able to access new ideas in order to move beyond entrenched patterns of behaviour. Johnson et al. (2000) contend that normative expectations are set up within the teachers’ work environment (physical, symbolic and normative) and determine

how actions should be carried out. From my personal experience I suggest the normative expectations, given the smallness of the island community, very strongly influence how teachers carry out their work.

Over time, I came to see the characteristic of small island states as both a barrier and an enabler in the DBR research process. The isolation was real yet the smallness afforded unique opportunities. Through my immersion in the field, I came to experience some of the contextual factors and barriers first hand. I came to understand the central role of the school on the island, the routines of island life and the tyranny of distance; the island was far away from the capital and there was a feeling of isolation due to irregular transport and the vagaries of the weather. The reflections on my fieldwork and on-the-ground realities are intended to present a critical account of my experience and specifically the understandings arising from being an active participant within the DBR process. Crossley (2010) laments how rarely “the findings of educational research seemed to reflect the lived experience of educational practitioners” (p. 422). By living on the island for an extended period, I was better able to stand in the teachers’ shoes and understand the daily challenges they faced, as well as report on ways in which we were collaboratively able to confront some of these constraints.

CONCLUSION

The isolation and insularity of small islands accords personal relationships a special place. These evolving relationships on the island opened up dialogue throughout the research process and a genuine participatory partnership developed. Yet they also highlighted the particular contextual characteristics of small islands that are indicative of the Maldives. My experience in the classroom provides some insights into understanding the conditions that both support and inhibit teachers’ enactment of active learning in the Maldivian system. These experiences and insights reinforce the importance of identifying the local conditions needed for successful implementation of educational reforms in order to better understand the gap between policy and practice.

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