

# **Teaching as Inquiry: Perspectives, Practices and Perceptions of Success in New Zealand Primary Schools**

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A thesis submitted in partial fulfilment of the requirements for the degree of  
Master of Educational Leadership and Management

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## Declaration

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This Thesis entitled: **Teaching as Inquiry: Perspectives, Practices and Perceptions of Success in New Zealand Primary Schools** is submitted in partial fulfilment for the requirements for the Unitec degree of Master of Educational Leadership and Management.

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### CANDIDATE'S DECLARATION

I confirm that:

- This Thesis represents my own work;
- The contribution of supervisors and others to this work was consistent with the Unitec Regulations and Policies.
- Research for this work has been conducted in accordance with the Unitec Research Ethics Committee Policy and Procedures, and has fulfilled any requirements set for this project by the Unitec Research Ethics Committee.

Research Ethics Committee Approval Number: **2017-1022**

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## ABSTRACT

Teaching as inquiry has been included in the New Zealand Curriculum as a model of effective pedagogy for more than ten years, however its introduction to primary schools has been gradual. The implementation of teaching as inquiry has not been straightforward as it requires a pedagogical shift in the mindset of educators. This study therefore is aimed to explore leaders' and teachers' perspectives of teaching as inquiry, investigate its practice in primary schools and examine leaders' and teachers' perceptions of successful teaching as inquiry practice.

In seeking to understand the ideas and experiences from educators around teaching as inquiry I adopted an interpretive epistemological approach for my research. Using the qualitative method of focus group interviews allowed me to collect a substantial amount of detailed subjective data. A total of six focus group interviews were conducted with groups of leaders and groups of teachers at three Auckland primary schools.

The key findings from this study revealed that the school context largely determined the extent to which teaching as inquiry was understood, embraced and practised by educators. The findings also exposed that different teaching as inquiry frameworks were adopted, that it is linked performance appraisal systems and that its practice is continuing to develop in schools including a more recent shift towards collaborative inquiry.

This study highlights that in some contexts teaching as inquiry practice is narrowed and superficial due to various pressures and constraints, and does not contribute to improved student learning outcomes in a significant way. While they are not specifically referred to in the New Zealand Curriculum, it is the belief of the researcher that schools should engage with the underpinning core attitudes of open-mindedness, fallibility and persistence. This would reconnect educators with the purpose of teaching as inquiry, allow them to improve their understandings, and develop an organisational learning culture with authentic and relevant practices that serve leaders, teachers and learners within their educational context.

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## CHAPTER ONE

### INTRODUCTION

#### Introduction

In 2007, the Ministry of Education introduced the revised New Zealand Curriculum, which made statements of intended outcomes of education and referred to desirable teaching and learning practices, setting out a model of effective pedagogy called 'teaching as inquiry' (Aitken & Sinnema, 2008; Ministry of Education, 2007). Teaching as inquiry encompasses a cycle of problem solving, data gathering, analysis and action with the aim of improved achievement outcomes for all learners (Sinnema & Aitken, 2011). Although not specifically referred to in the New Zealand Curriculum (Ministry of Education, 2007) teaching as inquiry is underpinned by three core attitudes: open-mindedness, fallibility and persistence.

Open-mindedness refers to a willingness to consider teaching approaches that may be unfamiliar or that may challenge one's beliefs about the best ways to teach. It refers also to being open to what the evidence shows about the effects of teaching on student learning. Fallibility refers to the lively realisation that however strong the evidence may be, educational research findings are always conjectural because they are context-bound. Fallibility involves accepting the possibility that what was, or what has been, successful with one group of learners may not be successful with another and that, for this reason, well-designed intentions might fail to generate the desired response. The need for persistence directly follows from fallibility, as teachers must inquire again into the focus of future learning and into the possibilities for more effective future action (Aitken & Sinnema, 2008, p. 53).

These underpinning attitudes of teaching as inquiry are consistent with a post-positivist approach. Teachers are encouraged to engage with the research on effective teaching approaches, but are to be aware that it is conjectural as the situation varies from context to context (Sinnema & Aitken, 2011).

## **Rationale**

Teaching as inquiry has become increasingly prevalent in recent years, as is the case in my New Zealand primary school educational context. I work in a large decile five primary school in West Auckland, attended by 700 Year One to Six students. Although I am currently on study leave, my role within this learning organisation is that of senior teacher for a syndicate of four classes. 2016 marked the first time that teaching as inquiry was included as part of our appraisal process, appearing in the schoolwide Professional Learning and Development Plan document. A full day of professional learning development for all teaching staff was dedicated to teaching as inquiry at the beginning of the year. Teachers were then asked to identify an aspect of their practice upon which to focus an inquiry, with an expectation that teachers share this inquiry with their colleagues. However, once the year was underway this plan quickly fell by the wayside and was not revisited. Teacher inquiries did not feature on any further appraisal documents and inquiries were not formally shared. While it all started with much interest and excitement, I feel that teaching as inquiry was overlooked due to a highly cluttered appraisal process. It will be interesting to see whether teaching as inquiry is revisited in future appraisals. However, last year's experience intrigued me, prompting me to learn more about the implementation of teaching as inquiry.

I have felt and seen enthusiasm for teaching as inquiry first-hand, and was passionate about the opportunity to learn from others who had been involved in in-depth and robust inquiries with their colleagues. Cardno, Bassett, and Wood (2016) argue that "the ultimate aim of encouraging the practice of teaching as inquiry is to motivate teachers to improve teaching in order to improve learning outcomes" (p. 58). From my readings, I see the value of teaching

as inquiry and understand that it is a practice that can be successful in educational settings. For this reason, I visited three Auckland primary schools to conduct my research study to discover the conditions that allow teaching as inquiry to be successfully put into practice. By learning about the conditions set out by leadership as well as the predispositions, conscious efforts and actions of individuals at all levels, I believe that this research study is of benefit to educators.

### **Research Aims**

The aims of this research were to:

1. explore leaders' and teachers' perspectives of teaching as inquiry.
2. investigate the practice of teaching as inquiry in New Zealand primary schools.
3. examine leaders' and teachers' perceptions of successful teaching as inquiry practice.

### **Research Questions**

The research questions were:

1. what are leaders' and teachers' perspectives of teaching as inquiry?
2. how is teaching as inquiry practised in New Zealand primary schools?
3. what are leaders' and teachers' perceptions of successful teaching as inquiry practice?

### **Thesis Outline**

#### *Chapter One*

This chapter introduces the research topic of teaching as inquiry in New Zealand primary schools. A rationale for this study is presented, along with the research aims and research questions and an outline of the five chapters of the thesis.

## *Chapter Two*

A review of the relevant literature is presented. Professional learning and development, school improvement and challenges in the practice of teaching as inquiry are examined.

## *Chapter Three*

This chapter provides the outline of the research methodology and the rationale for the adopted interpretive approach. The rationale for the method of data collection and sample selection are provided. The process for data analysis and its validity and reliability are discussed. Ethical issues and limitations of research are also considered and discussed.

## *Chapter Four*

The analysed findings from focus group interviews are presented. The data is organised with leaders' responses first, followed by teachers' responses. The data from leaders' and teachers' responses is presented in relation to the research aims of perspectives of teaching as inquiry, teaching as inquiry practices and perceptions of successful teaching as inquiry practice.

## *Chapter Five*

This chapter is a synthesis of the findings of the research in Chapter Four, presented in relation to the relevant literature introduced in Chapter Two. The discussion of the findings is structured around the three research questions. This is followed by the conclusions of my research, my recommendations and proposed areas for future research.

## CHAPTER TWO

### LITERATURE REVIEW

#### Introduction

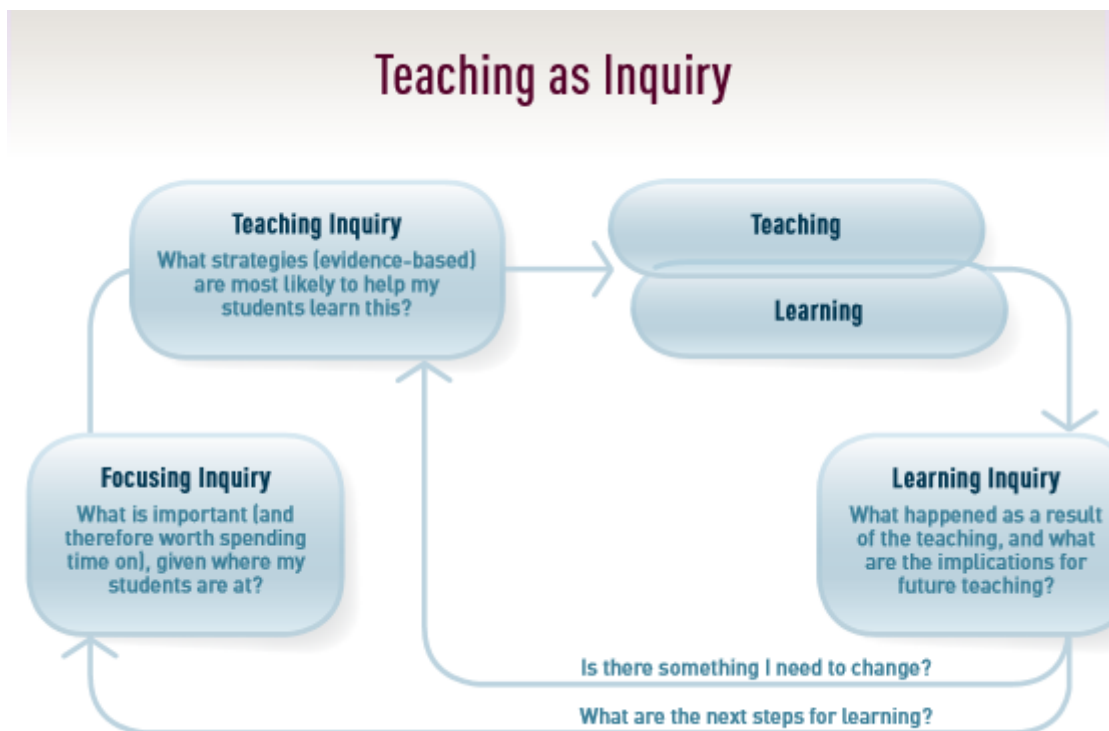
This literature review chapter critically examines and discusses the literature focussed on teaching as inquiry. In the first section, I will investigate professional learning and development around teaching as inquiry. Secondly, I will look at the role that teaching as inquiry plays in school improvement. Thirdly, I will discuss the challenges that arise from the practice of teaching as inquiry.

#### Teaching as Inquiry Models

The teaching as inquiry model (figure 2.1) in the New Zealand Curriculum (Ministry of Education, 2007) is included in a section entitled 'Effective Pedagogy' and encourages educators to determine how their teaching impacts upon the learning of their students. It stems from the work of Aitken and Sinnema (2008) who formed a model of evidence informed pedagogy called teaching as inquiry as part of their 'Best Evidence Synthesis.' Aitken and Sinnema's model of teaching as inquiry is underpinned by the core attitudes of open-mindedness, fallibility and persistence, however these attitudes which form the basis of teaching as inquiry are missing from the Ministry of Education's model.

Using the New Zealand Curriculum's (Ministry of Education, 2007) model, teachers engage in three forms of inquiry: focusing inquiry, teaching inquiry and learning inquiry. In a focusing inquiry, teachers consider what is most important to focus on and dedicate time to, based on their students' needs. This is undertaken by using a range of information sources to help gauge an accurate picture of the learners and their needs. Teaching inquiry involves taking the priorities identified in a focusing inquiry and engaging with research and drawing upon the past practice of teachers and their colleagues to explore the strategies and approaches that are likely to work for their learners. A learning inquiry requires teachers to investigate

how their modified teaching practice has impacted upon students' achievement and whether further changes to practice should be considered. In this cyclical process a learning inquiry may lead to a new focusing inquiry to determine learners' next steps in their learning or it may result in revisiting the teaching inquiry to find more suitable and effective approaches to teaching and learning.



**Figure 2.1: Teaching as Inquiry**

Source: The New Zealand Curriculum (2007, p. 35)

This model has clear ties to the notions of single and double-loop learning introduced by Argyris (1977). He argues that single-loop learning leads to superficial and short-term change as it does not challenge one's underlying assumptions. Whereas, double-loop learning requires teachers to address those underlying assumptions which would otherwise inhibit them from making effective and informed choices. While double-loop learning is a driver for significant and lasting change, it is only achieved through challenging one's norms, attitudes and assumptions which requires a significant pedagogical leap which some may find

uncomfortable (Senge et al., 2000). Teaching as inquiry promotes the development of teachers, as this comprehensive inquiry process is an evidence based approach which is used to identify what is and is not working for learners, with the aim of improving teaching practice and student learning outcomes.

Benade (2015) is critical of The New Zealand Curriculum's teaching as inquiry model, describing the exclusion of the three underpinning core attitudes of open-mindedness, fallibility and persistence as a "fatal blow" (p. 10), as individual and collaborative reflective practice require teachers to hold such dispositions. He argues that as it does not require teachers to examine their fundamental beliefs and assumptions and as such merely provides a model for them to follow. While it does refer the use of evidence, he points out that it uses first person language which suggests that it is to be used in 'siloes' single-cell class situations, which is contrary to the collaborative practice that it is intended to be practised with. He contends that through collaborative practice teachers are able to make their assumptions and beliefs public and work towards common goals, helping them better understand themselves and the work they do.

Despite such criticism, teaching as inquiry has equity concerns at its heart and focuses on "altering curriculum and disrupting typical or habitual practices that may not be serving students well" (Sinnema & Aitken, 2011, p. 35). The Ministry of Education (2010) identifies that a teaching as inquiry approach may be used for teachers to become more culturally responsive and to improve outcomes for Māori and Pasifika learners. It veers from the notions of linear and procedural teaching, where teachers may deliver the curriculum as they always have done based on the age and stage of their students, to follow a less prescribed path which is more reflective and representative of the learners in front of them. While there are pitfalls to a less sequential progression, such as being unsure of the next teaching and learning steps to take or feeling overwhelmed by the paradigm shift required to engage in this practice, they can be limited "through the promotion of rigorous inquiry" (Sinnema & Aitken, 2011, p. 30). This equitable approach to teaching practice provides an excellent way in which to develop teachers' abilities to help all students achieve.

Nusche, Laveault, MacBeath, and Santiago (2012) propose that performance appraisal serves two purposes. One function is to ensure accountability; the other is to promote development. Teaching as inquiry is consistent with the developmental functions of appraisal as it seeks to improve teaching and learning. Cardno et al. (2016) propose a collection of activities that align the requirements of appraisal with the genuine reflection necessary for an inquiry into one's own practice. They outline an appraisal process that mandates the planning and setting of developmental goals, following which the teacher selects goals that have a student learning focus and, ideally, mesh with the identified department level goals. Next, classroom observations are conducted based on observation plans that are co-constructed. This allows the appraiser to monitor and support the teacher's inquiry. In conjunction with the observations there are regular discussions, interviews or conversations that allow both parties to focus on particular aspects of the inquiry. Finally, the reporting comments on the impact of the inquiry on teaching and learning. Cardno et al. (2016) argue that this pairing of inquiry with the performance appraisal process once again fosters the development of teachers, which in turn benefits students' learning outcomes.

Sinnema and Aitken (2011) identify some ways in which teaching as inquiry has helped to support teachers' professional learning and development. When the revised New Zealand Curriculum was introduced in 2007, some teachers found the highly flexible format confusing. The teaching as inquiry model introduced as part of the new curriculum document helped teachers to access the new curriculum and supported their understanding of how it might be used. The use of this model acknowledges teachers as capable professionals and empowers them. The emphasis on teachers focusing their inquiries on the needs and abilities of their students was another incentive and was received positively by teachers (p. 38).

Similarly, Timperley (2011a) introduces the idea of teachers as 'adaptive experts'. She states that adaptive experts are practitioners who have a strong knowledge of the "evidence-base underpinning effective teaching and learning and engage in ongoing checking of how effectively all students are engaging and learning, particularly those previously under-served by our education system" (p. 18). Smith and Starmer (2017) add to this, arguing that adaptive

experts are highly competent professionals who are “able to identify problems, use their professional knowledge to enact strategies as solutions, and become active partners in their professional learning” (p. 23). A significant trait of adaptive experts is their awareness of the assumptions that underpin their own practice. Adaptive experts are able to monitor these assumptions to determine if they are helpful, should be questioned or should be changed altogether. Of particular interest are the assumptions relating to the effectiveness of teaching and learning routines, as an adaptive expert will be reflective on and responsive to the impact of these on students’ engagement, learning and well-being (Timperley, 2011a). Another quality of adaptive experts is that of knowing when to seek help and where to find it as they “engage in ongoing cycles of inquiry and knowledge-building to develop their expertise in response to the specific challenges students face” (Timperley, 2011a, p. 19). These adaptive experts are a tremendous asset to schools as they could benefit the school through professional learning and development programmes and also in the mentoring of individual teachers, an idea further explored in the theme of teaching as inquiry’s influence on school improvement.

Such an approach is consistent with the spiral of inquiry framework introduced by Timperley, Kaser, and Halbert (2014). In employing this practice, teachers adopt a curiosity mindset so as to identify what is happening for learners and to develop a hunch about the causes that have led to the current situation, before looking for solutions. Teachers are encouraged to look for what is working well so that they may build on it, and for what is not working well so that changes may be made.

The spiral of inquiry framework (figure 2.2) is comprised of a number of processes with two overarching questions that help to guide teacher inquiries: what’s going on for learners?; how do we know? The first question is included within the framework so that educators can make decisions about teaching and learning in their inquiry that are relevant to the experiences of their learners. The second question is incorporated into the spiral of inquiry to ensure the relevance and authenticity of these decisions by basing them in rich evidence (Timperley et al., 2014).



**Figure 2.2: Spiral of Inquiry**

Source: Timperley, Kaser and Halbert (2014, p. 5)

The six processes within the spiral of inquiry are: scanning; focusing; developing a hunch; learning; taking action; checking. While these stages are presented in this order, they are not rigidly sequential and often tend to overlap. The scanning phase requires educators to be curious about their learners and to be open to information about them and their learning from a number of sources. This scanning phase helps us to better understand students' experiences and perspectives and avoids tainting inquiry decisions with our assumptions or preconceptions. Timperley et al. (2014) urge that "we need to get underneath the data to understand what these numbers are actually telling us" (p. 7).

In the focusing stage educators use the information that they have collected in the scanning phase to decide where to concentrate their efforts in the inquiry. In the focusing phase educators must decide which area or areas of focus are likely to make the most significant difference in learners' experiences and educational outcomes. Focusing calls for educators

to resist the urge to just jump into new actions or practices and take the time to make well informed decisions around teaching and learning.

The next stage is developing a hunch and involves educators using their intuition to question what circumstances or experiences have led to learners' current situation. These hunches may or may not be factual, which is why educators are encouraged to seek evidence in order to prove or disprove these hunches. By testing hunches educators gain a better insight into which hunches are more accurate and therefore more useful. As part of this phase, determining teachers' impact on their students' learning is an important consideration. "How are WE contributing to this situation?" (Timperley et al., 2014, p. 12) is a guiding question in this stage.

The new learning phase compels educators to consider how and where they can acquire the knowledge and skills required to engage in new and more relevant teaching and learning practices to improve the educational outcomes for their learners. This is empowering for teachers as it provides them with the autonomy to make decisions in their own professional learning, as opposed to having these decisions imposed upon them. It is important to note that the new learning that educators engage in is linked to the chosen focus from the previous stage of the spiral of inquiry. As part of this new learning is it also essential that educators understand why new practices are superior to previous ones.

The taking action phase calls for educators to put actions into place to significantly alter students' learning environments and educational experiences. These actions are once again based on the previous processes of the spiral of inquiry and are designed to make a substantial difference to student learning outcomes. Timperley et al. (2014) implore that "it is about taking informed actions that will make enough of a difference. This is now the time to put new ideas that we have learned into informed, focused and team-led action" (p. 17). Throughout the spiral of inquiry, and in the taking action phase in particular, it is important to acknowledge feelings of vulnerability and to develop conditions of trust in such team-led

action. As part of this collaborative practice educators should be encouraged, and encourage others, to take risks, make mistakes and try again.

The final stage is the process of checking in which educators determine whether they have made enough of a difference. Educators should have high expectations that their actions will make a difference for all learners and this once again requires collecting evidence to see what changes to have occurred to students' learning environments, experiences and achievement throughout the inquiry. While there will be successes and failures throughout the spiral of inquiry, it is important to acknowledge and celebrate the gains that have been made resulting from changes pedagogy and practice. It is hugely valuable to question why some approaches work better than others and to be open to new possibilities.

### **Teaching as Inquiry's Influence on School Improvement**

Timperley (2011b) identifies a correlation between two highly successful literacy inquiries in schools whose interventions "specifically sought to develop teachers' pedagogical content knowledge in terms of what is known to be effective" (p. 19). She describes how the professional knowledge and skills that were developed were particular to the situations after careful diagnosis of the learners' needs. This allowed the teachers to apply their new knowledge to their day-to-day challenges in teaching. This approach was in stark contrast to those of some other professional development contracts in which she had been involved. The same level of rigour in the depth of knowledge and change processes were not consistently demonstrated and as a result the professional development did not reap the same rewards for the schools, the teachers and their learners. Interestingly, Timperley (2011b) adds that no school leaders in any of the participating schools had created any ongoing learning systems to support the teachers' inquiries, but rather that the minority of teachers who made the greatest gains in terms of student learning outcomes were the sort of adaptive experts who sought their own way forward. The implementation of systems to support teacher inquiries, including mentorship, would help to promote an inquiry culture and would benefit the whole school. Fowler (2012) and Timperley (2011b) argue that schoolwide inquiry is strengthened when there is support offered by capable professionals to coach and assist teachers with their

individual inquiries. The Education Review Office (2015) recognises the role that middle level leadership can play in developing what Timperley (2011b) calls adaptive experts, however this may not be practical as Bassett (2016) warns that middle leaders are already overburdened.

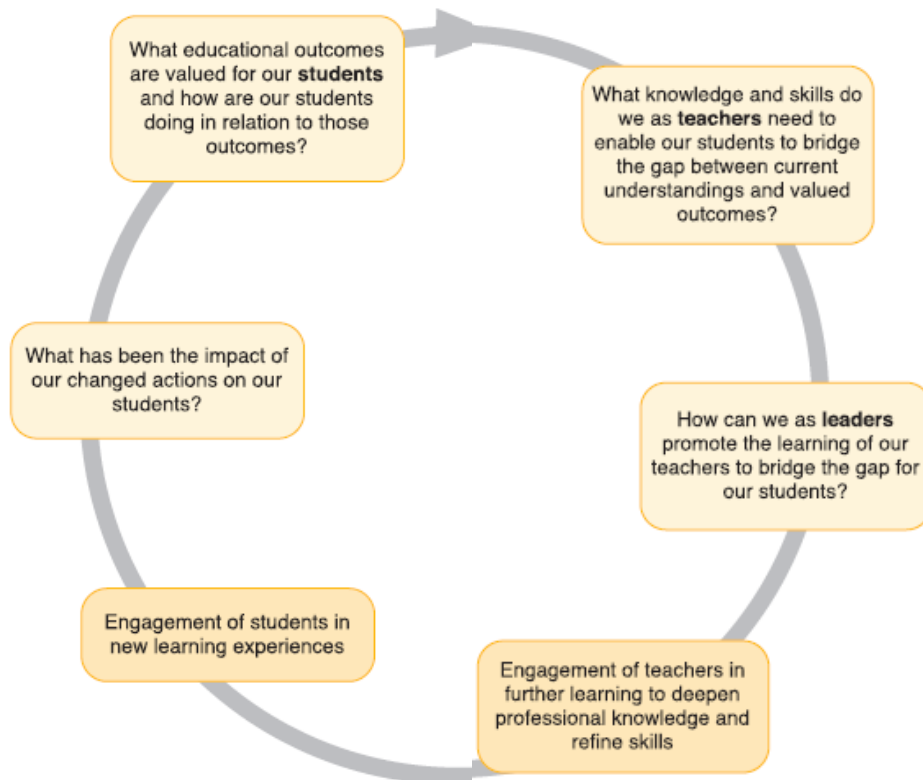
As noted by Timperley (2011b), the potential for school improvement is greatly hampered without ongoing learning systems. While a handful of adaptive experts may make positive gains, the majority of teachers are likely to maintain the status quo. Timperley (2011c) argues that “given the social nature of learning, it is difficult for teachers to develop adaptive expertise unless they work in schools that foster and support their learning” (p. 3). For this reason, it is vital that schools systematically develop their own adaptive expertise. A number of authors (Bransford, Derry, Berliner, & Hammerness, 2005; Staber & Sydow, 2002) use the term ‘adaptive capacity’, and define it as an organisational learning approach for the whole school, where leaders become adaptive experts in their leadership role. By using this tactic, teachers, leaders and external experts may share a deeper understanding of content knowledge and how to teach it, as well as continuing to develop organisational structures, situations and routines that will further benefit student learning outcomes (Timperley, 2011b). In short, engaging in inquiry and learning at all levels of an organisation is a fundamental component of a school’s professionalism (Timperley, 2011a).

Timperley (2011c) notes the impact that conversations can have when engaging in inquiry at different levels throughout schools and that they may provide opportunities for developing adaptive expertise. While conversations are powerful, they may be positive, negative or neutral depending on how they are constructed and used. With this in mind, leaders need to carefully and deliberately craft conversations around the observation and analysis of practice if they are to realise their full potential in teachers’ professional development and ultimately on students’ learning and achievement. Teachers are increasingly expected to move from craft-based practice to research-informed practice and leaders play a vital role in this shift. As leaders in learning, they need to support teachers in ways which are consistent with research-informed theory and knowledge of practice so that all educators may examine their practice for its effectiveness. The author recognises that learning theory is increasingly

pointing towards the following four principles: engaging prior conceptions; developing a deep foundation of knowledge; constructing learning through social interactions; developing meta-cognitive and self-regulated learning orientations. By adhering to these principles educators are able to use conversations as opportunities to learn and improve throughout schools.

The Ministry of Education (2008) indicates that it is an expectation that New Zealand principals, as educational leaders, “lead learning to improve student learning outcomes, create effective conditions for learning and teaching, and develop others as leaders” (p. 9). Youngs et al. (2010) argue that this requires principals to understand and act upon the research knowledge that guides effective professional learning. A series of key questions are presented by Timperley (2008) in figure 2.3 to guide the planning and participation in professional learning and development. These questions also serve to highlight leaders’ role in the teacher inquiry cycle. While the author stresses the need to link professional learning and development activity to teachers’ identified development needs she states that it is difficult to find evidence of this in practice. Timperley, Wilson, Barrar, and Fung (2007) add that for leaders to fully understand how professional learning can influence learning and teaching they need to be aware of the following processes: engaging prior knowledge and bringing to the surface theories of action that are embedded in practice; engaging with new knowledge and knowing how to deal with dissonance between deeply held values and beliefs that may be dissonant with new knowledge and create resistance to change; extending learning beyond one-off opportunities so that there is progression of learning over time.

## Teacher inquiry and knowledge-building cycles to promote valued student outcomes



**Figure 2.3: Teacher Inquiry and Knowledge-building Cycles to Promote Valued Student Outcomes**

Source: Timperley (2008, p. 26)

Some practical ways of engaging in teaching as inquiry throughout schools are presented by Cardno et al. (2016) who make some recommendations based on a small-scale study of two Auckland secondary schools. The first recommendation they make is that if schools wish to embed teaching as inquiry into the performance appraisal system, which is the growing trend, then staff should be informed of the conceptual background and foundational values related to teacher inquiry prior to embarking on a procedural approach which may lead to a superficial level inquiry. The second recommendation they make is that schools “need to develop the expertise of leaders and teachers to participate in appraisal and inquiry dialogue that is challenging, collaborative, and critically reflective” (Cardno et al., 2016, p. 58)

Timperley (2011b) makes some suggestions, which are consistent with Cardno et al. (2016), on how to raise schoolwide performance through teaching as inquiry. She also recommends that schools embed teaching as inquiry into schoolwide appraisal systems, explaining that:

appraiser and appraisee's shared experience of the context in which the data were gathered would provide a useful basis for rigorous discussion about the implications. Rather than taking a purely descriptive or evaluative focus, subsequent discussions could involve joint inquiry into the relationship between the teacher's approach and what happened for their students. The discussion could also involve engagement with research evidence to both help explain what happened, and to inform decisions about next steps (Timperley, 2011b, p. 43).

In addition to including teaching as inquiry as part of the performance appraisal process, Timperley (2011b) recommends that professional learning and development emphasise the capabilities that are crucial for high quality inquiries and that leadership prioritise the underpinning attitudes of teaching as inquiry when recruiting teachers. These leaders would seek teachers who exhibit what de Botton (2002) describes as a 'travelling mind-set', displaying the attitudes of open-mindedness, fallibility and persistence.

### **Challenges in the Practice of Teaching as Inquiry**

The New Zealand Curriculum (Ministry of Education, 2007) recognises a growing evidence base with an emphasis on inquiry approaches to pedagogy; however, the widespread adoption of this pedagogical approach is limited, with a significant number of teachers finding it difficult to employ (Timperley, 2011b). This is an important hurdle to note as an OECD (Organisation for Economic Cooperation and Development, 2005) report found that "factors relating to teachers and teaching are the most likely to influence student learning" (p. 31) and that a curriculum statement alone is not able to affect the sort of changes that will lead to improved educational outcomes.

Teaching has traditionally been based on the transmission of knowledge from teacher to student, and while 21<sup>st</sup> century learners still require mastery of Literacy, Numeracy and Oracy

they must also be able to “problem solve, be creative and critical thinkers who can collaborate, communicate, negotiate and develop a meta-cognitive and self-regulatory approach to their learning” (Timperley, 2011b, p. 18). She continues to argue that the teaching practices required for this kind of transformation are in considerable conflict with traditional beliefs about teaching. Changing teachers’ enduring beliefs about their role is what will make a difference to student learning outcomes (Timperley, 2011b). This, however, is easier said than done, as one’s underlying assumptions encourage one to repeat routines and practices that one has previously used rather than adopting an unfamiliar alternative. This is consistent with Argyris and Schön’s (1978) notions of espoused theory versus theory-in-use, as the educator may see the benefits of a new approach and intend to implement it, but in fact be resistant to change.

Le Fevre (2010) comments that a misunderstanding of the nature and purposes of teaching as inquiry by some leaders and teachers has led them to believe that professional development is mainly to do with professional learning and not to do with changing practice in order to improve learning opportunities for students. Le Fevre (2010) found that in some clusters of schools teachers took an objectivist ontological view, which gave them low expectations that any significant change would happen in their schools or classrooms. This perspective led them to believe that their actions would not change the predetermined outcomes for their students due to external factors beyond their control.

Bryman (2012) argues that from a constructivist ontological perspective social entities are constantly being influenced and shaped by social actors. From this perspective it is important to consider the factors that impact upon schools and their management. Schools do not exist in a vacuum, but within the education system and its associated policy environment (Timperley, 2011b). Fullan (2005) argues that policy makers themselves should be part of the learning system and undertake professional learning so that they may make informed decisions and be aware of the gravity of their professional activities. Several authors (Bryk & Schneider, 2002; Fullan, 2005; Levin, 2008) have noted that a turbulent New Zealand policy environment has led to a number of fragmented initiatives and to initiatives that are not

funded sufficiently long enough for them to become properly entrenched. Timperley (2011b) describes the need for teachers to be adaptive experts and for schools to have an adaptive capacity; similarly, she stresses the need for the policy environment to “demonstrate high adaptive capacity in a way that promotes it through all levels of the system” (p. 26).

Cardno et al. (2016) address further challenges in the implementation of teaching as inquiry, relating to the accountability aspects of performance appraisal (Nusche et al., 2012). The first challenge they note has to do with the rigid structure of the documentation used by some schools. Cardno et al. (2016) found that schools wanted to achieve accountability through uniformly documenting inquiries on standardised forms and templates. The teachers found this limiting and felt that it restricted the inquiry process. The second difficulty they found was the lack of time that teachers had to dedicate to an in-depth inquiry. Teachers viewed the inquiry as an additional task that ‘sat outside of’ appraisal, and while there was evidence of teachers’ commitment to the concept of teaching as inquiry they were not afforded the time to properly engage in the research or to carry out conversations that challenged their deep-seated assumptions. These limitations clearly impinge on the attitudes of open-mindedness, fallibility and persistence that are the basis for teaching as inquiry (Cardno et al., 2016).

One reason for ineffective implementation of teaching as inquiry is the confusion between the similar-sounding terms ‘inquiry learning’ and ‘teaching as inquiry’ (Sinnema & Aitken, 2011). Inquiry learning has to do with the students learning, investigating and researching topics of interest to them without direct teacher instruction, whereas teaching as inquiry refers to teachers’ professional inquiries through which they make decisions about what is most important to focus on, consider the approaches that are likely to be most successful and examine the impact on students’ learning. With the striking similarity between the terms, Spillane (2004) warns that teachers may assume that they are already engaging in teaching as inquiry, when in fact they are practising inquiry learning. Spillane (2004) articulates this further by explaining that when teachers are introduced to new theories about what works in teaching and learning, it is often tempting for them to over-assimilate these ideas and not

recognize distinctions between what the evidence is suggesting and their current practice. This belief is shared by Argyris and Schön (1978) who state that all theories of action have two forms: espoused theory (the theory that we would explain to others) and theory-in-use (the theory we actually put into action). As this is tacit information, many individuals are unaware of any discrepancy between their espoused theory and their theory-in-use.

Another impediment to putting teaching as inquiry into practice has to do with teachers' limited engagement with data and research. Sinnema and Aitken (2011) suggest that this lack of engagement may be due to teachers simply not recognising the validity of research in relation to their inquiries, or perhaps that they believe that the research is not conclusive or relevant to their educational context. In a study outlined by Sinnema and Aitken (2011), which was conducted in the two years following the introduction of the revised New Zealand Curriculum document and its accompanying teaching as inquiry model, the authors identified the strategies that teachers used to conduct their cycles of inquiry. The techniques they found significant numbers of teachers to use were: engaging with evidence about students' needs and abilities in order to prioritise next steps; drawing on the experience of colleagues to inform possible changes to teaching; modifying teaching practices because of what they had learnt through student responses to their teaching; systematically collecting data and analysing it so as to understand students' responses to their teaching. Teachers were far less likely to read and use published research to inform possible changes to their teaching. This scenario is reiterated by the Education Review Office (2011) which reported that "few schools used research findings as the basis of their decision-making about the provision for students. Teachers typically selected future teaching strategies from an existing repertoire of their own and colleagues' practice" (p. 29).

## **Summary**

This chapter has provided a review and critique of the relevant literature around teaching as inquiry. The themes of professional learning and development, school improvement and challenges in the practice of teaching as inquiry have been discussed and will reinforce this

study. The next chapter will present the research methodology, the process for data analysis, ethical issues and limitations of research.

## CHAPTER THREE

### RESEARCH METHODOLOGY

#### Introduction

The purpose of this chapter is to outline the research design for this study. It will begin by explaining the epistemological position I have taken to justify my methodological approach. It will then present the focus group interview data gathering method that I have found to be congruous with my chosen approach. This chapter will highlight my sample choices of leaders' groups and teachers' groups and address the principles and practices used to apply the research method I have selected. Strategies for analysing my chosen data gathering method will be identified and discussed. The chapter will include consideration of how the issues of validity and reliability of my research have been addressed. Finally, it will discuss the ethical issues relevant to this research, describing how I have attended to them, and present the limitations of this study.

#### Research Methodology

This research has been conducted following a subjectivist epistemological approach. In order to explain my epistemological position and justify my methodological approach, first it is vital to clarify the meaning of the terms 'ontology', 'epistemology' and 'paradigm'. Ontology is a term which describes how social entities may be viewed. It refers to these social entities being viewed either objectively, as independent bodies, or constructively, as they are constantly being influenced and shaped by social actors (Bryman, 2012). Various authors have contributed to what is known as epistemology. Davidson and Tolich (2003) explain that epistemology is a philosophical concept that determines "how we know what we know" (p. 25), while Bryman (2012) adds that epistemological issues concern the question of what is, or should be, regarded as acceptable knowledge in an area of study. Davidson and Tolich (2003) define paradigms as a "collection of ontological and epistemological assumptions" (p. 26) that influence how we look at the world. From the literature we see that one's ontological view and one's epistemological position inform one's paradigm. This paradigm then justifies the

methodology that one selects in conducting a research study, which in turn impacts upon the choice of instruments that one employs to collect one's data and, ultimately, how that data will be analysed (Bryman, 2012).

The natural sciences have traditionally followed an objectivist epistemological framework and while this model has been highly successful in the natural world, the social world presents its own set of challenges to such an approach. Davidson and Tolich (2003) compare this to the whole being greater than the sum of its parts. Cohen, Manion, and Morrison (2011) further explore the challenges in applying a traditional natural sciences approach to social science research:

Positivism claims that science provides us with the clearest possible ideal of knowledge. Where positivism is less successful, however, is in its application to the study of human behaviour where the immense complexity of human nature and the elusive and intangible quality of social phenomena contrast strikingly with the order and regularity of the natural world. This point is nowhere more apparent than in the contexts of classroom and school where the problems of teaching, learning and human interaction present the positivistic researcher with a mammoth challenge (p. 7).

Authors use a wide range of terms to describe contrasting ontologies, epistemologies and their associated methodologies. These terms fit into one of two paradigms: the normative paradigm - which is rule-governed, positivist and has its roots in the natural sciences - and the interpretive paradigm - which focuses on the individual, is anti-positivist and seeks to "understand the subjective world of human experience" (Cohen et al., 2011, p. 17). These authors identify two further distinctions between normative and interpretive paradigms. Firstly, they argue that behaviours observed through a normative paradigm are responses to stimuli, while the actions or 'behaviour-with-meaning' seen through an interpretive lens are intentional and future-oriented. Secondly, they refer to the relationship between theory and

research where researchers begin with theories and test them using their chosen research methodologies through a normative paradigm, whereas interpretive researchers who state that theory emerges from individuals' interpretations of the world around them. This is consistent with Bryman's (2012) deductive and inductive approaches to the relationship between theory and research.

When considering the nature and context of my proposed research study, it is clear that I am aspiring to "understand the subjective world of human experience" as described by Cohen et al. (2011, p. 17). For this reason, I have taken a subjectivist epistemological position and employed a qualitative methodology in my research.

The questioning route (appendix A) that I developed for my focus group interviews is consistent with a qualitative methodology as it aims to probe my participants' thoughts, values, prejudices, preconceptions, perceptions, views, feelings, and perspectives. Such questioning sought these insights from leaders and teachers. Further correlation between a qualitative methodology and my research questions lies in the two distinctions that Cohen et al. (2011) make between the normative and interpretive paradigms: 1) the future-oriented behaviour associated with an interpretive lens means that teachers and leaders were likely to be engaging in some aspect of their inquiry at the time of the focus groups interviews; 2) similar to Bryman's (2012) notions of deductive and inductive approaches to the relationship between theory and research, interpretive researchers state that theory emerges from individuals' interpretation of the world.

### **Sample Selection**

Qualitative research is dependent upon purposefully selected samples. Mayan (2009) argues that "nothing highlights the difference between quantitative and qualitative more explicitly than the logic that underlies sampling" (p. 61). It has been suggested that there is no clear framework for sampling selections in qualitative studies as there is in quantitative research (Litchman, 2013a). While some believe that a mixed group is best, some advocate for a

homogeneous sample. There is also some contention with regards to whether members of the sample group should know each other. While the respective sizes of my selected schools ensured that participants would know each other, for the purposes of my research I was pleased for two reasons that they did: firstly, I wanted the participants to be at ease and the conversation to flow; secondly, it increased the likelihood of the participants engaging in collaborative practice. While it is not explicitly referred to in my three research questions, there is a link between collaboration and my questions. Collaboration has the most significant connection with my second question, 'how is teaching as inquiry practised in New Zealand primary schools?' and I was interested to see whether the participants would take the discussion in that direction. While the issues surrounding sample selection are open to debate, it is generally accepted that the focus group sample should have some sort of experience or expertise with the topic which was the case in my research.

When considering a choice of sample, Wellington (2015) introduces the term 'key informant' as the "key figure in a piece of qualitative research" (p. 139-140). Davidson and Tolich (2003) state that the manner in which we select people to take part in our research "distinguishes qualitative from quantitative research" (p. 35). Mayan (2009) takes this further, stressing the importance of purposely selected samples, and counting them as one of the most significant differences between quantitative and qualitative methods. She says that a researcher must carefully consider the characteristics of the interviewees he or she is looking for, a notion supported by Litchman (2013b). This purposive sampling was ascertained by making inquiries with the lead principles of two Auckland Communities of Learning. I explored this by requesting the names of schools within their Communities of Learning that were engaged in teaching as inquiry. I was provided with the names of several schools and contacted the principals of three of these schools which I selected at random. Upon receiving the permission of these principals to conduct my research at their schools, using the organisational consent form outlined in appendix B, I made a presentation to the whole staff outlining my research aims and seeking volunteers. An information sheet was given to all those who came forward to further outline what they would be volunteering for (appendix C). Using this sampling method, I was able to recruit a sufficient number of participants to take part in my research. In the six focus groups that I conducted, I interviewed ten leaders

and ten teachers across the three primary schools that I worked with. At School 1, three leaders and five teachers took part in focus group interviews. Five leaders and two teachers took part at School 2. Finally, two leaders and three teachers took part in the focus groups at School 3. The deliberate selection of these samples provided me with what Davidson and Tolich (2003) refer to as “essential and typical units” (p. 35), providing my research with sound evidence.

## **Research Method: Focus Group Interviews**

### ***Description***

Due to the subjectivist epistemological position I hold and the qualitative methodology that is consistent with it, I utilised the qualitative data gathering method of focus groups interviews for my research study. This method was used both with groups of leaders’ and of teachers’, which allowed me to triangulate my data. Broadly speaking, focus groups are similar to a group interview and while they do save time, by hearing from many participants at once, the real advantage to this method comes from the interaction within the group. This critical group interaction triggers “thoughts and ideas among participants that do not emerge during an individual interview” (Litchman, 2013b, p. 207). As interviews do, focus groups should offer participants a platform upon which to share their views (Wellington, 2015). Lewis (1995) raises a point around the impact of creating a supportive environment that promotes participation from the group and allows its members to influence each other through rich discussion.

### ***Process***

In much the same way that an interview follows an interview schedule, researchers need to put together a questioning route when preparing for a focus group. A successful focus group relies on interaction and discussion between the participants, and as such a satisfactory questioning route will be built on questions that encourage conversation. While Wellington (2015) describes the ‘crescendo’ progression of an interview schedule, Krueger and Casey (2014) use a ‘funnel’ analogy to illustrate the way in which researchers should organise their

questioning route. The authors propose a questioning route that adheres to the following sequence of questions: opening question; introductory questions; transition questions; key questions; ending questions. I used this progression in developing my questioning route (appendix A), ensuring that it was closely linked to my research questions. Krueger and Casey (2014) suggest that when developing their questioning routes, researchers begin with their key questions and work backwards towards the opening questions as an effective means of promoting the flow of the focus group's conversation. Throughout their explanations of questioning routes Krueger and Casey (2014) emphasise the importance of keeping questions straightforward, urging that "simple questions do not yield simple answers" (p. 67). By finding the shortest way to clearly ask questions one can limit assumptions and lay bare the core principles. I was mindful of this as I wanted the participants to do the talking and I did not want there to be any room for misinterpretation.

When the questioning route was complete, I conducted a pilot focus group, as suggested by Bryman (2012), with a group of leaders I knew personally. This allowed me to confirm that my questions were being interpreted as I had intended, and that no confusion was likely to arise from their wording. It provided me with the feedback of my colleagues and it familiarised me with the practice of conducting focus group interviews. The questioning route gradually guided the discussion into more in-depth discussion in which I let the participants do the talking as much as possible. This was done using verbal or non-verbal cues such as nodding, eye contact or simply waiting (Krueger and Casey (2014). None of the data I collected from this pilot focus group was used in the findings.

Prior to holding the focus group interviews I negotiated appropriate locations and times with principals and ensured that I had organised and tested reliable recording equipment. At the time of the focus groups I began by seeking permission to record the participants, using the participant consent form outlined in appendix D, once again reminding them that their responses would be kept confidential, and gave them the information sheet (appendix C) providing them with background information pertinent to the study. The opening question was designed to be particularly straightforward and easy so that everyone had something to

contribute at the outset of their focus group. Throughout the focus groups I was mindful of timing and ensured that the key questions were weighted suitably with enough time for relevant discussion. In keeping with the desire to elicit the views and perspectives of the participants, it is interesting to note that at the conclusion of a focus group “it is not desirable or necessary for the group to reach consensus in their discussion” (Litchman, 2013a, p. 189) - which was often the case for my focus groups. As I was conducting multiple focus groups I ensured that I was consistent in my questioning across different focus groups, as urged by Krueger and Casey (2014). In doing so I was able to triangulate my data as I compared and contrasted the contributions of respondents in leaders’ and teachers’ groups who answered the same questions.

## **Data Analysis**

### ***Description and Process***

Bryman (2012) explains how an epistemological position justifies the methodology, which in turn affects the choice of data gathering methods and ultimately the way in which the data may be analysed. With this in mind, it was imperative that I selected a data analysis strategy that was consistent with my epistemological position, methodology and data gathering method. While there is a well-founded tradition of quantitative data analysis strategies, the analytic approaches used to systematise qualitative data analysis are not nearly so well entrenched (Litchman, 2013a). Quantitative data is displayed as numbers, whereas qualitative data is typically shared in the form of words and pictures. Using qualitative data, researchers can present their data either as themes that arise from the data or as narratives.

There are many approaches to collecting qualitative data, and given that I conducted focus groups with leaders and teachers at three different schools I chose to use a consistent technique to analyse my data so that I would compare and contrast my findings in order to identify the themes that arose from the perspectives of multiple sources. Litchman (2013a) offers a number of measures by which to analyse qualitative data. While researchers can choose from several data analysis methods that suit their epistemology and methodology,

they must ensure that they rigourously follow the correct procedure so that they are able to organise clear themes or coherent narratives in their research. Despite the number of options available, Litchman (2013a) advises the use of a generic approach to qualitative data analysis. As I interviewed a number of sources, I believed that following this generic approach would allow me to succinctly evaluate and draw themes from the data. I initially decided to re-read the focus group transcripts to see what themes naturally emerged from these documents. Following that, I decided on the 'long table' approach to compare and contrast my findings from leaders' and teachers' focus groups.

In working with a large quantity of data from both leaders' and teachers' responses in focus groups I wanted to organise participants' responses into concepts that naturally emerged from the data. Using a 'long table' approach I cut the printed focus group transcripts into individual responses and arranged them next to comments with a similar theme. Many hours were spent reading, organising, and re-organising these transcript excerpts until I was satisfied that they worked together as cohesive concepts that related to my research questions. I used this process to consolidate my findings for both leaders' and teachers' focus groups. These excerpts were then glued, by theme, to rolls of paper for leaders' and teachers' focus group findings, both several metres long each. I found this approach to be a manageable way to organise the themes within my findings and that it aided in the triangulation of my data.

Throughout this process of moving raw data into well-defined themes, I did what Litchman (2013) calls 'The Three Cs': turning raw data and notes into codes; classifying related codes into categories; unifying categories into robust themes. She expands upon The Three Cs to offer a six-step procedure for undertaking qualitative data analysis: 1) initial coding, to go from responses to summary ideas of the responses; 2) revisiting initial coding; 3) developing an initial list of categories; 4) modifying this initial list based on additional reading; 5) revisiting categories and subcategories; 6) moving from categories to concepts. In following this process, I found that the resulting themes logically circled back to my research questions.

Throughout the process of qualitative data analysis, I made countless notes, annotations and interconnections between the responses of focus group participants. This practice is referred to as 'memoing' by Lofland, Snow, Anderson, and Lofland (2006) who maintain its importance throughout qualitative data analysis. In any qualitative research study there is a vast amount of coded data for a researcher to work with, which is why these authors advise the use of a system to manage it. Memoing is the term that is given to any ideas, annotations, procedures, interconnections or fieldwork experiences that are attached to the codes. The use of memoing can aide a researcher in working with immense amounts of data while also providing an audit trail to support the researcher's methods which is in accordance with what I found throughout this process.

### ***Validity***

Bryman (2012) describes triangulation as using two or more methods or sources of data to cross-check one's findings. By triangulating the responses from leaders and teachers I could gain an insight into the consistencies and inconsistencies of their beliefs around teaching as inquiry. This triangulation of responses adds strength to the validity of this qualitative research study.

Cresswell (2007) sees qualitative research as an approach to investigations that begins with assumptions and the study of research problems exploring the meaning that people or groups give to social or human problems. I have the assumption that leadership does influence the practice of teaching as inquiry and as such I was interested to learn in what specific ways this influence takes place. While I have this assumption, I aimed to collect accurate accounts and perspectives on leadership's role, which is why I carefully constructed my questioning route so as not to taint the respondents' answers through restrictive, leading or loaded questions (Wellington, 2015).

Cohen et al. (2011) ask how a research problem can be understood as a subjective or objective issue. I believe that the qualitative data that I collected is highly subjective. With regards to my second research question, 'how is teaching as inquiry practised in schools?' I found differences in responses between schools, but also significant discrepancies in responses from within schools. In using the focus group interview method to collect my data with leaders and teachers, I found that the issue of teaching as inquiry practice is highly subjective. As such, I was required to set aside my own assumptions so as not to project them onto the views of the participants. Maintaining this approach has helped to contribute to the integrity and validity of this research.

Overvaluing the worth of frequently made comments is a commonly made error in the analysis of focus group transcripts. In focus groups, understanding the significance of participants' responses can be gauged more accurately by clarifying comments. I was able to achieve this by probing, prompting and using 'all things considered' questions during focus group interviews in order to aid in the analysis of focus group transcripts (Krueger & Casey, 2014, p. 63).

## **Ethical Issues**

### ***Description***

When conducting social research, it is imperative to consider the ethical issues that may arise during the process of collecting and analysing data (Bryman, 2012). There are many ways in which the integrity of a research study can be compromised. Such incidents can be detrimental to the participant, the researcher, the associated institutions and any relevant governing bodies. There are several documented cases in which the quality of a research study has been affected by a breach in ethical conduct. While these cases highlight the various failings in dramatic fashion, Bryman (2012) warns that ethical transgressions are not necessarily intentional and can be insidious. For this reason, it was not only essential that I, as the researcher, acted in good faith but also that I be vigilant in ensuring sound ethical practices throughout the research study.

According to Bryman (2012), the literature on the ethics of social research can be challenging to navigate for several reasons: many authors disagree with each other over the specific ethical issues and questions; many topics of contention have not evolved in several decades; ethical debates are not often relevant to researchers as they are usually attached to sensational ethical infringements whereas most ethical considerations are not as grand; prominent ethical violations are usually believed to be associated with certain research methods when in fact they could apply to numerous approaches. For this reason he presents four ethical principles laid out by Diener and Crandall (1978) as a means of clarifying the potential ethical pitfalls in social research: 1) whether there is harm to participants; 2) whether there is a lack of informed consent; 3) whether there is an invasion of privacy; 4) whether deception is involved.

### ***Protection from Harm***

Harm to participants may entail physical harm, harm to participants' development, loss of self-esteem and stress (Diener & Crandall, 1978). In my focus groups I was seeking to "understand the subjective world of human experience" as described by Cohen et al. (2011, p. 17). In conducting these interviews, I collected authentic data that presented the perspectives of my participants, including some views that might be deemed to be sensitive. It was my obligation to respect the time, effort and honesty of my participants by maintaining the confidentiality of all interviewees in my field notes and transcripts through participant coding. By keeping transcripts and recordings confidential, I prevented the respondents from being harmed through any of their comments. This required me to be diligent in keeping all opinions in confidence and bearing in mind that I was probing the conceptions of leaders as well as teachers.

### ***Informed Consent***

I ensured that my participants were made aware of their right to informed consent by sharing my information sheet (appendix C) in my initial contact with them and again at the time of

the focus groups. By sharing my information sheet with the participants I was able to inform them of the purpose of the study, why they had been selected, the duration of the interview, who the interviewer was and why I had an interest in the particular area of study, how the recording was to be used and how the participants might access it (Wellington, 2015). Bryman (2012) raises a number of vital points concerning the importance of informed consent:

Inquiries involving human subjects should be based as far as practicable on the freely given informed consent of subjects ... subjects should not be under the impression that they are required to participate. They should be aware of their entitlement to refuse at any stage for whatever reason and to withdraw data just supplied. Information that would be likely to affect a subject's willingness to participate should not be deliberately withheld, since this would remove from subjects an important means of protecting their own interests (p. 138).

In conducting my focus group interviews I upheld these rights to ensure that all participants were aware that they were privy to these same entitlements.

### ***Privacy***

It is a researcher's duty to uphold participants' anonymity and confidentiality. Holmes (2004) proposes several ways in which a researcher may prevent the invasion of privacy. She suggests: not storing participants' names, addresses or letter correspondences digitally; using identifier codes on data files and storing participant lists and their identifier codes separately in a secure location; if using a transcriber, ensuring that the transcriber sign a letter assuring that he or she will conform to the Data Protection Act; using aliases instead of participants' names on transcripts; keeping copies of transcripts securely locked. In the interest of preventing the invasion of privacy I followed these protocols as laid out by Holmes (2004), excepting the use of a transcriber as I transcribed the focus group recordings myself. Bryman (2012) suggests that these ethical principles are not mutually exclusive and that some overlap is inevitable. By keeping identities anonymous and responses confidential, as previously mentioned, I was also preventing harm to my participants.

### ***Protection from Deception***

Avoiding deception of participants is crucial to sound qualitative research. These may be intentional or even unintentional acts such as withholding information that might affect a subject's willingness to participate. Litchman (2013a) highlights the importance of developing rapport as it promotes cooperation and participation from the interviewees, which helps to generate "meaningful and useful data" (p. 193). Wellington (2015) also warns of certain types of questions that are detrimental to collecting good qualitative data: double-barrelled questions; two-in-one questions; restrictive questions; leading questions; loaded questions. I considered the impact of these types of questions during the development of the questioning route. By following these four conventions, as laid out by Diener and Crandall (1978), I addressed the ethical issues related to my study, thus ensuring the rigour of my research.

### ***Ethics Proposal***

The Unitec Research Ethics Committee (UREC, 2014) expands upon the four conventionalities presented by Diener and Crandall (1978) with four additional ethical issues: 1) cultural and social sensitivity; 2) respect for intellectual and cultural property ownership; 3) avoidance of conflict of interest; 4) research design adequacy. For the purpose of addressing the ethical considerations of my research I was required to satisfy both sets of ethical principles to gain approval from the Unitec Research Ethics Committee.

### ***Limitations of Research***

This research study gathered data on leaders' and teachers' understandings of teaching as inquiry, accounts of its practice and perceptions of any success resulting from its practice at three Auckland primary schools. While the accounts from leaders and teachers provided a wealth of rich data, the scale of this study must be acknowledged, as it represents a snap shot of the perspectives of New Zealand primary schools. This sample of ten leaders and ten teachers across the three primary schools is of relatively small scale, and one must be careful

to not extrapolate broad conclusions from the data. As a result, a larger scale study involving numerous schools throughout New Zealand may produce a different set of findings.

While this study was strengthened by triangulating the data from leaders and teachers, a limitation of the study was that while the ten teachers involved were full-time classroom teachers, six out of the ten leaders' roles also included a teaching component in addition to their leadership responsibilities. This was a necessity due to the size of the schools and their leadership structures. It did, however, mean that of the those who were involved in leadership focus groups a significant proportion of participants had experiences and views that incorporated both leaders' and teachers' perspectives.

A further limitation was the time and resources available to conduct this research for a 90-credit thesis. Further investigation at each of the schools would have provided additional data and might perhaps have altered the findings. That said, I am grateful to the schools and individuals who volunteered to give up their time for this research, whether they were released from class or attended focus groups before or after school.

## **Summary**

This chapter presented my epistemological position and the methodological approach I adopted, and outlined my chosen data collection method. It explained the way in which the data was analysed and included considerations around the reliability and validity of this research study. Finally, it discussed the ethical implications of my research along with the limitations of this study. The following chapter will present the findings of my research.

**CHAPTER FOUR**  
**RESEARCH FINDINGS**

**Introduction**

This chapter reports the findings from the data that was collected using the focus group interview method. The data has been presented by assembling leadership responses followed by teachers' responses. The data has been organised according to the following research questions: what are leaders' and teachers' perspectives of teaching as inquiry?; how is teaching as inquiry practised in New Zealand primary schools?; what are leaders' and teachers' perceptions of successful teaching as inquiry practice? The findings based on these research questions contain themes that have arisen from the literature, the focus group interview schedule and the data itself. These findings are then summarised for leadership and teachers' groups. The names of all participants have been replaced with codes to maintain confidentiality. The assigned codes are presented in the following table:

**Table 4.1: Codes Used to Identify Focus Group Interview Participants**

|                             | School 1 | School 2 | School 3 |
|-----------------------------|----------|----------|----------|
| Leadership Focus            | FG1 P1   | FG3 P1   | FG5 P1   |
| Group Participants          | FG1 P2   | FG3 P2   | FG5 P2   |
| (Senior and Middle Leaders) | FG1 P3   | FG3 P3   |          |
|                             |          | FG3 P4   |          |
|                             |          | FG3 P5   |          |
| Teachers Focus              | FG2 P1   | FG4 P1   | FG6 P1   |
| Groups Participants         | FG2 P2   | FG4 P2   | FG6 P2   |
|                             | FG2 P3   |          | FG6 P3   |
|                             | FG2 P4   |          |          |
|                             | FG2 P5   |          |          |

## **Leadership Focus Groups Findings**

Leadership focus groups were conducted at three Auckland primary schools with between two and five leaders taking part in each interview. School 1 had a roll of 250 students and two out of three leaders interviewed had a classroom role along with their leadership responsibilities. School 2 had 550 students and two out of five leaders had a teaching component to their job. School 3 had a role of 400 and both leaders interviewed had classroom teaching responsibilities in addition to their leadership responsibilities.

### ***What are Leaders' Perspectives of Teaching as Inquiry?***

#### *The history of teaching as inquiry at three Auckland primary schools*

Teaching as inquiry has been included as part of the New Zealand Curriculum since 2007 and since that time it has gradually been adopted by New Zealand primary schools. While the form and nature of inquiries has evolved over the years, School 1's and School 3's leadership groups said that their schools had practised it in some form for three years. School 2's leaders said it had practised teaching as inquiry for four years but noted that it is tied to their coaching practice which began two years earlier.

The leaders from School 3 identified teaching as inquiry as an approach that was consistent with their practice. Interestingly, Schools 1 and 2 referred to teaching as inquiry as an extension of what they had already been practising. This was expanded upon by FG3 P5:

*I think as teachers we have been doing it informally, sometimes without even knowing it. We do inquiry all the time as we teach. We've got a Reading group that's not humming along at the same progress we want. We start trying different things because we've got a hunch that 'this' might tap into them. So, in a way we've been doing spirals of inquiry. It's an ongoing process that we've been doing for decades, I believe. It's just the spirit of openness and trying your best for the students, I believe.*

These comments highlight that some leaders view teaching as inquiry as something new, while others see it as an extension of reflective practice in New Zealand primary schools.

### *Teaching as inquiry professional learning and development*

The professional learning and development around teaching as inquiry varies from school to school, with School 3's leaders reporting that they had had two staff meetings led by a deputy principal to unpack the inquiry cycle and discuss formats for documenting teacher inquiries.

School 1 described how they sought Ministry of Education funded facilitators and as a school attended a conference featuring Helen Timperley to learn about the spiral of inquiry framework of teaching as inquiry. This school relayed that much of their professional learning and development is now in house and is based around a schoolwide inquiry document. These leaders also spoke of an upcoming conference that their school's leaders and teachers would be attending with the Springboard Trust to support their teaching as inquiry practice.

School 2 had also attended the conference with Helen Timperley and all teachers had read the Timperley, Kaser and Halbert (2014) paper which one leader described as 'spirals 101.' This leader also talked about how they refer to the Ministry of Education's 'Educational Leaders' website to guide the school's teaching as inquiry practice. Curriculum based professional learning has also been linked to this year's schoolwide inquiry at their school. Despite the range of professional learning avenues that this school has accessed, they revealed that much of the learning and professional development now happens internally through professional groups, as stressed by FG3 P5:

*I think the best professional learning and development that you can do in spirals is just start it. Get stuck in and talk to your colleagues. It is learning as you do.*

Two out of the three leadership groups reported that their schools' professional learning and development around teaching as inquiry involved exposure to outside experts and agencies, followed by opportunities to work on inquiries collaboratively. The remaining school's

professional learning and development was strictly in school, but did involve teachers collaborating on inquiries.

### *Understandings of teaching as inquiry*

Based on professional learning and development around teaching as inquiry, here are the understandings that the leadership groups shared. School 3's leaders communicated that it is inquiring into one's own practice to raise student achievement outcomes. It is:

*thinking about our teaching practice. Reflecting on 'why isn't that child ...?' or 'why can't that group learn something?' 'What am I going to do differently?' 'What do I need?' So, it's inquiring into what I'm doing that is actually helping them to achieve. (FG5 P1)*

A leader from School 1 further explained teaching as inquiry by articulating that it is:

*identifying a need or an area that you would like to see improvement in and coming up with a focus question. It's an area that you'd like to see improvement in the children in, but that you can have an impact on. It's investigating into what you can change and what aspects of your practice you can alter or improve. (FG1 P2)*

While leaders at School 2 had similar responses to Schools 1 and 3, many of them were steeped in the language surrounding the spiral of inquiry:

*one thing that is new is the 'scanning' part of the spiral of inquiry. That is a big part of it because of the growth of student agency and voice. In that 'scanning' we've got the data and more of an attempt to look more broadly at the solutions than just you and the students in front of you. (FG3 P5)*

*I think at its most basic form it's following a hunch. 'I've got a hunch about something. My gut is telling me something. I want to find out more.' Then it's the process about actually looking for the evidence, finding it and then coming up with a possible solution. (FG3 P1)*

One leader from this School 2 affirmed that teaching as inquiry is about:

*improved teacher practice, leading to student outcomes. It's like any job. You should just try and get better and teaching is no different. Just always try and improve. That's the mentality you have to have, teaching. (FG3 P2)*

These statements from all three leadership groups referred to reflecting on and changing teacher practice to improve student learning outcomes.

### ***How is Teaching as Inquiry Practised?***

#### *The evolution of teaching as inquiry at three Auckland primary schools*

At School 3, teaching as inquiry was introduced by a new principal as a means of accelerating the progress of target students' achievement. There were staff meetings at which they unpacked the inquiry cycle from the New Zealand Curriculum and shared formats for documenting teacher inquiries before beginning collaborative inquiries in their professional learning groups, with each teacher having individual goals based on the needs of the teacher and his or her learners. Teachers are expected to conduct one inquiry each term. There is flexibility with regards to how teachers and professional learning groups undertake and document their inquiries. One leader from this school relayed an inquiry experience from a professional learning group:

*we all started planning it on the template and came up with what we were going to focus on. Each group does it differently, but we like to video ourselves then sit together and decide 'you really need to focus on this.' Then we make an action plan and video again, then critique it and decide 'is that what we still need to work on or is there a different direction you could go?' (FG5 P2)*

This leader continued by stressing the worth of engaging in collaborative inquiry:

*it's not just you sitting there writing out a load of crap in a reflective diary. It's something that you have to do every week and you know that you've got to be accountable. You've got to meet up with your group and you've got to share. I*

*think it just becomes real and a part of your classroom and your practice. (FG5 P2)*

Looking to the future direction of teaching as inquiry in this school, FG5 P2 felt that the time frame for teacher inquiries could be made more flexible:

*rather than having a different inquiry every term, build on the one that you started with. So, let's not make it term by term, but that it could be three terms. I feel like getting deeper into it could be more helpful than changing so often.*

School 1's leaders described the evolution of teaching as inquiry at their school explaining that they spent their first two years using the inquiry cycle from the New Zealand curriculum document, which gave them a strong foundation before moving to the spirals of inquiry framework:

*those first two years set us up for a richer experience with the spirals. So, I wouldn't say it was a challenge, it was more a growth as a school, how we set it up with professional learning groups. We've been more deliberate with that and the end goal is more collaborative. (FG1 P1)*

The professional learning groups within this school are typically groups of four people, comprised of two pairs of 'reflective buddies.' These pairs of teachers work closely on each other's inquiries, know the target students involved and have a thorough understanding of achievement and goals. This is made known to the learners and is used to help build educationally powerful relationships as the children know that there are at least two adults at school who have a specific interest in their achievement. Teachers' inquiries are Literacy based and run throughout the year, involving five or six target students from each class.

The leaders from School 1 acknowledged the differences in teachers' ability to inquire deeply into their practice, indicating that some were able to adopt it quickly and easily while others need ongoing support to develop the skills necessary to engage in inquiry. Despite the range of experience and ability School 1's leaders noted that virtually the entire teaching staff supported the practice of teaching as inquiry at their school.

In the future, leaders from School 1 expressed a desire to have inquiries involving a larger number of teachers collaborating as:

*some of the inquiries are naturally evolving in different directions within the professional learning group and they may be more closely aligned to the inquiry of somebody else in a different professional learning group. So, it will go where it takes us so to speak. (FG1 P2)*

They also reported an ambition to apply the learning that has happened in their Literacy inquiries to other curriculum areas such as Mathematics and Science.

FG1 P2 added to what inquiries at their school may look like in the future:

*I think aspirationally I would change who is involved, in terms of greater and deeper involvement from people outside of our school and our teaching staff: families, whānau, external groups and expert practitioners in the appropriate fields.*

At School 2, leaders acknowledged the training that they had previously had around coaching and that it has helped the school to embrace the spiral of inquiry model:

*We've carried on with coaching, but we have aligned it with spirals of inquiry, just because we think that spirals is less linear. You can go in and out, in and out, in and out. Coaching kind of follows a sequence. (FG3 P2)*

This leader continued by commenting on the pedagogical transition required to move to teaching as inquiry:

*I think the biggest shift has been moving from that idea of reflection. It used to be the thing, you know, 'reflect on your practice, reflect on your practice,' but now it's more about collaboration. It's about talking to others, engaging others and finding out answers. As FG3 P5 was saying before it's about engaging wider influences. Where before it was 'think about what you're doing and make a few notes,' we've really moved away from that. It's gone from 'me and my practice' to 'our practice and how we can improve together.'*

Much of the work around teaching as inquiry is done in professional learning groups at this school. While the whole school is engaged in an inquiry around Oral Language, the professional learning groups are divided into teachers of Years 1 and 2, Years 3 and 4, and Years 5 and 6 to cater to the specific levels and needs of their learners. These professional learning groups typically meet three times a term. While the inquiries are collaborative, they are also linked to individuals' appraisals:

*it's built into our new performance appraisal system. It's a way of keeping track of what we are inquiring about. It's built in through the spirals of inquiry and specifically around oral language. (FG3 P3)*

While this school has committed to teaching as inquiry through the spiral of inquiry, they acknowledged that there is still room for further development:

*We're not pretending we're experts. (FG3 P2)*

FG3 P1 acknowledged the different levels of expertise and practice across the school:

*I think we're at different points. I think that teachers are at different points in that journey. We've got some who are much further along and some who are just getting on board.*

FG3 P4 added, that, while the whole school has been involved in professional learning and development around teaching as inquiry, natural staff turnover may affect the level of understanding across the school:

*I think different teachers are at different levels depending on where they have come from. That's always going to be a factor.*

With this in mind, FG3 P1 accepted that further professional learning and development may be necessary to keep momentum going:

*I think that we probably as a whole school need to re-look at it. With all of the information that's coming through the community of learning now as well, we just need to form a pathway and actually formalise it. More just in terms of expectations. Putting in some professional development, because I don't know if all of our teachers would be able to talk through the process of teaching as inquiry.*

The remarks from all three leadership groups recognised the significant pedagogical changes that are required to practice teaching as inquiry.

### *Teaching as inquiry and appraisal*

With respect to the connection of teaching as inquiry to the appraisal process, leaders from School 3 confirmed that teacher inquiries were a schoolwide expectation and part of appraisals. This involved curriculum leaders coming to see what teachers are currently doing in their inquiries, hearing about the next steps and identifying whether they need any support. While this is consistent with the accountability function of teacher appraisal, FG5 P1 makes the connection between teaching as inquiry and the development function of appraisal disclosing:

*I'm not looking at it as part of my appraisal, it's part of my practice.*

Like those from the previous school, leaders from School 1 confirmed that teacher inquiries were a schoolwide expectation at their school and were part of appraisals. FG1 P1 addressed the accountability and development functions of appraisal, but firmly stressed the importance of the latter:

*the more interesting and exciting and deeper work around the appraisal is in terms of growth. It's around teachers getting better not because they are told to, but because they want to. That's our philosophy here and we're on a journey in terms of making sure that we're supporting teachers to really deeply reflect on their practice and directly linking it to better outcomes for our kids.*

The leaders at School 2 confirmed that teaching as inquiry is also schoolwide expectation and that it is linked to performance appraisal. FG3 P2 illustrated how, while teaching as inquiry is a schoolwide expectation, it may be more closely linked to teacher development:

*We have got our professional learning groups and you can't opt out of that. You are part of that group and you've got a goal. It's not like the principal holds a metal ruler to your head, but we are part of a group and if you don't do it then you're not going to find out what everyone else is finding out about.*

These assurances from leaders from all three schools recognise a link between teaching as inquiry and appraisal, but emphasise the worth of the development function of appraisal.

### *Challenges in teaching as inquiry*

In thinking of challenges that arise from teaching as inquiry, a leader from School 3 referred to the pace of inquiries at their school:

*When the inquiry, I don't like to say, 'comes to the end,' but it's meant to carry on, whatever you've decided to change. If it's improving, you're meant to keep it up. But then you're asked to do another inquiry and it's such an event that, the one before it, you just forget about it. All that hard work that you've done (is gone), I find that doing it too quickly, you're not maintaining what you started. (FG5 P2)*

Another leader identified the frustration they felt a when target student didn't reach achievement goals as challenge associated with teaching as inquiry:

*I set high expectations for my target students and at the end of this, they have made progress, but they still haven't got there. I have to tell myself 'look at the progress they made. Not where they should be, but look what they've made.' (FG5 P1)*

This comment was supported by FG5 P2:

*Especially when we talk, the point of our inquiry is to raise student achievement. But you're right, if they make progress, they might not make that year for their age (National Standard). I think it devalues it a little bit.*

The leaders from School 3 both noted that 'getting out of your comfort zone' was a challenge for many of their staff in making this pedagogical shift. In fact, both leaders referred to this as a challenge for them personally in their own teaching as inquiry practice.

At School 1, it was interesting to note that, while the leadership group possess a good knowledge of teaching as inquiry, initially two of the three leaders interviewed mistook 'teaching as inquiry' for 'inquiry learning':

*For me it means teachers don't have all the answers and for me the clue is in the name, in that you are working with the children to inquire into the topic or content and everything that sits around that. Around developing the skills to support them to acquire an inquiry approach and have an inquiring mind. (FG1 P1)*

*All of that as well as children collaborating together into an inquiry and paraphrasing everything back to each other and ... looking at how do children best learn so that they can inquire into their learning. (FG1 P3)*

This leadership group also agreed that getting out of one's comfort zone can be a challenge:

*Some of our teachers get it intrinsically, others are a bit more 'oh, I'm not used to that. Will it be judged? Will people think it's not good enough?' So, what we are trying to do is support that sharing of ideas. (FG1 P1)*

Another challenge brought to light by this leadership group was the issue of having the time to have professional learning group meetings to work on teacher inquiries. Time was mentioned not only in terms of finding days to fit in meetings, but in terms of busy teachers having 'headspace time' to properly reflect on their inquiries:

*schools as you know are very busy places, so how can we cut through the clutter and focus on what is really important? I think we can still improve and make sure, because it's not just time. It's headspace time and that's a challenge for us as leaders. How do we create that culture and environment, so teachers can deeply reflect and have the headspace and mental energy to do it? (FG1 P1)*

At School 2, the issue of feeling judged was once again identified by leaders as a hurdle to teaching as inquiry:

*one of the challenges with the collaborative nature is teachers feel that they're going to be judged and not wanting to share practice. So, building that trust has taken a little while. I'd say most teachers are on board with it, but we've got one or two who are, not mistrusting but just a little shyer in sharing good practice. I'm just thinking of a teacher in the Year One team, whose got some really good solid practices, but because she doesn't have the self-confidence to share then that doesn't happen. (FG3 P1)*

As with the other schools, the issue of time was also addressed by this group of leaders as a barrier to effectively engaging in teaching as inquiry.

Like School 1, School 2 found that the issue of teachers having the headspace to commit to teaching as inquiry was a challenge:

*I think it's not just the time, it's that mind space of time too. For example, just scheduling a meeting that's going to be on Wednesday at this time. It's like 'have you got reports going on? Have you got this going on?' Sometimes when you've got a professional learning group meeting, even though it's been scheduled, you know what teachers are like. There are a thousand things going on at any one time. Actually being in the mind space to have that conversation and to have that meeting, I think... it's time, but it's also the mind space time, I guess, so you're really engaged in the process. I think that's always going to be a battle in teaching no matter what you do, because we're always just pushed to the limit, every day.  
(FG3 P4)*

With regards to time FG3 P1 also noted that inquiries naturally develop and are not necessarily best suited to meeting at regular intervals:

*I wonder if actually saying we're going to have these meetings in weeks 5 and 10... actually have some restrictions, because what happens if you need to have a meeting in week 3 and there's not time to have that meeting? So, you kind of put it off for two weeks and in two weeks you can have forgotten. It was really important, and you needed a meeting in week 3, but there wasn't a meeting booked in, so you've left it and two weeks later something else has taken over. It would be great if we could have more fluidity with those meetings happening as and when they needed to happen, rather than being pinned down to a week.*

Leaders from School 2 had observed newer teachers coming on board who do not have the same expertise around teaching as inquiry as they had come from others school and had not been involved in the same professional learning and development. Lastly from the leaders,

FG3 P4 commented on an experience from their former school where there were four different inquiries which made for a cluttered and confusing attempt at teaching as inquiry:

*I just felt that there were so many things going on. Coming here, the way we have done it this year, has been so much better because we're all on the same page and it's a really deep focus. It's not diluted, you know, like the other ones?*

These comments from leadership groups identify the many challenges that schools face around teaching as inquiry practice.

### ***What are Leaders' Perceptions of Successful Teaching as Inquiry Practice?***

In considering the successes of their teaching as inquiry practice, School 3's leaders shared examples of individual and team learning. The leaders from School 3 noted that through conscious reflection in their teaching as inquiry practice that that children's achievement was improving as a result from improved teaching practice.

FG5 P1 highlighted the benefits of collaborative inquiry that contribute to a culture of organisational learning:

*I think that we need to do it as a group ... I just get so many more different ideas off other people and even critiquing the videos. Things that I don't see, they pick up. Even things that I'm doing well, that I don't think I'm doing well. I just don't think you can do it by yourself.*

At School 1, teaching as inquiry has been linked to measured achievement outcomes:

*47% of priority learners at the end of 2016 were at or above standard. 100% of those students being below standard at the start of the year." (FG1 P2)*

FG1 P1 adds to this arguing the value of the initial two years their school spent using the inquiry cycle from the New Zealand Curriculum:

*it wasn't that this process was just setting up for spirals or that we were somehow treading water. It actually had some tangible outcomes and we want to kick on from that.*

FG1 P1 commented further on the influence that collaborative inquiry could have in their educational organisation:

*what we are looking to go to is supporting teachers to ask each other the deep rich questions that are going to promote teacher inquiry. So, it's not just the leadership team or the appraiser or not just team leaders, but they are asking each other the deep coaching questions to support that deep reflection, because that's when you not only get the change, but you get sustainable change. Otherwise you just default back to the standard practice.*

FG1 P1 noted that much of the work around teacher inquiries has been focussed on priority learners who are below the National Standard in the core curriculum areas. In a process they referred to as 'shining a light' they described how their school transfers the practices used to help priority learners to raise all students' achievement:

*So, when we are putting the work into our priority learners, what are we doing about the other end? We came up with this tangible way of doing what FG1 P3 is talking about, purely by 'shining a light' on them. Raising that awareness about their needs, so raising the tide and raising their achievement. Some people tie that in directly with their inquiries and others do it alongside.*

FG1 P1 concluded by commenting on how organisational learning can become embedded within a school's culture:

*it's that mindset, the deepening reflective aspect of it. Like FG1 P2 is saying, breaking it beyond what is just going on in my class. So that collaborative thinking and reflection is truly schoolwide, because then that all sort of ties in with learning not just happening in these four walls with these kids. They're not just mine, these are our kids. It's not just a relationship, it's a partnership.*

School 2 also referred to how they use teaching as inquiry as a driver for organisational learning:

*it's a part of our culture. (FG3 P3)*

*We were talking about what Helen Timperley talks about, expert teacher versus routine teacher and a routine teacher is probably a teacher that doesn't do inquiry. Where they're not responsive to student needs, don't change and possibly might be recycling the same teaching year after year, despite the big changes in front of them. You know the students are different every year, every class is different. (FG3 P5)*

In reference to their schoolwide inquiry into Oral Language's effect on Writing achievement FG3 P1 commented:

*Students are being discussed at team meetings. We bring those discussions to team meetings. It's no longer just classroom based. The teachers are discussing students at team meetings and that breaks down those barriers... then those conversations go across those year levels, so you're not just restricted to talking within a year level or a team. You can go outside that. Everybody is aware of what everyone else is doing. So, the Juniors know what's going on with the Seniors and vice versa.*

FG3 P5 then described some work that their Community of Learning did to further the understandings of all teachers within their community:

*"what our Community of Learning has been doing is we have developed a self-assessment rubric against the spirals of inquiry. This was worked on by our within schools teachers ... there were 31 within schools teachers and 6 across schools teachers, and I think the power of it was, there were 40 people in the room, which to create a rubric, the depth of your understanding really deepens. It was a powerful exercise. We could have got Helen Timperley to send us one, but the fact that we co-constructed it together I believe made it a really powerful exercise."*

These statements from leadership groups indicate that teaching as inquiry influences organisational learning to different degrees at these three schools.

### ***Leaders' Focus Groups Summary***

These focus group findings identified leaders' perspectives of teaching as inquiry, their accounts of its practice in their schools, and their perceptions of success resulting from teaching as inquiry within their educational context. Many leaders understood teaching as inquiry as an extension of reflective practice that already existed in New Zealand schools. In some cases, leaders had helped to develop their staff's understanding of teaching as inquiry by working with external experts, but most professional learning and development had happened internally, with two schools linking it to their practice of coaching. Leaders understood the need for teachers to reflect and be prepared to change their practice to improve student learning outcomes, but also noted the pedagogical shift required to engage in teaching as inquiry, with two groups of leaders referring specifically to the spiral of inquiry framework they had adopted. School leaders confirmed that teaching as inquiry was embedded into their performance appraisal systems and pointed to the contribution of teaching as inquiry to developing teacher capacity. Leaders addressed a number of challenges including misunderstandings about teaching as inquiry, different levels of expertise, a lack of time for meetings or to find the headspace to work on inquiries, being restricted by inquiry timeframes or scheduled meetings, and getting out of one's comfort zone and feeling judged in collaborative inquiries. Despite the challenges many leaders note buy in from teachers and cite a number of benefits such as collaboration between teachers leading to teacher development and improved student learning outcomes, creating sustainable change by embedding an inquiry mindset into a school's culture and a contribution toward team development and organisational learning. These findings will be used, in conjunction with the responses from teachers' focus groups, to triangulate the data and identify which understandings, experiences and beliefs are shared and what is inconsistent between the leaders and teachers.

### **Teachers' Focus Groups Findings**

As with the leadership focus groups, teachers' focus group interviews were held at Schools 1, 2 and 3 with between two and five participants in each group. All ten of the teachers interviewed had fulltime classroom teaching responsibilities.

## ***What are Teachers' Perspectives of Teaching as Inquiry?***

### *The history of teaching as inquiry at three Auckland primary schools*

Much like the leadership focus groups, the teachers' responses varied with regards to how long they had practised teaching as inquiry. At School 3, a beginning teacher said that they had only just begun to practise it as they were new to teaching. Another said that they had been using it for two or three years while a third teacher said that they had been practising teaching as inquiry for as many as five years, since the current principal began at their school. It is interesting to note the discrepancy between the last two teachers' responses as they have both taught at the school for more than five years. While they may believe it to be the case on some level, all three teachers from School 3 did not identify teaching as inquiry as something that previously existed as part of their practice.

The teachers' focus group at School 1 agreed that, while the structure of their inquiries had changed, they had been practising teaching as inquiry in some way, shape or form for four years; a year earlier than indicated by the leadership focus group from the same school. Teachers from School 1 asserted that it had been around for some time without having a model or name attached to it:

*teachers are always thinking about what to do next. What can you do to support your learners? Every year the kids are different, with different needs. What we do at this school is use a model to reflect on. It's a framework to guide us with questions. (FG2 P2)*

One teacher from School 2 recognised that it had been around for some time but said that there had been a more recent shift to explicitly incorporating it into teaching practice. When asked how long they had been using teaching as inquiry, FG4 P2 replied:

*To me, in a more organised and formalised way, in the last couple of years properly. We were discussing earlier, you do that not in a causal way, but you do it as an ongoing one all the time. You're always inquiring into your practice and thinking about what you are doing and making changes. But as a more formalised, documented way not so much until a couple of years ago.*

FG4 P1 from School 2 found that some teachers from their school believed teaching as inquiry to be something that they already practised:

*after we started talking about spirals of inquiry a couple of teachers said to me 'it's just what we've always done.' They didn't really see the difference in it, but that's just because it's new and we're still learning about it.*

These remarks emphasise that there is room for confusion when distinguishing between reflective practice and teaching as inquiry.

### *Teaching as inquiry professional learning and development*

With regards to professional learning and development, the teachers' accounts varied from school to school much as their leaders' did. Teachers from School 3 reported that very little work had been done around teaching as inquiry:

*we haven't really had professional development on why it works or why we're doing it, have we? (FG6 P3)*

*We might have had one (professional development session on teaching as inquiry) right at the very beginning, if we go back say four years. I would say that we did have one session, but that would be it. (FG6 P2)*

The teachers from School 1 reiterated what their leaders had said about the conference with Helen Timperley and the Ministry of Education funded facilitators, but they also expanded on their 'in house' professional development by explaining that roughly every three weeks they meet in their professional learning groups to work together on each other's inquiries using the school's teaching as inquiry document.

While the teachers from a School 2 didn't talk about the Helen Timperley conference, the Timperley, Kaser and Halbert (2014) paper, or the Ministry of Education's 'Educational Leaders' website as their leaders had, they did illustrate how their school's curriculum based professional learning has been linked to this year's schoolwide inquiry. These teachers described how the consultant who is running this professional development is taking meetings, conducting observations, engaging in team teaching and introducing teachers to

several new resources that are relevant to their school's inquiry. This group of teachers also confirmed that they are engaging in professional learning through working together on teachers' inquiries in professional learning groups.

### *Understandings of teaching as inquiry*

In sharing their understandings of teaching as inquiry, FG6 P1 from School 3 said that it is:

*where you take an aspect of your teaching and you look at it closely to see how you are implementing your ideas around that aspect in the classroom. You look at what you're doing to improve on things in the classroom, and you look at the students in relation to what you're doing.*

The other teachers from this focus group then continued by linking goal setting to teaching as inquiry, explaining that you tend to have an idea of what you want your outcomes to be at the start of an inquiry.

School 1's teachers shared the previous group's ideas about the reflective nature of teaching as inquiry:

*on a general basis, it's about thinking about your practice and constantly thinking about what you could do next to support your learners. (FG2 P2)*

While this school's leaders did not comment on the spirals of inquiry in their focus group, three out of five teachers referred to the stages of this framework.

One teacher at this school also noted the role that ongoing research plays in the practice of teaching as inquiry:

*there is a lot of research happening all the time and things change, and new ideas come out. So, I guess it's just keeping up with what the different research is showing and different trends as well. Lots has changed, even since I started. (FG2 P1)*

At School 2, one teacher offered a broad description of teaching as inquiry:

*it's looking at an aspect of your teaching and thinking about what's going well and what's not going so well. What changes could you make to improve student outcomes? (FG4 P2)*

Like the previous school they then noted the role of research:

*it's important to look at research and see how that impacts on your teaching practice to make it more reflective. (FG4 P2)*

As the leaders from their school did, FG4 P1 referred to the spirals of inquiry framework when explaining their understandings of teaching as inquiry:

*looking at the evidence based aspect can be quite challenging. You've got deep held beliefs and yet you've got evidence telling you the contrary, which the spirals of inquiry is meant to get us to examine.*

FG4 P2 referred to teaching as inquiry as a tool for accelerated learning:

*like Helen Timperley says, 'have we made enough of a difference?' Not just a difference but enough of a difference, because I think sometimes you get complacent. I know my children are going to get better at lots of things because they're growing older. At the end of the year they're ten months older than they were at the start of the year. Are we really making a difference for them?*

While teaching as inquiry encourages us to make changes through reflective practice FG4 P2 argued that it's important not to make changes just for the sake of change:

*you need to be aware of what is already working well. Not just developing new practices just because we're trying to do something new. Most of what we're already doing is probably, or hopefully, really effective practice. It might be that you're doing as much in this area as can be done at the moment. There are always more ways of looking at it.*

While teachers' comments around their understandings of teaching as inquiry were similar to those of the leadership groups, they provided further detail about what teaching as inquiry entails.

## ***How is Teaching as Inquiry Practised?***

### *The evolution of teaching as inquiry at three Auckland primary schools*

At School 3, teaching as inquiry was first brought in for the leadership team and then more recently adopted by the teaching staff. With the teachers now conducting inquiries into their practice, one teacher reported that they felt that the subject of the inquiry was imposed upon them:

*I find that inquiries have been, I feel, quite directed. In that we are directed into what we should be inquiring into and, so I think it's all focused on raising standards and National Standards rather than being free to look at different aspects of your teaching. (FG6 P2)*

This teacher indicated that the school's direction for inquiry was around Writing; however, upon further discussion all three teachers informed me that they had different inquiry focuses. A teacher new to the profession stated:

*I'm a beginning teacher still, so for me I chose just broadly setting up and running my new entrant classroom and looking at positive management in the classroom. In my team, my understanding of what we're doing is Reading. Looking at our Reading practices. (FG6 P1)*

An experienced teacher explained:

*We just started doing cross grouping and, so we said it would be more useful for us to have that as our teacher inquiry, into 'how we can communicate more effectively to pass on information.' We felt that that was more relevant for us to do that. (FG6 P3)*

Another experienced teacher conveyed:

*I personally have a different inquiry because I went in and led the modern learning environment. I had a different inquiry to everybody else because I could say how we were proceeding and what was the best way to go. It was a different kind of*

*inquiry. I wasn't looking at the children, I was more looking at the teachers and the way we were doing things. (FG6 P2)*

FG6 P2 continued, explaining that they were:

*looking at our practice and what was working best within this new area. (modern learning environment with three teachers)*

FG6 P2 did acknowledge that due to the nature of their inquiry they did not have:

*any hard facts or data on that. You need somebody outside of it to observe what's happening to be able to do hard data on that.*

FG6 P1 made a connection between teacher inquiries and the accountability function of performance appraisal:

*The curriculum leaders come around to our classes to have a look at what people are doing. They come and see what we're doing, and they check that we are following the school expectations.*

However, FG6 P2 noted the development function of appraisal:

*They look at good things as well as other things that might need fixing, so it's a two-way process really. It's not just prying on you so to speak.*

At School 1, the teachers referred to their two years engaging in whole school inquiries using the inquiry cycle from the New Zealand Curriculum; however, there was some uncertainty about which model it was:

*It used to be set. We were all very much doing the same thing. I don't know what the other model was actually. I don't even know if it was actually a real one or just a made up one. It wasn't anything was it? (FG2 P1)*

This school had been using the spiral of inquiry framework for a year and all five teachers in this focus group indicated a preference for using it as they found it to be more authentic and flexible:

*You've got your hunch; your kids and you work out what your inquiry is about from there. I've enjoyed it more. I'm not being told it's got to be about this. I like to do it my way. (FG2 P1)*

*Being able to choose what we want made a difference. (FG2 P2)*

FG2 P2 explained the more collaborative approach their school has used since adopting the spiral of inquiry:

*We have our professional learning groups and our buddies who we work closely with. They know our inquiry inside out and we know theirs'. There are professional learning groups for the different levels, Junior, Middle and Senior, and you talk to them about how your inquiry is going every two weeks.*

FG2 P1 noted a benefit to working collaboratively with the spiral of inquiry framework:

*What is quite useful is the way the spiral is designed. It keeps you on track and you document what each of you are saying. So, you say what your goal is going to be for the next couple of weeks and when you meet up again you say, 'how is your goal going?' So, it keeps you on track all the time and that's quite good. You don't just get left to your own devices.*

The teachers talked about two possible ways of supporting teaching as inquiry practice at their school. Firstly, FG2 P3 indicated that they would like to have access to case studies or exemplars to learn about how others have successfully adopted the spiral of inquiry. Secondly, while acknowledging that the whole process is quite lengthy, FG2 P2 stated they would like to have time observing others during certain parts of their inquiries that may relate to their own inquiry.

At School 2, one teacher commented on the nature of inquiry which had previously been a part of their practice:

*We are always changing up our practice, whether it is week to week or term to term in terms of what is working. (FG4 P1)*

For a time, this school used the inquiry cycle from the New Zealand Curriculum in tandem with coaching:

*We have had coaching at our school for a while and there has been a mixture of that and the inquiry cycle, and trying to 'invent a spiral'. Our inquiry into our teaching is mostly centred around our coaching goals and we have been working towards it that way. (FG4 P1)*

Currently, the whole school was engaged in an inquiry on how their teaching around Oral Language affects student outcomes in Writing:

*how can we look at or change our Oral Language practices to have an impact on our Writing data and Writing achievement across the school? (FG4 P2)*

FG4 P2 identified that the motivation for this schoolwide inquiry was that there was a trend of students achieving in Writing after one year at school, but then underachieving in Writing in the following years. With this trend affecting several year levels, FG4 P2 was realistic about raising long term schoolwide achievement in this curriculum area:

*I think the impact of Oral Language could take a long time to have a good impact on our Writing.*

FG4 P1 indicated that teachers could transfer the knowledge and skills gained from this inquiry to other curriculum areas, but warned of trying to do too much at once:

*I think that the more you use teaching as inquiry, you realise that you can have a few different projects on the go. Naturally in teaching you have to keep some things the same, because otherwise you go a little bit crazy. There's not enough time in the day.*

In terms of structure, teachers meet in their Junior, Middle or Senior professional groups, with between six and ten teachers in each group. Within the professional learning group, they work on their inquiry together and discuss what they are doing with their learners in their classes with regards to the inquiry.

FG4 P1 provided an analogy for a teacher's role when practising teaching as inquiry, comparing teachers to designers:

*you are responding to the needs of your kids, just like a designer will respond to the needs of their client.*

Both teachers in this focus group recognised points for development in their practice including a lack of teacher documentation and insufficient student voice. Like the leadership groups, these remarks from teachers' groups recognised the change required to practice teaching as inquiry; however, some teachers also noted that this change is ongoing.

### *Teaching as inquiry and appraisal*

All three teachers at School 3 were sure that teaching as inquiry was a schoolwide expectation, however they were less sure with regards to whether it was linked to appraisal. Two experienced teachers said that it was not linked to appraisal, while a beginning teacher said:

*It's one of the twelve criteria for registration, so I guess in a sense we have to have evidence of it. I know it is. I am very aware of it. (FG6 P1)*

The experienced teachers in this focus group conveyed that any accountability for teacher inquiries would be a joint responsibility as inquiries are conducted as teams.

School 1 was very straightforward when asked about teaching as inquiry's relationship to appraisal with all five teachers replying that it was part of their performance appraisal system.

FG2 P1 revealed that while everyone is involved:

*some are doing more than others, and some have got more than one thing going on.*

At School 2, both teachers confirmed that teaching as inquiry is a schoolwide expectation and linked to performance appraisal:

*part of our appraisal system, our appraisal documentation, is what we are doing within our inquiry and our coaching goals. So, it's documenting it there so it's there for evidence. That we've been working on it, and our student data is part of that. The data on our target students that we are looking at, what we've done with them working towards the goals of those target students. What actions we've taken, what's changed - that's part of our appraisal. (FG4 P1)*

FG4 P2 supported this, stating:

*I think there is certainly a dataset that we are expected to show movement with and it could be with your whole class or a group of targeted priority learners. But there's always been an element of showing a data shift.*

These statements from teachers' groups indicate that there are varied perceptions about the relationship of teaching as inquiry to performance appraisal.

### *Challenges in teaching as inquiry*

As with each of the leadership groups, time was addressed by the group of teachers at School 3:

*what I do find is that there are so many things that we are having to do, and so many balls that we are having to juggle, and I think you've got to be very careful as teacher that you don't get too overwhelmed that you actually touch on everything very lightly and do nothing effectively. So, I think it is very important to focus on one, and really have it as your focus. (FG6 P3)*

FG6 P1 noted the need to have authentic inquiry focuses that teachers believe in:

*I think it's really important to make sure that it's actually something you feel that you need, in that you are invested in it personally, because otherwise you're just doing it for the sake of doing it really.*

FG6 P3 felt that documenting inquiries was tedious and not a worthwhile use of time:

*it is just another thing to write out. I think as experienced teachers, you're thinking about it anyway, so I suppose, who are we writing it down for? It's another piece of paper.*

While FG6 P3 understood why curriculum leaders come around to check in on teachers' inquiries, they found the practice invasive:

*you see it as helping, and I know that actually it is helping, but from being a pleb, when you've got people coming around looking you feel like you're being watched. It's just a different perspective, isn't it?*

Teachers at School 1 once again recognised time as a significant challenge in teaching as inquiry, which may be compounded by numerous target students. One teacher was resentful of the workload that came with this pedagogical shift:

*don't give me a bunch of book reading. (FG2 P3)*

Another teacher at School 1 was new to teaching as inquiry and had it confused with 'inquiry learning':

*I tend to put it that you're supplying the technique of asking questions. You want them to have a general question that they want to find out about. So perhaps you try to create some sort of wonder or questioning ideas so that they will search and work out their answers. (FG2 P5)*

Three other teachers (from a group of five), who understood what was meant by the term 'teaching as inquiry,' thought that it should have a different name as it is too similar to 'inquiry learning.'

At School 2, time was again named as a considerable challenge. FG4 P2 also described how introducing teaching as inquiry to colleagues has been difficult:

*I think one of the challenges with that is having buy in from everybody because the whole school is on the same path, and I think the enthusiasm has grown, but at some parts of the year it's been a challenge getting everyone changing practices or doing things differently. Does everyone feel the need to do that?*

FG4 P2 explained why they believed teaching as inquiry to have been a challenge for some colleagues to adopt:

*I think another challenge is, you're doing something new, but before you see the benefit you have to have a little trust and faith that what you are doing and devoting time to is a worthwhile thing to be doing.*

As with the previous school, FG4 P1 observed that misconceptions about teaching as inquiry had led to setbacks in developing their school's practice. School 2's teachers relayed that educators may hear 'inquiry' and 'teaching' in the same sentence and make the assumption:

*I know a lot of teachers were confused with 'teaching as inquiry' and 'inquiry learning,' in terms of the context of a curriculum area and a classroom. I remember having lots of conversations about it and I'm not sure if the curriculum was at fault, whether it was limited. It wasn't really unpacked. It took a few years to really unpack. I think that our principal has been great with that spirals model, but I know a lot of teachers still assume that it's inquiry learning.*

The teachers' focus groups relayed many of the same challenges that the leadership groups communicated in relation to teaching as inquiry, but also provided some different insights into its implementation.

### ***What are Teachers' Perceptions of Successful Teaching as Inquiry Practice?***

With respect to the impact of teaching as inquiry upon individual and team learning, teachers from School 3 recognised that teachers who are engaged in teaching as inquiry are constantly evolving and improving their professional practice as they share and work with their colleagues. However, FG6 P1 felt that there could be a greater push for organisational learning if teachers had time to share their inquiries more widely:

*I think we don't tend to do enough sharing between us inter-school. We don't really have an opportunity to share what we've been looking at really, do we?*

FG6 P2 replied:

*Within the different teams? Yes, so we talk together. But we don't get to talk to your team or get to hear what the others are doing. That's true. I think that could be more useful, to share ideas like that. To say 'well, what was successful and what wasn't?'*

Teachers at School 1 also felt that while they had the ability to share their inquiries with a small group, organisational learning could be promoted through sharing more widely:

*I guess we don't really share what we do. I mean I know we've got our buddies, but by the end of the year, you've got this spiral and it's just cut off at the end (of the school year) isn't it? (FG2 P1)*

At School 2, teachers commented on the cohesion of a schoolwide inquiry and how this learning can be transferred to other areas:

*I'd like to think that people are starting to see that way of thinking has got applications across all facets of teaching really. (FG4 P1)*

FG4 P1 continued by commenting on how FG4 P2's previous inquiry had inspired the school's current inquiry:

*I think I've been successful building on your successes from last year and we're all heading as a school in a spiral together. That's powerful.*

FG4 P1 highlighted leadership's role in fostering organisational learning:

*the principal is leading it from the top too, so everyone has got a good sense of the vision where we are heading, yet they can still personalise it to the needs of the kids in their class, but it's definitely a schoolwide need that we're addressing isn't it?*

FG4 P2 noted the importance of carefully selected inquiries:

*I think that it has to be something authentic. If it's just something for the sake of documentation and appraisal I don't see the purpose of it. You've got to have some ownership and some reason beyond just appraisal.*

FG4 P2 recognised the advantages to working on inquiries together in professional learning groups:

*I think it's been good when we work together. It's not just teachers doing their own thing. Before it has been like that, but now we're working in groups - in our professional learning groups, on the same goal, with the same focus, on the same inquiry. I think it's more powerful.*

At the same time, FG4 P1 saw the value in leaders from different year levels leading professional learning groups:

*FG3 P2, being a Year 2 teacher, chose to work with the Year 5 and 6 teachers and I'm a Year 5/6 teacher and chose to work with the middle school - so, we're building these (across year level) relationships and not being within our team.*

These comments from teachers illustrate perceptions of successful teaching as inquiry, including its connection to organisational learning in some instances.

### **Teachers' Focus Groups Summary**

The findings from teachers' focus group interviews presented their understandings, their practices and what they believed to be successful outcomes of teaching as inquiry practice. While their experiences varied based on their educational context all teachers described in school professional development, with some commenting on the support they had received from external experts. Teachers noted the use of research and goal setting in teaching as inquiry, but warned against making changes for the sake of change. While it had been gradually introduced into their schools, teachers had observed that many of their colleagues were still unsure of the differences between teaching as inquiry and reflective practice, or were in fact confusing it with 'inquiry learning'. Teachers described the ongoing changes to their practice, including a shift to more collaborative inquiries and two schools' transition from the inquiry cycle to the spiral of inquiry framework. Teachers were inconsistent in their responses about the link between teaching as inquiry and performance appraisal, sometimes within the same school. In terms of the challenges associated with teaching as inquiry, teachers found that lack of time was the most significant obstacle. Time was a challenge in terms of being able to schedule meetings with professional learning groups, but more significantly in terms having the mind space to dedicate to inquiries. Other challenges noted by teachers included increased workload, feeling judged and getting buy in from everyone. They did, however, comment on a number of advantages that teaching as inquiry afforded, including the development of individuals and teams, which in turn supported students' learning, and with one group of teachers linking collaborative inquiries to organisational learning. This group of teachers acknowledged that leadership had helped to develop teachers' understanding of teaching as inquiry, and while they collaborated with their

colleagues in professional learning groups that they were able to tailor their inquiries to the needs of their learners.

### **Summary**

This chapter has presented the findings gained from the analysis of the data that was collected from six focus group interviews conducted with leadership groups and teachers' groups at three Auckland primary schools. The findings show that schools have taken different approaches in adopting teaching as inquiry and that as a result they have had different experiences in its practice, with each pathway presenting its own set of benefits and challenges. The next chapter will discuss these findings and provide conclusions and recommendations.

**CHAPTER FIVE**  
**DISCUSSION OF FINDINGS,**  
**CONCLUSIONS AND RECOMMENDATIONS**

**Introduction**

My motivation for engaging in this research is based on my own educational context. I am the team leader of a syndicate of four classes in an Auckland primary school. Our staff had some brief professional development around teaching as inquiry, and while it piqued my interest I was still unsure of how to proceed and had many questions. As team leader I was responsible for leading the learning in my year level and supporting colleagues in their inquiries. As such, I set out to learn from the experiences of leaders and teachers at schools who had practiced teaching as inquiry for a number of years, so that I might improve my own practice and support others in theirs. The value in the effective use of teaching as inquiry is stressed by Cardno et al. (2016) who state that “the ultimate aim of encouraging the practice of teaching as inquiry is to motivate teachers to improve teaching in order to improve learning outcomes” (p. 58).

This research questions of this study were:

- what are leaders’ and teachers’ perspectives of teaching as inquiry?
- how is teaching as inquiry practised in New Zealand primary schools?
- what are leaders’ and teachers’ perceptions of successful teaching as inquiry practice?

This chapter is a synthesis of the findings of my research as presented in Chapter Four in relation to the relevant literature introduced in Chapter Two. The discussion of the findings is structured around the three research questions. This is followed by the conclusions of my research, my recommendations and proposed areas for future research.

## **What are Leaders' and Teachers' Perspectives of Teaching as Inquiry?**

### ***The History of Teaching as Inquiry at Three Auckland Primary Schools***

Participants from both leadership and teachers' groups discussed the gradual development of teaching as inquiry practice in their schools, including a few indications from leaders that they had been practising some form of teaching as inquiry, as part of their reflective practice, prior to introducing any formalised model. When asked how long teaching as inquiry had been part of their practice, the responses from leaders and teachers at all three schools were consistently incongruous. At School 2, the leaders said that teaching as inquiry had been part of the school's practice for four years, while the teachers said it had only been for two years. At School 1, the leaders said they had been engaged in teaching as inquiry for three years, whereas the teachers said it had been four years. At School 3, the leadership group indicated they had been using teaching as inquiry for three years, although the teachers gave the varying response of less than one year (beginning teacher), three years and five years. This gradual adoption of teaching as inquiry is not surprising as it is something that schools have begun to incorporate into their practice beginning with the introduction of the inquiry cycle, included in the New Zealand Curriculum (Ministry of Education, 2007). It is however interesting to note the variance between leaders' and teachers' responses about teaching as inquiry. This discrepancy in pinpointing its origins in schools could be due to the evolving nature of teaching as inquiry within these schools, mistaking it for inquiry learning or confusing it with the reflective practice that teachers may have engaged in prior to the introduction of this new pedagogical shift.

### ***Teaching as Inquiry Professional Learning and Development***

While their experiences across the schools varied, all three schools had engaged in some form of professional learning and development around teaching as inquiry. However, comments such as *we haven't really had professional development on why it works or why we're doing it, have we?* (FG6 P3) demonstrate that not all professional learning and development is created equal, with Sinnema and Aitken (2011) arguing that the extent to which professional

learning activities embed teaching as inquiry principles and the degree to which schools and their wider learning communities promote and support rich inquiry are crucial. Timperley (2011b) recommends that professional learning development emphasises the capabilities that are crucial for high quality inquiries. Professional learning on teaching as inquiry is an ideal way in which to develop teachers as this comprehensive inquiry process encourages teachers to understand the impact of their practice on students' learning and to learn about what might enhance students' learning, thereby improving their teaching practice and benefitting their learners (Sinnema & Aitken, 2011).

All leadership and teachers' groups spoke of engaging in internal professional learning and development through meetings and professional learning groups. This was consistent with Timperley, Kaser and Halbert's (2014) argument for the power of collaborative inquiry. Whether professional development occurs within a single school or involves many schools, these authors urge that engaging in inquiry is a process of developing collective professional agency. Engaging in inquiry in isolation is difficult and does not reap the same rewards as inquiry can with support from colleagues and leaders.

Two out of the three schools sought external support in the form of facilitators, conferences, online resources, professional readings and curriculum based professional learning that was linked to schoolwide inquiries. This blending of learning around content and pedagogy knowledge deepens teachers' understandings of how issues or problems may be approached and adapted to suit the interests and abilities of their learners (Shulman, 1987). This is consistent with Timperley (2011b) findings when she was involved in two highly successful literacy inquiries. The schools in question sought to develop teachers' pedagogical content knowledge in terms of what is known to be effective. She described how the professional knowledge and skills that were developed were particular to the situation after a careful diagnosis of the learners' needs. This allowed the teachers to apply their new knowledge to their day to day challenges in teaching. This approach was in stark contrast to some other professional development contracts she had been involved in, in which the same level of rigour, depth of knowledge and change processes were not consistently demonstrated and

as a result the professional development did not reap the same rewards for the schools, the teachers and their learners.

Interestingly enough, Timperley (2011b) adds that no school leaders in any of the participating schools had created any ongoing learning systems to support the teachers' inquiries, but rather that the minority of teachers who made the greatest gains in terms of student learning outcomes were the sort of adaptive experts who sought their own ways forward. The implementation of systems to support teacher inquiries, including mentorship, would help to promote an inquiry culture and would benefit the entire school. This is precisely what two of the three schools in the study were engaging in. These two schools utilised the professional development they had previously undertaken in coaching to empower teachers in their teaching as inquiry practice. Timperley (2011b) and Fowler (2012) support this, arguing that schoolwide inquiry can be strengthened when there is support offered by capable professionals to coach and assist teachers with their individual inquiries. This support may come from engaging with external agencies or it may come from within the organisation if there is significant internal expertise. The two schools implemented systems to support teacher inquiries by engaging with outside experts, while working to develop the expertise of their staff. Regardless of the approach taken, Donohoo and Velasco (2016) state that it is paramount that collaborative inquiry be guided by skilled facilitators. The Education Review Office (2015) recognises the role that middle level leadership can play in developing what Timperley (2011b) calls 'adaptive experts', however Bassett (2016) warns of adding pressure to already overburdened middle leaders.

### ***Understandings of Teaching as Inquiry***

In terms of their understandings, leaders' and teachers' groups consistently stated that teaching as inquiry is about improving student learning outcomes. They recognised the need to notice what's not working for students and to be adaptive in their practice in order to solve problems and overcome barriers to learning.

Two out of three leaders' groups and two out of three teachers' groups referred to the spiral of inquiry framework, indicating its current influence on their practice at schools. FG1 P1 noted that a teacher's *'inquiring mindset'* is crucial to the ability of that teacher to engage in teacher inquiry. This is consistent with Timperley et al. (2014) who present the spiral of inquiry as a different approach, according to which teachers adopt a curiosity mindset to identify what is happening for learners and to develop a hunch about the causes that have led to the current situation, before looking for solutions. Teachers are encouraged to look for what is working well so they may build on it, and what is not working well so changes can be made.

When looking for solutions to help them overcome barriers to professional learning, one of the many tools at teachers' disposal is the current educational research that is available to them. During the focus groups interviews, two of the ten teachers who participated commented on the relevance of engaging in current research. This small proportion of teachers recognising the value of educational research is supported by Sinnema and Aitken (2011) who suggest that teachers' limited engagement with data and research presents a hurdle towards putting teaching as inquiry into practice. They explain this by stating that teachers simply do not recognize the validity of research in relation to their inquiries or perhaps that they believe that the research is not conclusive or relevant to their educational context.

In a study outlined by Sinnema and Aitken (2011) which took place in the two years after the introduction of the updated curriculum document and its accompanying teaching as inquiry model, these researchers identified the strategies which teachers used to conduct their cycles of inquiry. The techniques they found a significant number of teachers to use were: engaging with evidence about students' needs and abilities to prioritise next steps; drawing on the experience of colleagues to inform possible changes to teaching; modifying teaching practices because of what they had learnt from student responses to their teaching; systematically collecting data and analysing it to help them understand students' responses to their teaching. Teachers were far less likely to read and use published research to inform possible

changes to their teaching. This scenario is reiterated by the Education Review Office (2011) which reported that “few schools used research findings as the basis of their decision-making about the provision for students. Teachers typically selected future teaching strategies from an existing repertoire of their own and colleagues’ practice” (p. 29).

Teachers noted that ongoing change was a part of this pedagogical shift; however, they stressed that changes to practice should not be made purely for the sake of change. Making too many changes at once is disruptive and counter-productive, and many of teachers’ existing practices may serve all learners well. So, teaching as inquiry requires teachers to make astute changes to practice that serve the learners within their educational context. This is a view supported by Timperley (2011b) who introduces the idea of teachers as ‘adaptive experts’. She states that adaptive experts are practitioners who have a strong knowledge of the “evidence-base underpinning effective teaching and learning and engage in ongoing checking of how effectively all students are engaging and learning, particularly those previously under-served by our education system” (p. 18) . A significant trait of adaptive experts is their awareness of the assumptions that underpin their own practice. Adaptive experts can monitor these assumptions to determine if they are helpful, if they should be questioned or if they should be changed altogether. Of particular interest are the assumptions relating to the effectiveness of teaching and learning routines, as an adaptive expert will be reflective and responsive to the impact of these on students’ engagement, learning and well-being (Timperley, 2011b). Another quality of adaptive experts is knowing when to seek help and where to find it as they “engage in ongoing cycles of inquiry and knowledge-building to develop their expertise in response to the specific challenges students face” (Timperley, 2011b, p. 19). These adaptive experts are a tremendous asset to schools as they could benefit the school through professional learning and development programmes and the mentoring of individual teachers.

## How is Teaching as Inquiry Practised in New Zealand Primary Schools?

### *The Evolution of Teaching as Inquiry at Three Auckland Primary Schools*

With respect to the evolution of teaching as inquiry in these three Auckland primary schools, many of the participants from leaders' and teachers' groups talked about moving from teachers reflecting on their practice to teachers collaborating with others in order to benefit student learning outcomes. Donohoo and Velasco (2016) support this as it recognises and values teachers as the drivers for school improvement, rather than the targets of improvement. They also note that schools that engage in collaborative inquiry are amongst the most adaptable and successful.

At all three schools, much of this collaborative work was done in professional learning groups, in which department levelled groups of four to ten colleagues met to work on shared inquiries or to support each other with individual inquiries. Within this structure, members of professional learning groups had the autonomy to make decisions and test solutions related to the challenges of their practice. They could then formulate answers to the questions set out at the start of their inquiries (Donohoo & Velasco, 2016), which relates to FG4 P1's comments on how their inquiry and coaching practice is linked to the performance appraisal process: *part of our appraisal system, our appraisal documentation, is what we are doing within our inquiry and our coaching goals.*

Although most of the collaboration is done within schools, two out of three schools referred to external experts or agencies to support them in their practice. Teachers from one school based their inquiries on the inquiry cycle from the New Zealand Curriculum (Ministry of Education, 2007). The other two schools began with this model but have since adopted the spiral of inquiry framework (Timperley et al., 2014), describing how they integrated it into their coaching practice. In moving from the inquiry cycle, which some teachers felt to have been imposed upon, them they have reported more flexibility and authenticity in their inquiry focuses, using the spiral of inquiry. Leaders and teachers recognised that teachers are at

different levels in terms of their understandings and how they undertake their inquiries, acknowledging the need for further professional learning and development. Many leaders noted teachers' buy in to teaching as inquiry and both leadership and teachers' groups pointed to the impact it is making in their schools, with one school linking it to specific student achievement outcomes. Donohoo and Velasco (2016) note that there is a much higher likelihood of buy in from teachers when they are invited to participate, as opposed to undertaking mandated inquiries which do not create the same trusting conditions amongst teachers. Numerous authors point to a tipping point within a school after which the excitement and enthusiasm for this pedagogical shift is contagious and teachers aren't inclined to return to their old practices (Donohoo & Velasco, 2016; Timperley et al., 2014). Looking to the future, leaders and teachers noted that teachers are beginning to transfer skills learnt through inquiries to other curriculum areas, that future inquiries may benefit from involving greater numbers of people and that they may not be as rigidly bound to time.

### ***Teaching as Inquiry and Appraisal***

In discussing performance appraisal's link to teaching as inquiry all three leadership groups said that it is both a schoolwide expectation and a part of the performance appraisal process. This link between teaching as inquiry and performance appraisal is supported by Nusche et al. (2012) who propose that performance appraisal serves two purposes: to ensure accountability and to promote development. Teaching as inquiry is consistent with both objectives.

In terms of accountability, two out of three schools have directly linked teaching as inquiry to their performance appraisal systems. Inquiry practices are referred to throughout the most recent standards for the teaching profession and are more explicitly described in three of the six standards: professional learning, under which standard teachers are to use inquiry, collaborative problem-solving and professional learning to improve their professional capability so as to impact on the learning and achievement of all learners; design for learning, under which teachers design learning based on curriculum and pedagogical knowledge, assessment information and an understanding of each learner's strengths, interests, needs,

identities, languages and cultures; teaching, under which teachers are expected to teach and respond to learners in a knowledgeable and adaptive way in order to progress their learning at an appropriate depth and pace (Education Council, 2017).

While satisfying the accountability function of appraisal, all three leadership groups indicated that its greatest value was in its ability to develop teacher capability. Teaching as inquiry is consistent with the developmental functions of appraisal, as it seeks to improve teaching and learning. One approach, described by Cardno et al. (2016) outlines a collection of activities aligning the requirements of appraisal with the genuine reflection necessary for an inquiry into one's own practice. They outline an appraisal process that mandates the planning and setting of developmental goals at which point the teacher selects goals that have a student learning focus and, ideally, mesh with department level goals. Next classroom observations are conducted based on observation plans that are co-constructed. This allows the appraiser to monitor and support the teacher's inquiry. In conjunction with the observations there are regular discussions, interviews or conversations which allow both parties to focus on aspects of the inquiry. Finally, the reporting comments on the inquiry's impact on teaching and learning. This pairing of inquiry with the performance appraisal process once again fosters the development of teachers, which in turn benefits students' learning outcomes. This is consistent with Timperley's (2011) view which asserts that teaching as inquiry may be used as a tool to raise schoolwide performance by embedding it into the performance appraisal process. She explains that the appraiser and appraisee's shared experience of the context in which the data was gathered could provide both parties with shared understandings when discussing the implications. This could involve joint inquiry into the relationship between the teacher's approach and their students' outcomes. The resulting discussion could involve engagement with research to help explain the outcomes and to inform decisions about next steps.

The teachers' responses were less consistent, with some teachers replying that it was not part of their appraisals, some who were not sure and others saying that it was part of the appraisal process and was to be documented with evidence. Some of these contrasting responses

came from teachers within the same school. The research of Cardno et al. (2016) brings to light the rigid structure of the documentation used by some schools. The authors found that schools wanted to achieve accountability by uniformly documenting inquiries on standardised forms and templates. In this research, the teachers found this limiting and felt that it restricted the inquiry process.

Cardno et al. (2016) have some recommendations as to how the schoolwide practice of teaching as inquiry may be improved, based on a small-scale study of two Auckland secondary schools. The first recommendation they make is that if schools wish to embed teaching as inquiry into the performance appraisal system, which is the growing trend, then staff should be informed of the conceptual background and foundational values related to teacher inquiry prior to embarking on a procedural approach which may lead to a superficial level inquiry. The second recommendation they make is that schools “need to develop the expertise of leaders and teachers to participate in appraisal and inquiry dialogue that is challenging, collaborative, and critically reflective” (Cardno et al., 2016, p. 58)

### ***Challenges in Teaching as Inquiry***

All leadership and teachers’ focus groups identified time as the most significant challenge in their teaching as inquiry practice. Some leaders felt restricted by time as inquiries at their school were made to fit into a term. Other leaders found that professional learning group meetings that were scheduled twice termly were too rigid and didn’t fit the fluid progression of their inquiries. Some teachers felt constrained by time as they were expected to engage in readings or include a number of priority learners in their inquiries. This is supported (Cardno et al., 2016) who found the lack of time that teachers had to dedicate to an in depth inquiry was a challenge. Teachers viewed the inquiry as an additional task that sat outside of appraisals and while there was evidence of teachers’ commitment to the concept of teaching as inquiry they were not afforded the time to properly engage in the research and carry out conversations that challenge their deep-seated assumptions. These limitations clearly impinge on the attitudes of open-mindedness, fallibility and persistence which are the basis for teaching as inquiry.

The challenge of time was further explored by both leadership and teachers' groups by explaining that they needed the headspace to deeply reflect and collaborate with their colleagues on their inquiries. This challenge was acknowledged by one leader at School 1 who shared that *schools as you know are very busy places, so how can we cut through the clutter and focus on what is really important?* (FG1 P1). Members of both leadership and teachers' groups warned of limiting their inquiries' effectiveness by trying to take on too much. One teacher at School 3 commented on this, stating: *I think you've got to be very careful as a teacher that you don't get too overwhelmed that you actually touch on everything very lightly and do nothing effectively* (FG6 P3). This is similar to the research of Cardno et al. (2016) who emphasise that procedural practices that appear to be strong and consistently implemented, may in fact lead to simplistic and superficial level inquiries.

All three leadership groups indicated that teachers feeling judged may hinder the extent to which they collaborate with their colleagues and commit to their inquiries. Engaging in collaborative inquiry does require educators to take risks and put themselves out there, but Donohoo and Velasco (2016), citing the work of Hargreaves and Fullan (2012), respond to this noting the professional capital that teachers develop through the inquiry process. They propose that it empowers teachers through human capital to benefit from the talent of individuals, social capital to harness the collaborative power of the group and decisional capital to make wise judgements around student learning. The authors describe this as being unleashed within and through teachers by engaging in collaborative inquiry.

Misconceptions amongst staff about what teaching as inquiry is was noted as a challenge by some leaders and teachers. This ongoing mix up is consistent with Sinnema and Aitken's (2011) findings that a large proportion of teachers confuse the concepts of teaching as inquiry and inquiry learning. Spillane (2004) warns that due to the similarity between terms, teachers may assume that they are engaging in teaching as inquiry, when in fact they are facilitating inquiry learning for their students. One teacher from School 2 felt that re-naming 'teaching as inquiry' may reduce the likelihood of confusion. Benade (2015) supports this, proposing that a new title would reflect the fact that this is inquiry that is undertaken by teachers. Spillane (2004) further explains that when teachers are introduced to new theories about what works in teaching and learning, it is tempting to over-assimilate these ideas and not

recognize distinctions between what the evidence is suggesting and their current practice. This is reiterated by Argyris and Schön (1978) who state that all theories of action have two forms: espoused theory (the theory that we would explain to others) and theory-in-use (the theory we actually put into action). As this is tacit information, many individuals are unaware of any discrepancy between their espoused theory and their theory-in-use.

Teachers also highlighted having faith amongst all staff to embrace this pedagogical shift as an addition challenge to their practice: *it's been a challenge getting everyone, changing practices or doing things differently (FG4 P2)*. Teaching has traditionally been about the transmission of knowledge from teacher to student, and while 21<sup>st</sup> century learners still require mastery of Literacy, Numeracy and Oracy they must also be able to “problem solve, be creative and critical thinkers who can collaborate, communicate, negotiate and develop a meta-cognitive and self-regulatory approach to their learning” (Timperley, 2011b, p. 18). The author argues that the teaching practices required for this kind of transformation are in considerable conflict with traditional beliefs about teaching. Changing teachers’ enduring beliefs about their role is what will make a difference to student learning outcomes. This, however, is easier said than done, as one’s underlying assumptions encourage one to repeat routines and practices that one has previously used rather than adopting an unfamiliar alternative. This is consistent with Argyris & Schön’s (1978) notions of espoused theory versus theory-in-use, as the educator may see the benefits to a new approach and mean to implement it but in fact be resistant to change. The challenges encountered in encouraging teachers to embrace this pedagogical shift are consistent with what Fullan (2001) describes as an ‘implementation dip’, characterised by a lull in performance and confidence as change occurs and new skills and understandings are required.

Teachers argued that the authenticity of inquiries was a challenge to their practice as they need to believe that it was a genuine need that they were focussing on and one which they could do something about. Timperley et al. (2014) argue that leaders should not exclusively decide what the focus of inquiries should be as “it is the collaborative inquiry process that matters.” However, Donohoo and Velasco (2016) counter this, arguing that a balance

between district-driven and classroom-driven improvement should be striven for by aligning teacher inquiries with school and district level goals. From a constructivist ontological perspective it is also interesting to note factors that impact upon schools and their management (Bryman, 2012). Schools do not exist in a vacuum, but within the education system and its associated policy environment (Timperley, 2011b). Fullan (2005) argues that policy makers themselves should be part of the learning system and undertake professional learning so that they may make informed decisions and be aware of the gravity of their professional activities. A number of authors (Bryk & Schneider, 2002; Fullan, 2005; Levin, 2008) have noted that a turbulent New Zealand policy environment has led to many fragmented initiatives and initiatives that are not funded sufficiently long enough for them to become properly entrenched. Similar to the way in which Timperley (2011b) described the need for teachers to be adaptive experts and for schools to have an adaptive capacity, she stresses the need for the policy environment to “demonstrate high adaptive capacity in a way that promotes it through all levels of the system” (p. 26).

### **What are Leaders’ and Teachers’ Perceptions of Successful Teaching as Inquiry Practice?**

The comments from leadership groups around successful teaching as inquiry practice were varied. Although leaders at School 3 identified teaching as inquiry as a means of promoting individual and team learning, leading to improved student learning outcomes, they did not identify its influence on organisational learning, whereas the leaders at Schools 1 and 2 made numerous connections to this. Sinnema and Aitken (2011) argue that “in the first instance, high-quality teaching as inquiry can change the trajectory of learning for teachers, but ultimately it can influence the trajectory of learning for young people, and enable the aspirations of the New Zealand Curriculum to be realised” (p. 44). These leadership groups described teaching as inquiry as being part of their culture and allowing teachers to collaborate across levels. They expressed that teaching as inquiry enables responsive ‘expert teachers’ and helps to create sustainable change within their schools.

As with the leadership groups, teachers reported a range of views. The teachers at Schools 1 and 3 acknowledged teaching as inquiry’s positive effect on individual and team learning, but

expressed a desire to collaborate more widely. Teachers at School 2 explained that teaching as inquiry allowed them to collaborate across the school and to transfer skills to other facets of teaching. The teachers at School 2 illustrated that their inquiry is schoolwide, allowing everyone to be on the same page, but that there is also a sense of authenticity and ownership as teachers can personalise their inquiries. Teachers commented that their teaching as inquiry practice supported student learning outcomes. This is consistent with Sinnema & Aitken's (2011) view which stresses that this approach has equity concerns at its heart and focuses on "altering curriculum and disrupting typical or habitual practices that may not be serving students well" (p. 35). The Ministry of Education (2010) indicates that a teaching as inquiry approach may be used to become more culturally responsive and improve outcomes for Māori and Pasifika learners. It veers from the notions of linear and procedural teaching and follows a less prescribed path, and while there are pitfalls to a less sequential progression they can be limited "through the promotion of rigorous inquiry" (Sinnema & Aitken, 2011, p. 30). This equitable approach to teaching practice provides an excellent way in which to develop teachers' ability to help all students achieve.

## **Conclusions**

A conclusion of this research is that educators must indeed challenge their underlying assumptions in order to make the pedagogical shift necessary to make genuine and substantive changes to their practice. This shift was identified by leaders and teachers at all three schools and without this pedagogical shift, rich inquiry is not possible. Benade (2015) notes that for teachers to truly change their practice, they must realise the necessity for change and then be willing to make the change. Through making this change and adopting an inquiry mindset as part of their schools' cultures, educators can create sustainable change within their contexts. By engaging in collaborative inquiry, such as the spiral of inquiry framework, schools can develop the capabilities of individual teachers, teams and entire schools, positively affecting change on student learning outcomes.

A further conclusion is that varying degrees of expertise led to inconsistencies within and across the three schools. The level of understanding ranged from teachers who did not know

the difference between 'teaching as inquiry' and 'inquiry learning' to those who briefly mixed the two up, to those who didn't see any distinguishable differences between teaching as inquiry and reflective practice, to those who had a firm grasp of the teaching as inquiry process. A need for further, and ongoing, professional development was recognised at all three schools. It is imperative that this learning occur throughout organisations, as it better equips leaders to provide support to those in collaborative inquiry teams. Such a plan was not evident in all schools. This organisation wide learning also demonstrates leadership's valuing of and belief in collaborative inquiry (Donohoo & Velasco, 2016). It is vital that collaborative inquiry be led by a skilled facilitator who can ensure that the inquiry remains aligned to its intended outcome. While it is acceptable for professional learning around inquiries to be led internally, it is often necessary to seek out external expertise.

A final conclusion concerns the issue of time, which was unanimously reported by leaders and teachers as being a barrier to fully engaging in teaching as inquiry. While teaching as inquiry is time consuming, the literature demonstrates a growing evidence base to inquiry approaches to pedagogy (Cardno et al., 2016; Donohoo & Velasco, 2016; Ministry of Education, 2007; Timperley et al., 2014). Time was presented as a challenge for educators in a number of ways: teacher inquiries were made to fit into a school term; professional learning group meetings that were scheduled twice termly were incompatible with the fluid progression of teacher inquiries; there was pressure to engage in additional professional readings; some teachers were required to include numerous priority learners in inquiries; teachers were not afforded sufficient time to carry out conversations that would challenge deep-seated assumptions; inquiry effectiveness was limited by teachers taking on too much. These numerous limitations experienced by educators clearly impinge on their ability to engage in robust inquiry.

## **Recommendations**

Based on the findings and conclusions of my research, the following recommendations could potentially aid educators in the practice of teaching as inquiry.

### ***Recommendations for the Ministry of Education***

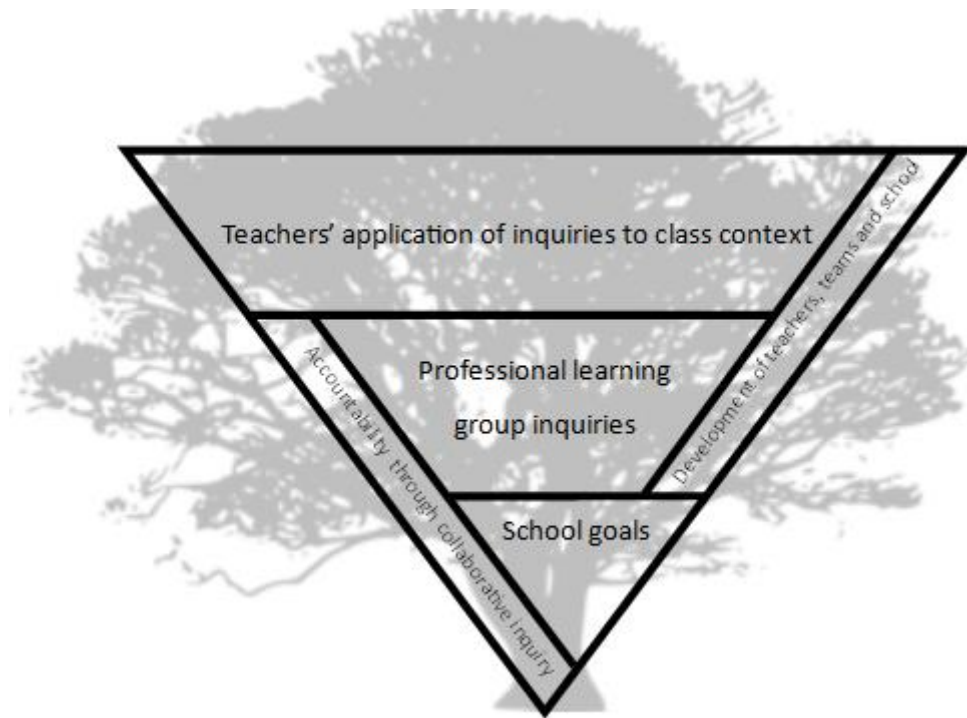
The New Zealand Curriculum (Ministry of Education, 2007) urges educators to employ an inquiry approach to pedagogy; however, the widespread adoption of this pedagogical approach is limited, with a significant number of teachers finding it difficult to employ (Timperley, 2011b). An OECD (Organisation for Economic Cooperation and Development, 2005) report found that “factors relating to teachers and teaching are the most likely to influence student learning” (p. 31) and that a curriculum statement alone is not able to affect the sort of changes that will lead to improved educational outcomes. This being the case, it is imperative that the Ministry of Education ensure that leaders and teachers have the necessary time and resources to engage in rich and effective inquiry. This would require an allocation of one day’s classroom release per term per teacher, to be timetabled by the school so that members of a professional learning group, or other such inquiry team, would be able to meet several times a term to properly engage in collaborative inquiry. The Ministry of Education’s investment would also involve establishing a structure of skilled facilitators, whether this were offered through external experts or by developing the capacity of existing educators.

### ***Recommendations for School Leaders***

Like these three primary schools, many schools have incorporated teaching as inquiry into their performance appraisal systems, as noted by Cardno et al. (2016). While it is logical to include teaching as inquiry into performance appraisal because of its accountability and development functions, this is often hampered by the structures within the appraisal system. Through these focus group interviews I have learnt of the remarkable work that teachers have been involved in that has led to tremendous gains for themselves as professionals, their syndicates as collaborative teams and most importantly for their learners. While this is admirable, several teachers expressed their frustration with the abrupt halt at the end of inquiries, which is in fact contrary to the nature of inquiry. Leaders and teachers overwhelmingly recognised the need for further development in teaching as inquiry, and while it is vital that it be led with skilled facilitation, harnessing the expertise that has been developed internally may be the ideal way to develop a school’s ‘adaptive capacity’ and

inquiry culture. I recommend that as part of performance appraisals, professional learning groups share their inquiries with the rest of their colleagues to disseminate the learning that has occurred. This would provide a mechanism to provoke schoolwide collaboration and build horizontal connections throughout schools. I propose that leadership groups adopt the performance appraisal framework (figure 5.1) that I have developed, whereby professional learning groups have an inquiry focus that is aligned with school goals, while being tailored to suit the needs of learners and teachers in that syndicate, to satisfy achieved coherence (Donohoo & Velasco, 2016). Teams would work on their inquiries in professional learning groups and within these inquiries teachers would hone in specifically on the needs of students in their class. Teachers would continue work on their inquiries in professional learning groups throughout the year to provide the opportunity for rich inquiry. By sharing inquiries with the wider school, teachers would satisfy the accountability function of appraisal while spreading and deepening school improvements. This framework also satisfies the development function of appraisal as teachers develop themselves through collaborative inquiry, while contributing to the development of their colleagues by presenting their inquiries.

In addition to this I also recommend as part of professional learning and development that schools recognise the underpinning attitudes of open-mindedness, fallibility and persistence which are the basis for teaching as inquiry and appear to have been overlooked in sometimes hasty efforts to incorporate it.



**Figure 5.1: Proposed Performance Appraisal Framework**

### ***Recommendations for Teachers***

For teachers to deeply engage in teaching as inquiry they must whole-heartedly embrace the underpinning attitudes of open-mindedness, fallibility and persistence (Aitken & Sinnema, 2008, p. 53). This may require a significant leap of faith as it is at odds with what many teachers are accustomed to, but it is imperative that we transform schools and teaching practices to engage today’s learners (Timperley et al., 2014). Knowing where to start may be difficult, but as one leader advised *“I think the best professional learning and development that you can do in spirals is just start it. Get stuck in and talk to your colleagues. It is learning as you do” (FG3 P5)*. Teachers must be prepared to try new things, to feel uncomfortable, to take risks and to get things wrong, but they must also be prepared to get things right, to be inspired, to be inspiring and to make a significant difference to their students’ learning.

### **Areas for Further Research**

My research investigated leaders' and teachers' perspectives of teaching as inquiry, their experiences with its practice and their perceptions of successes resulting from teaching as inquiry in three Auckland primary schools. To provide a greater understanding into the potential of teaching as inquiry in New Zealand primary schools I believe further research is needed into:

- the role of inquiry at the leadership, Community of Learning and Ministry of Education levels.
- the consideration of measured outcomes of teaching as inquiry in New Zealand primary schools.
- more widespread investigation into the perspectives of teachers engaged in teaching as inquiry in New Zealand primary schools.

## REFERENCES

- Aitken, G., & Sinnema, C. (2008). *Effective pedagogy in social sciences: tikanga a iwi: Best evidence synthesis*. Wellington: Ministry of Education.
- Argyris, C. (1977). Double-loop learning in organisations. *Harvard Business Review*, September-October, 115-125.
- Argyris, C., & Schön, D. A. (1978). *Organizational learning: A theory of action perspective*. Reading, MA: Addison-Wesley.
- Bassett, M. (2016). The role of middle leaders in New Zealand secondary schools: Expectations and challenges. *Waikato Journal of Education*, 21(1), 97 - 108.
- Benade, L. (2015). Teaching as inquiry: Well intentioned, but fundamentally flawed. *New Zealand Journal of Educational Studies*, 50(1), 107-120.
- Bransford, J., Derry, S., Berliner, D., & Hammerness, K. (2005). Theories of learning and their roles in teaching. In L. Darling-Hammond, & Bransford, J. (Ed.), *Preparing teachers for a changing world* (pp. 40 - 87). San Francisco, CA: John Wiley & Sons.
- Bryk, A. S., & Schneider, B. L. (2002). *Trust in schools: A core resource for improvement*. New York, NY: Russell Sage Foundation Publications.
- Bryman, A. (2012). *Social research methods (4th ed.)*. New York: Oxford University Press.
- Cardno, C., Bassett, M., & Wood, C. (2016). Teaching as inquiry in an appraisal context. *SET Research for Teachers*, 2, 53 - 59.
- Cohen, L., Manion, L., & Morrison, K. (2011). *Research methods in education (7th ed.)*. Abingdon: Routledge.
- Cresswell, J. W. (2007). *Qualitative inquiry and research design: Choosing among five approaches*. Thousand Oaks, CA: Sage.
- Davidson, C., & Tolich, M. (2003). Competing traditions. In C. Davidson & M. Tolich (Eds.), *Social science research in New Zealand: Many paths to understanding* (2 ed., pp. 23-38). Auckland: Pearson Education.
- de Botton, A. (2002). *The art of travel*. London: Penguin.
- Diener, E., & Crandall, R. (1978). *Ethics in Social and Behavioural Research*. Chicago: University of Chicago Press.
- Donohoo, J., & Velasco, M. (2016). *The transformative power of collaborative inquiry: Realizing change in schools and classrooms*. Thousand Oaks, CA: Corwin.
- Education Council. (2017). *Our Code, Our Standards*. Wellington, NZ Retrieved from [www.educationcouncil.org.nz](http://www.educationcouncil.org.nz).
- Education Review Office. (2011). *Directions for learning: The New Zealand curriculum principles, and teaching as Inquiry*. Wellington: Crown.
- Education Review Office. (2015). *Raising student achievement through targeted action*. Wellington: Author.
- Fowler, M. (2012). Leading inquiry at a teacher level: Is all about mentorship. *SET Research Information for Teachers*, 3, 2 - 7.
- Fullan, M. (2001). *Leading in a culture of change*. San Francisco: Jossey-Bass.
- Fullan, M. (2005). *Leadership Sustainability: System Thinkers in Action*. Thousand Oaks, CA: Corwin Press.
- Hargreaves, A., & Fullan, M. (2012). *Professional capital: Transforming teaching in every school*. New York, NY: Teachers' College Press.
- Holmes, L. (2004). 'Guidance for Ensuring Confidentiality and the Protection of Data' In S. Becker & A. Bryman (Eds.), *Understanding Research for Social Policy and Practice: Themes, Methods, and Approaches*. Bristol: Policy Press.

- Krueger, R. A., & Casey, M. A. (2014). *Focus groups: A practical guide for applied research* (5 ed.). Thousand Oaks, CA: Sage.
- Le Fevre, D. (2010). Changing tack: Professional learning as a process of change. In H. Timperley, Parr, J. (Ed.), *Weaving evidence, inquiry and standards to build better schools* (pp. 71 - 92). Wellington: New Zealand Council for Educational Research.
- Levin, B. (2008). *How to change 5000 schools: A practical and positive approach for leading change at every level*. Cambridge, MA: Harvard Education Press.
- Lewis, M. (1995). Focus group interviews in qualitative research: A review of the literature. Retrieved from <http://www.scu.edu.au/schools/gcm/ar/arr/arrow/rlewis.html>.
- Litchman, M. (2013a). *Qualitative research in education: A user's guide* (3 ed.). Thousand Oaks, CA: Sage.
- Litchman, M. (2013b). *Qualitative research in education: A user's guide* (3rd ed.). Thousand Oaks, CA: Sage.
- Lofland, J., Snow, D., Anderson, L., & Lofland, L. H. (2006). *Analyzing social settings: A guide to qualitative observation and analysis* (4 ed.). Belmont: Wadsworth/Thomson Learning.
- Mayan, M. (2009). *Essentials of qualitative inquiry*. Walnut Creek, CA: Left Coast Press.
- Ministry of Education. (2007). *The New Zealand curriculum*. Wellington: Learning Media.
- Ministry of Education. (2008). *Kiwi leadership for principals: Principals as educational leaders*. Wellington: Ministry of Education.
- Ministry of Education. (2010). *Teachers as learners: Improving outcomes for Maori and Pasifika students through inquiry* Retrieved from <http://nzcurriculum.tki.org.nz/curriculum-stories/case-studies/inquiry/learning-stories>
- Nusche, D., Laveault, D., MacBeath, J., & Santiago, P. (2012). *OECD reviews of evaluation and assessment in education- New Zealand*. Paris: Organisation for Economic and Cultural Development (OECD).
- Organisation for Economic Cooperation and Development. (2005). *Teachers matter: Attracting, developing and retaining effective teachers*. Paris: OECD.
- Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A. (2000). *Schools that learn*. New York: Doubleday.
- Shulman, L. S. (1987). *Knowledge and Teaching: Foundations of the New Reform* (Vol. 57): Harvard Educational Review.
- Sinnema, C., & Aitken, G. (2011). Teaching as Inquiry in the New Zealand Curriculum: Origins and Implementation. In H. H. Judy Parr, Stephen May (Ed.), *Changing Trajectories of Teaching and Learning* (pp. 29 - 48). Wellington: New Zealand Council for Educational Research.
- Smith, R., & Starmer, L. (2017). Building adaptive expertise: Professional learning that works with teachers, not on them. *Australian Educational Leader: Journal of the Australian Council for Educational Leaders*, 39(4), 22-25.
- Spillane, J. (2004). *Standards deviation: How schools misunderstand education policy*. Cambridge, Mass: Harvard University Press.
- Staber, U., & Sydow, J. (2002). Organizational adaptive capacity: A structuration perspective. *Journal of Management Inquiry*, 11, 408-424.
- Timperley, H. (2008). *Teacher professional learning and development (UNESCO Educational Practices Series)*: Belley: International Bureau of Education.
- Timperley, H. (2011a). *Realizing the power of professional learning*. London: Open University Press.
- Timperley, H. (2011b). A Systems View on Changing Trajectories of Learning. In H. H. Judy Parr, Stephen May (Ed.), *Changing Trajectories of Teaching and Learning* (pp. 15 - 28). Wellington: New Zealand Council for Educational Research.
- Timperley, H. (2011c). The power of conversations: Developing adaptive expertise through the analysis of practice. Retrieved from <http://www.cpl.org.nz/.../The%20Power%20of%20Conversations%20%20Developing%20Ad>

[aptive%20Expertise%20through%20the%20Analysis%20of%20Practice%20%20%20Helen%20Timperley.pdf](#)

- Timperley, H., Kaser, L., & Halbert, J. (2014). *A framework for transforming learning in schools: Innovation and the spiral of inquiry*. Centre for Strategic Education.
- Timperley, H., Wilson, A., Barrar, H., & Fung, I. (2007). *Teacher professional learning and development: Best evidence synthesis iteration*. Wellington: Ministry of Education.
- UREC. (2014). *Unitec Human Research Ethics Guidelines*. Auckland: Unitec Institute of Technology.
- Wellington, J. (2015). *Educational research: Contemporary issues and practical approaches* (2 ed.). London: Bloomsbury Academic.
- Youngs, H., Cardno, C., Collins, J., Howse, J., Harvie, L., & Bush, T. (2010). *Evaluation report: Experienced principal development plan - New Zealand ministry of education* Retrieved from Auckland:

## APPENDICES

### Appendix A: Focus Group Questions

**Thesis Title:** Teaching as Inquiry: Perspectives, Practices and Perceptions of Success in New Zealand Primary Schools

**Researcher:** Charles Clarke

**Programme:** Master of Educational Leadership and Management

#### Focus Group Questions

- 1) What does teaching as inquiry mean to you?
- 2) How long have you been practising teaching as inquiry?
- 3) Is teaching as inquiry a schoolwide expectation at your school?
- 4) Is teaching as inquiry linked to performance appraisal in your school?
- 5) What does your teaching as inquiry practice look like?
- 6) What professional learning development have you received around teaching as inquiry?
- 7) What challenges or successes have you found in your teaching as inquiry practice?
- 8) What do you perceive to be the outcomes of your teaching as inquiry practice?
- 9) What, if any, changes would you make to the practice of teaching as inquiry?
- 10) Is there anything else you would like to tell me that I have not covered?

## **Appendix B: Organisation's Permission to Conduct Research**

**[Organisation's letterhead]**

**Date**

**Address letter to: Charles Clarke  
14 Laura st  
Kelston  
Auckland 0602**

**RE: Master of Educational Leadership and Management**

**THESIS TITLE: Teaching as Inquiry: Perspectives, Practices and Perceptions of Success in  
New Zealand Primary Schools**

**TO WHOM IT MAY CONCERN**

I have been given and have understood an explanation of this research project and I give permission for research to be conducted in my organisation. I understand that the name of my organisation will not be used in any public reports.

**Signature**

**Name of signatory**

## Appendix C: Information Sheet for Participants



### INFORMATION SHEET FOR PARTICIPANTS

#### **Title of Thesis: Teaching as Inquiry: Perspectives, Practices and Perceptions of Success in New Zealand Primary Schools**

My name is Charles Clarke. I am currently enrolled in the Master of Educational Leadership and Management degree in the Department of Education at Unitec Institute of Technology and seek your help in meeting the requirements of research for a Thesis course which forms a substantial part of this degree.

The aims of my project are:

- to explore leaders' and teachers' perspectives of teaching as inquiry.
- to investigate the practice of teaching as inquiry in New Zealand primary schools.
- to examine leaders' and teachers' perceptions of successful teaching as inquiry practice.

I request your participation in the following way. I will be conducting focus group interviews and would appreciate your contribution as a member of the group. I will also be asking you to sign a consent form regarding this event. The focus group interview venue will be \_\_\_\_\_ and the duration of the focus group interview will be one hour.

Neither you nor your organisation will be identified in the thesis. I will be recording your contribution and will provide a transcript for you to check before data analysis is undertaken. You may withdraw yourself or any information that has been provided for this project up to two weeks after the focus group interview event. I do hope that you will agree to take part and that you will find this participation of interest. If you have any queries about the project, you may contact my supervisor at Unitec Institute of Technology.

My supervisor is Martin Bassett and may be contacted by email or phone.

Phone: (09) 815 4321 ext 8501

Email: [mbassett@unitec.ac.nz](mailto:mbassett@unitec.ac.nz)

Yours sincerely

Charles Clarke

#### **UREC REGISTRATION NUMBER: 2017-1022**

**This study has been approved by the Unitec Research Ethics Committee from 20<sup>th</sup> May 2017 to 20<sup>th</sup> May 2018. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.**

## Appendix D: Focus Group Participant Consent Form



## CONSENT FORM – ADULT PARTICIPANTS

**RE: Master of Educational Leadership and Management**

**Title of Thesis: Teaching as Inquiry: Perspectives, Practices and Perceptions of Success in New Zealand Primary Schools**

**RESEARCHER: Charles Clarke**

### Participant's consent

I have been given and have understood an explanation of this research and I have had an opportunity to ask questions and have had them answered. I understand that neither my name nor the name of my organisation will be used in any public reports. I also understand that I may withdraw myself or any information that has been provided for this project up to two weeks after the focus group interview event.

I understand that my participation in this focus group will be recorded and transcribed.

**I agree to take part in this project.**

**Signed:** \_\_\_\_\_

**Name:** \_\_\_\_\_

**Date:** \_\_\_\_\_

**UREC REGISTRATION NUMBER: 2017-1022**

This study has been approved by the Unitec Research Ethics Committee from 20<sup>th</sup> May 2017 to 20<sup>th</sup> May 2018. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Committee through the UREC Secretary (ph: 09 815-4321 ext 6162). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.



Full name of author: Charles Clarke

ORCID number (Optional): .....

Full title of thesis/dissertation/research project ('the work'):  
Teaching as Inquiry: Perspectives, Practices  
and Perceptions of Success in New Zealand  
Primary Schools

Practice Pathway: Education

Degree: Masters of Educational Leadership and Management

Year of presentation: 2017

Principal Supervisor: Martin Bassett

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This Thesis/Dissertation/Research Project entitled: Teaching as Inquiry: Perspectives, Practices and Perceptions of Success in New Zealand is submitted in partial fulfillment for the requirements for the Unitec degree of Primary Schools Masters of Educational Leadership and Management

Principal Supervisor: Martin Bassett

Associate Supervisor/s: Dr Jo Howse

### CANDIDATE'S DECLARATION

I confirm that:

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