The University of New England

Supervisory Teaching and its Impact on Student Agency in Primary Classrooms

A thesis submitted by
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Certification of Thesis

I certify that the ideas, experimental work, results, analyses, software and conclusions reported in this thesis are entirely my own effort, except where otherwise acknowledged. I also certify that the work is original and has not been previously submitted for any other award, except where otherwise acknowledged.

07.02.2019

Signature of candidate

Date

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ABSTRACT

Teaching for agency is an emerging priority in education. Examining pedagogical approaches as to their suitability for promoting agency is needed. Supervisory teaching is the name given in this research to a classroom teaching practice that includes two key aspects: (1) student–teacher tutorial discussions where the number of students is between one and four students, and (2) extended times of independent learning for students while the teacher engages with other students in tutorial discussions. Supervisory teaching, while known by several other names, emphasises students' taking control of their learning. Its potential for agency development has been investigated in this research.

This exploratory case study utilised three primary classrooms at one Hong Kong international school. Student learning was observed over a period of five months and teachers were interviewed as part of the data collection process. Five key themes emerged in relation to how supervisory teaching supported agency development in these classrooms: ownership and independence, scaffolding, students as teachers, joyfulness, and reflection. Several key dynamics exist within supervisory teaching that support students to have more agency in their learning. These dynamics have been referred to as agency pathways. While this research provides direction for those interested in teaching for agency, it cannot claim to have a high level of external validity. That is, due to the scope of the project and size of the participating group it is uncertain whether these findings can effectively be transferred to other educational settings. The findings do however provide some clear directions for practising teachers and researchers seeking more clarity on the factors that may be significant in the endeavour to teach for student agency.

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1 Chapter One – Overview

1.1 Introduction

In the field of education, the search for more effective pedagogical approaches is unceasing. As new knowledge is created, new potentialities for enhanced professional practice emerge. Perspectives both old and new await deeper scrutiny and a more thorough synthesis. An aim of this scrutiny is more effective mechanisms for enhancing learning in classrooms. This research project delves into the potential links in primary-school education between a pedagogical approach and the development of an essential human attribute. The pedagogical approach has been labelled supervisory teaching and has a history that stretches back to the dawn of Western philosophy (Palfreyman, 2008). The attribute is human agency, which refers to the capacity of individuals to act with purpose and intentionality in their world (Bandura, 2008). This research explores the ways a supervisory teaching approach might enhance the agency of learners in primary-school classrooms.

1.2 Background of the Study

My background is in primary-school education. I have worked as a teacher in New Zealand and Thailand and then as a school leader in Hong Kong and New Zealand. In 2009 I completed a historical literature review as partial fulfilment of a Master of Education. The literature review explored the interpersonal characteristics of teachers and how they influence learning (Crowhurst, 2013). This journey opened my eyes to the power of a personal connection between teacher and student to enhance learning. Furthermore, it showed me that purposeful student–teacher interaction can shape a classroom environment in a way that brings students' perspectives to the fore, leading to an altogether more engaging experience for learners (Allender, 2001; Rogers, 1969; Smith, 1997).

When I finished my Masters degree I started exploring pedagogical approaches that differed from that of a teacher-directed whole-class paradigm. As part of this exploration I came across the supervisory or tutorial approach adopted for centuries by Cambridge and Oxford Universities. This simple yet successful approach is comprised of two key components at university level (Moore, 1973). The first component involves a project or

assignment given out weekly. It might be an essay topic in the humanities or a problem sheet in mathematics or science. The expectation is that the student completes this assignment independently of the teacher but within a collaborative environment alongside peers. An hour-long meeting, referred to as The Tutorial at Oxford and The Supervision at Cambridge, typically follows. Here the teacher engages with one, two or three students in rich dialogue around the topic at hand. Both the teacher and students challenge one another to defend their points of view as they co-construct learning.

This intriguingly simple approach to learning has become well known in academic circles. The supervisory approach is very well regarded by many in higher education (Cosgrove, 2009; Palfreyman, 2008) due to its perceived potential for developing deep knowledge and understanding. Such an approach is in contrast to the 'cover-the-content' attitude that permeates many contemporary learning environments. As an educator of children in both primary and middle schools, I was challenged to think of ways that this pedagogical approach could be used with younger students. At the time I was teaching Year 7 and began trialling the supervisory-style approach I had been learning about. In mathematics and literacy, I reconfigured my practice to involve an array of independent tasks that students could engage in both individually and with their peers. Some of these tasks were reasonably prescriptive whilst others were more open-ended and allowed students to experience autonomy in their learning. Implementing these independent tasks enabled me to turn my attention to tutoring small groups and conferencing one-on-one. I found the experience of working with students in this way far more engaging both for myself and for them. I could see visible signs of their thinking and there were many opportunities for all participants to learn from one another and enjoy the process.

Previously in my practice I was consumed with trying to convey knowledge and ideas that, because they were of little interest to the students, were not well received. I found that the supervisory approach did not require me to dispense with curricular guidelines and expectations but provided a much more interesting learning context for students to explore the curriculum. It was to me an effective way of ensuring that curricular expectations were met but in a more engaging and interesting way for students. I was continuing to effectively use learning objectives as outlined within my school's curriculum and could adjust learning experiences to fit the supervisory approach. This adjustment meant designing effective experiences that ensured my students were able to

work independently from me, while I was simultaneously engaged in tutorial discussions with other students.

At the end of that school year I moved out of the classroom and into a leadership role in a primary school in Hong Kong. However, the seed was sown, and I was keen to pursue further what I now call *supervisory teaching*. The name supervisory teaching was selected because of the close adherence to 'The Supervision', the pedagogical approach utilised at Cambridge University. In my new role as 'Learning Leader' (similar to an Assistant Principal role), I was responsible for mathematics as part of my designated curriculum portfolio. My passion for supervisory teaching intensified very quickly due to the contrasting 'chalk and talk' practice that I observed in some of my new colleagues. Their more traditional approach generally consisted of a lesson for the whole class, followed by the same activity for every student in the class. Although the school was well resourced with interactive whiteboards, plenty of manipulative materials, and low teacher–student ratios, the teaching practice was often not differentiated to meet the learning needs of individuals. Typically, all students in a class received the same type of instruction. This situation concerned me, firstly, because it was such a contrast to the teaching experience in my native New Zealand, where such practices were typically frowned upon in primary schools. Secondly, I could see how unresponsive the students were to a 'one-size-fits-all' type of teaching and learning.

At one point early in my time at the school in Hong Kong, I was invited to visit an experienced Year 1 teacher and see how mathematics was taught. The teacher started by sharing a 20-minute presentation with the class using her interactive whiteboard, although she was the only one interacting with it. Following this presentation, students completed a related activity in their mathematics books. Some were finished in 4–5 minutes, seemingly unfazed by the challenge. These students were allowed to move to the carpet and read a book. However, 15 minutes later there were others still unable to complete the task. Eventually, I intervened by asking the teacher for some manipulative materials to support two very frustrated students. Experiences like this galvanised my interest in a supervisory approach because of my previous experiences with seeing students engage in learning so purposefully.

Around this time I attended the Agency Conference in July 2012 at Cambridge University in England. I made a poster presentation that utilised findings from my Masters research

on the interpersonal characteristics of teachers. Prior to the conference my understanding of agency was still in its infancy. However, the conference was a significant learning experience for me as I was able to see the value in improving student agency. In particular, I was engaged by the work of Kumpulainen (2012) on the value of dialogic inquiry in agency development. Potter (2012) also presented evidence that caught my attention around the value of peer-mediated learning. Hofmann (2012) provided particular inspiration that led me to think more deeply about moving away from the narrow outcomes widely adopted in education, toward a pedagogy that is more personally significant for students. Despite leaving the conference with some new insights into agency development, my greatest impression was that educators should hold the development of agency as an overarching goal for the educational environments they oversee.

With a confidence in what seemed to work well in the classroom and a strong sense of the direction young people could take in their learning, I constructed a line of enquiry for this doctoral research, involving an exploration of the ways supervisory teaching might contribute to the development of student agency. However, before progressing further I will take the time to define the two constructs that underpin this research.

1.3 Supervisory Teaching

Supervisory teaching is a pedagogical approach that has two key components. The first involves the teacher engaging in dialogue around a specific topic and/or artefact in a small group setting (Lane Fox, 2008), with one to four students. Secondly, when not engaged with the teacher in this tutorial learning, students work autonomously on tasks that require minimal contact between the student and teacher but might include purposeful interaction with peers. This autonomous working is the second component of the supervisory teaching approach. The two components help students develop independence in learning, as they engage in relevant discussions with the teacher related directly to their own independent learning time.

The supervisory style of teaching and learning has its roots in the earliest of scholarly activity. Although it is difficult to trace, Western philosophical tradition suggests Socrates was the father of supervisory teaching (Lane Fox, 2008). So thrilling was this approach to learning, Plato quoted Socrates as saying that his expectation of a happy afterlife was to be perpetually in dialogue with his pupils. Moving forward in time, supervisory teaching

played an important part in early European universities. Embedded in the emergence of universities in the late Middle Ages was a supervisory approach to learning (Moore, 1968). In universities such as Cambridge and Oxford this approach endures. In various contexts supervisory teaching is referred to by other names such as tutorial teaching, Socratic dialogue, or conferencing (Calkins, 2006; Moore, 1973). The term *supervisory teaching* has been selected for this research because I believe it captures the essence of the approach and can guide those who are new to the concept toward a clearer understanding.

During this approach the teacher spends much of her time acting as an overseer of learning rather than an instructor. Therefore, the teacher must rely on students learning in a self-directed manner (Lane Fox, 2008; Moore, 1968). This arrangement allows the teacher to run tutorial meetings with some students either one-on-one or in small groups while other students work independently. During tutorial times the teacher discusses the work the student or students have been involved in and guides them through an evaluative process whereby all participants collectively reflect and explore thinking around the development of certain ideas. This structure can pertain to all areas of learning including the development of new skills, the exploration of philosophical perspectives, or the solving of a certain problem.

As well as the aforementioned higher educational institutions of Cambridge and Oxford, supervisory teaching also exists in various adaptations in primary and secondary schooling (Boushey & Moser, 2009; Bruce, 2008; Calkins, 2006). These contexts follow a similar format to that in higher education. The approach involves the teacher scaffolding and guiding students to learn without direct assistance or intervention during independent working time, while teaching time is spent engaging in learning conversations of varying lengths with an individual or small group. The difference at primary level is that the independent learning time is likely to take place within the classroom, under the teacher's supervision. Supervisory teaching also has some similarities to the flipped classroom approach (Bishop & Verleger, 2013), a modern pedagogy that utilises technology particularly for times where students work independently. The flipped classroom explores content that has traditionally been covered by teachers in class via online tutorials that are watched independently from the teacher. This format allows the teacher to then spend class time working with students rather than delivering content, to target them either individually or one-on-one and work with them at the level of their need.

The presence of the supervisory teaching model at all levels of education is testament that it continues to be valued, having a longevity and historical presence within formal education. The universities that utilise supervisory teaching are consistently rated among the world's best (O'Leary, Quacquarelli, & Ince, 2017; Times Higher Education, 2016). Though supervisory teaching cannot be claimed to be the cause of these rankings it is deeply embedded in their pedagogical approaches.

When conducting my own informal research into this approach in my professional contexts I came to understand that similar ideas had been applied to learning in primary classrooms, albeit under different names such as conferencing, conferring, tutorial teaching, and target teaching. Some of these approaches have been well documented by certain educators, with a claim to being underpinned by sound research (Boushey & Moser, 2014; Calkins, 2006; Calkins & Martinelli, 2006). Therefore, it should be noted that supervisory teaching, although it has a fresh name, is not a new pedagogical approach for primary classrooms. In some contexts it could be considered quite common. For example, in my native New Zealand it is very common for teachers to utilise this approach when teaching literacy and numeracy, particularly to students in the first few years of primary-school education.

1.4 Agency

To have agency is to possess the ability to exercise influence over one's circumstances (Bandura, 2006). Paris and Lung (2008) suggest that as people function in the world they are not merely passive entities directed by the circumstances around them. They can also actively influence and contribute to the realm in which they function. The person who is able to shape the surrounding social structures is said to have agency.

Although agency has been extensively theorised particularly within a sociological context, it is a relatively new realm for educational theorists, which has led to adaptations of theoretical perspectives to fit educational contexts. Naturally this process has given rise to further critique of current perspectives. For example, Beista, Preistley, and Robinson (2017) argue for a conceptualisation of agency that is temporal and linked to action in a particular situation. This perspective is based on the notion that there are many contextual forces that have an impact on human behaviour and a person's ability to act with agency will vary depending on these forces. They argue against agency as a human potential or capacity, drawing on Emirbayer and Mische's (1998) assertion that agency varies widely

based on surrounding social structures. For this reason, Beista, Preistley, and Robinson state that agency can only be considered as action in a given situation. This view contrasts with other established theorists such as Bandura (1982; 2001; 2006) and Giddens (1979) who see agency as a human attribute able to be developed. Given the emerging discussions within education and not wanting to be bogged down in emerging pedagogical debates, I have taken the position in this research that agency can, and should, be both a capacity and temporal action. Students can be said to be acting with agency and have agentic capacity.

According to Hewson (2010) there are three key properties of agency — intentionality, power, and rationality. Agentic students have ideas of what they want (intentionality), the ability to make them happen (power), and can think purposefully about the process as they work to achieve their goals (rationality). This description aligns with Bandura's (2001; 2008) definition of the four properties of agency: intentionality, forethought, self-reactiveness, and self-reflection. Essentially, agency is a person's ability to have deliberate intentions for their own lives, to act to make these a reality, and to think about their actions purposefully.

Agency is seen by Bandura as a capacity that is exercised, primarily, in three different ways and can be categorised in three modes — individual, social, and by proxy (Bandura, 2001). Individual agency refers to a person's ability to personally enact change in the world around them irrespective of the choices and decisions made by other people or groups of people. Social agency is described as the way people pool skills, knowledge and resources and act together to shape circumstances (Bandura, 2006). Proxy agency is socially mediated agency whereby individuals or groups influence other individuals or groups who have the skills, knowledge and resources to achieve desired outcomes. A blend of these three modes is involved in making up an individual's sense of agency (Bandura, 2006).

1.4.1 The case for agency

Several theorists support the need to find approaches to teaching and learning that develop deeper agentic attributes in students (Bandura, 2006; Barker, 2005; Kumpulainen & Lipponen, 2010). Bai (2006) also maintains that the fundamental purpose of education is to develop agency so that one may "enact one's freedom as opposed to conditioned and habituated patterns of thinking, perception, and action" (p. 7). The assessment-orientated

culture that surrounds many education systems does not entirely serve this end, or indeed many of our young people's future needs in terms of agency (Reeves, 2008; Stiggins, 2007; Wagner, 2012). Bandura argues that developing agency can be seen to be of long-term value because having agency enables individuals to shape the circumstances of their lives. The existing system of teaching and learning found in Western educational settings is viewed by some as not supporting the development of agentic dispositions. For example, Ken Robinson (2011), a popular commentator on the status of education and schooling, claims:

> All over the world, governments are pouring vast resources into education reform. In the process, policy makers typically narrow the curriculum to emphasize a small group of subjects, tie schools up in a culture of standardized testing and limit the discretion of educators to make professional judgments about what they teach. These reforms are typically stifling the very skills and qualities that are essential to meet the challenges we face (p. 14).

Robinson goes on to explain that many classrooms leave little room for students to develop the ability to become citizens who can creatively shape their futures through exploring areas of their own interest and passion. He argues that there is a need for education to develop learners who are intrinsically motivated. This view is shared by Hennessey (2015, p. 187), who states:

> Careful empirical investigations provide an arsenal of evidence for the importance of intrinsic motivation and the benefits accrued by an open-education system. Not only does intrinsic motivation lead to deeper, more long-lasting learning, but hundreds of empirical studies have shown that an intrinsic motivational orientation is also a crucial component.

As agency is very much the exercising of one's own intrinsic intentions and ideas, developing a sense of agency in the primary years is, therefore, necessary to enable students to live successfully in their adult lives as motivated and creative lifelong learners.

The theory of agency and the means by which it is developed has in recent times ascended the agendas of many in education, to the point where it is believed to be a critical outcome. Wray & Kumpulainen (2010) argue that agency in students is fundamentally

important to supporting them as autonomous learners. Nakamura and Csikszentmihalyi (2001) developed Flow Theory, which argues that those who are intrinsically motivated, in control of their circumstances, and fully engaged in what they are doing enjoy a more optimal existence. Their description of a person who is in Flow is closely related to descriptions of agency (Bandura, 2008; Csikszentmihalyi, 1990). Barker (2005) and Bai (2006) support the development of autonomy as an integral aspect of agency because it enables students to act independent of cultural forces across contexts. Therefore, a logical step for educators is to develop agency by becoming more proficient at supporting intrinsically motivated autonomous learners.

1.5 Rationale for the Study

Educators at various levels wrestle with the challenge of knowing what ultimate outcomes and content are vital for students to learn (Dempewolf, 2015). Ritchhart, Church and Morrison (2011) argue for teaching and learning that is not focused on content knowledge and skills that may or may not be of value in the future. Instead they advocate for the development of broader dispositions, which will set students up for greater success. These dispositions include critical thinking, creative thinking, reflection, and the ability to communicate ideas. Agency can be seen as a worthwhile goal for education because, as a target for educators to work toward, it describes a way of being that empowers students to develop some of the essential dispositions necessary for learning and living effectively.

As an educator of primary-school students I have often thought hard about whether I should be focused on preparing students for the next rung on the educational ladder, namely the structured assessment environment of many secondary schools, or whether to implement a more long-term approach that prepares students with skills and dispositions they will need in life. Ritchhart, Church, and Morrison (2011) argue that the latter is a more acceptable focus for educators. This view is based on the rationale that the purpose of education is to prepare students for their long-term futures. This future is not a certain one since jobs, culture, and the very fabric of society will be different in the future from what they are now (Wagner, 2012). Therefore, developing dispositions that allow today's students to function effectively in this unknown future is needed. Promoting agency in learning will enable students to develop a stronger sense of control over their circumstances both now and in the future (Kumpulainen & Lipponen, 2012).

The value of agency gives rise to the need for pedagogies that promote it in schools. This study has its roots in the search for an approach that develops an agentic disposition in students. In my own journey as an educator I have looked for a pedagogy of teaching that places the locus of control with the student, encourages deeper thinking, empowers young people to act purposefully and to critically examine their thoughts and actions. Supervisory teaching is an approach that has been utilised by teachers throughout time (Moore, 1968; Plato, 1989) to achieve this goal, being helpful in supporting learners to think and learn critically and with creativity. As one student who had experienced learning under this type of tutelage at Oxford University said, when writing to his teacher:

> You taught me how to not only research and support my arguments but also how to present them and respond to questions thoroughly and thoughtfully… It's funny, I often think of the book you handed me to read on the day of our initial meeting and the boy who said 'thank you, you taught me how to think'. (Palfreyman, 2008, p. 1)

The supervisory teaching approach has long been regarded as a pathway to a more empowered existence (Cosgrove, 2009), largely attributable to the fact that it provides students with the chance to be in control and direct learning themselves (Palfreyman, 2008). Maslow (1973) showed that autonomy of thought is vital to achieving a state whereby individuals can purposefully pursue their goals. Supervisory teaching entices the learner to think independently (Lane Fox, 2008), which makes it a possible pathway to agency development. Explorations into potentially effective pedagogical approaches such as supervisory teaching are important so new knowledge can be created that supports teachers to achieve goals such as agency development. Although there seems to be a natural link between supervisory teaching and agency, understanding with more clarity whether there might be any actual cause and effect links is necessary. Therefore, understanding the dynamics of supervisory teaching and whether they might lead to agency development in primary-aged students (5–11 years old) is seen as a worthwhile line of inquiry and will be the focus of this research.

2 Chapter Two – Literature Review

2.1 Introduction

During the first section of this literature review I will attempt to capture the essential characteristics of supervisory teaching. As a part of this process I will focus on and critique examples of this pedagogical approach that exist, particularly in the primary years. The second section of the review will focus on the theory of agency and explore it in depth, in particular, how agency is developed and, most importantly, the relationship to the pedagogy of supervisory teaching. The overarching research direction will emerge from the critique of the literature in this review.

I have taken careful consideration of Punch's (2009) suggestion not to simply review the literature, but to find and explore relevant literature. I have endeavoured to give a wider contextual perspective on the topic before narrowing it to the context in which my research takes place – primary education. I hope to effectively portray ideas about current teaching approaches that utilise a supervisory approach, as well as the wider historical and philosophical perspectives from which current practice has originated. Thus, this chapter will explore some theories of learning that underpin supervisory teaching. It will then move to focus on general and historical applications of supervisory teaching before narrowing the frame of reference to include specific models that utilise this approach in a primary-school context. Following this exploration, agency will be discussed, bringing a deeper understanding of the nature of agency, why it is significant, and critically examining its potential link to supervisory teaching.

2.2 Supervisory Teaching

In the context of this research, supervisory teaching is defined as a pedagogical approach that includes learning conversations between the teacher and individual students or small groups of students (Beck, 2008 Cosgrove, 2009), and independent activities curated by the teacher. Ideally some level of student voice and input (Calkins & Martinelli, 2006; Cosgrove, 2009; Palfreyman, 2008) is found in both aspects of supervisory teaching but may at times not be completely possible.

The key components of supervisory teaching are:

1. students' working and thinking independently of the teacher; and,
2. interludes of teacher dialogue with the student and the provision of feedback.

The essence of supervisory teaching has not been about knowing the answer or reaching a conclusion. Rather it rests on the notion that learning how to learn, and how to think, are important, and learning how to learn and think for oneself is most important of all (Lane Fox, 2008). For this reason, supervisory teaching emphasises independence of thought both in the tutorial learning conversations and while students work independently.

2.2.1 From Socrates to Oxbridge

Supervisory teaching has its roots in ancient civilisation, both Eastern and Western. Known in some contexts as tutorial teaching or the Socratic method, it has been utilised as an approach to teaching and learning for millennia. Beginning with Socrates who is often referred to as "The Father of Western Philosophy", the approach of learning one-on-one or in a small group has been passed down for thousands of years.

Socrates spent his life resisting the notion that learning was about identifying a predetermined 'right' answer (Plato, 1989). Instead he saw the need for learners to share 'their answer' and have it critiqued and compared to the answers of others (Johnson, 2011). Owing to the fact that Socrates never wrote his philosophical perspectives down, there has been some conjecture as to what he truly believed and the actual positions that he took on issues. Western philosophical tradition has relied heavily on Plato who made Socrates say a great many things, which seemed to change over time based on the evolving ideals on which Plato himself desired to expound. What we do know is that Socrates was a teacher and one with a devoted following, and that learning to Socrates took place in the midst of dialogue.

Socratic teaching endured through to the Middle Ages, which saw the beginning of some of Europe's first universities. Around the 13th Century CE, Oxford and Cambridge were founded within a relatively short space of time and adopted pedagogies of supervisory teaching (Curthoys, 1997). Although the subject matter has evolved over time the essence of the delivery of the curriculum has endured to this day. Today, hour-long supervisions are a weekly occurrence in an undergraduate student's life at Cambridge and Oxford. These meetings are combined with a number of hours of personal reading and study each week on the topic or focus of the supervision meeting. Both undergraduates and postgraduates also participate in other pedagogical forms such as lectures and seminars but it is the supervisory time that is seen as key to the provision of the unique brand of

learning available. As Palfreyman says, “The Oxford Tutorial has an almost mystic, cult status. It is Oxford’s ‘premium product’”(2008, p. 1). The tutorial is where students for centuries have learnt the arts of critique, logic, and rhetoric that transcend academic subjects, because they are seen to be of value in all areas of their future lives. Within the supervisory/tutorial system students learn higher-order thinking and skills that are both helpful in learning their subject area as well as empowering them to think purposefully in their lives beyond university (Ashwin, 2006; Lane Fox, 2008). Higher-order thinking is seen to develop as students contribute their own research-informed thinking to their work and then have it subjected to critical analysis within the face-to-face learning time.

The supervisory system is still alive and well today and upheld by various theorists, including a group of Oxford professors (Palfreyman, 2008). Wells (1999) claims that a collaborative community based on dialogue between teacher and student is essential and of tremendous value to those shaping meaningful learning environments. Central to this claim is the Vygotskian notion that dialogue supports people to make sense of the world around them (Vygotsky, 1978b). Within a supervisory system both teacher and learner are free to elaborate on their ideas and examine the ideas of others, in the end reaching a more enlightened position. These discussions, which originated with Socrates (Plato, 1989), regularly took place between Socrates and two or three people. This approach has come to be known as Socratic Dialogue, which is now the foundation of modern supervisory teaching (Lane Fox, 2008).

At Oxford and Cambridge students bring with them to the supervision a representation of their work. In the humanities this usually looks like an essay and in the sciences and mathematics a problem sheet. Supervisor and student then explore various aspects of this learning artefact. The learning focus is often undetermined until the supervision is taking place and the supervisor can look at and hear what is being presented (Cosgrove, 2009). The purpose of such an encounter is to allow the student to express his or her thinking while having it subjected to examination and questioning by the teacher, and peers when there is more than one student in the supervision (Palfreyman, 2008). This questioning makes the supervision an encounter where there is flexibility to explore ideas within certain areas. To quote Moore (1968, p. 18), “What happens in a tutorial depends so much on the two or three personalities taking part in the exercise that the keynote is variety: almost anything may happen.” In essence the direction of conversation is flexible for students and teachers to bring their unique perspectives and ideas to the inquiry (Lane

Fox, 2008).

Supervision is strongly placed to facilitate cognitive growth (Molenda, 2002; Shale, 2008). Cosgrove (2009) elaborates further and highlights key areas such as theory analysis, inquisitive thinking, and intellectual independence as by-products of supervisory teaching. These dispositions are developed through dialogue that happens within the supervision. During a lecture or whole-class lesson to 30 or more, students cannot always act instantaneously on ideas or questions that the teacher poses. In the supervision she can. Also, during the supervision time the teacher will often ask a question about the topic, rather than make a direct statement. For example, a history teacher, when exploring reasons for the reformation, would initially question the student about their own perspectives rather than explicitly stating facts about Luther's past that may have motivated him to make his stand. The student moves into a place of needing to engage with the point, thinking about the line of inquiry, and giving a response. These responses may involve the students' continuing the conversation by asking further questions, resulting in a deeper and more critical analysis of the topic (Mirfield, 2008; Palfreyman, 2008).

Although the supervisory approach is extremely well established in the context of Oxford and Cambridge, Cosgrove (2009) points out that very little is known about the ways in which it is effective. Beck (2008) confirms this point by suggesting that what is known about supervisory teaching is based on belief and not on fact, with little empirical evidence to support the large investment made in it. Cosgrove's assertion that little is known about this approach despite its long history suggests that the approach is in need of deeper examination.

2.2.2 Theories related to supervisory teaching

Having explored the historical context from which supervisory teaching has emerged, this section will now explore the connection between supervisory teaching and some key educational theories and pedagogical perspectives. A number of educational theories can be seen to have links to supervisory teaching and these connections are worth exploring for the purpose of gaining a deeper understanding of the supervisory approach.

2.2.2.1 Constructivism

Constructivism is a popular theory of learning that has influenced modern teaching and learning significantly (Glasersfeld, 1995). It also has much to offer in the discussion of

supervisory teaching because there are several shared perspectives that overlap. The theory of constructivism promotes learners as capable of developing understanding themselves as they interact with the world around them.

Constructivist theory proposes that students are central to the learning process, and that individual desires, thoughts, ideas and capabilities drive learning, and should therefore shape the direction of learning experiences (Simatwa, 2010). Constructivist teaching in primary classrooms promotes student voice (Perkins, 2006), and moves the teacher from being a source of knowledge and understanding to a facilitator of learning who acts as a 'guide by the side' (Gergen, 1995; Vygotsky, 1978a). This structure relates closely to the two main features of supervisory teaching that are, 1) extended periods of autonomous learning time where students have the chance to develop ideas by thinking independently, as well as alongside others from their peer group, and 2) the teacher working with the student to dialogically explore what is being learnt rather than explicitly instructing them. Both aspects encourage students to be active in the construction of their learning.

Central to the notion of constructivist learning are the theorists Piaget (1962) and Vygotsky (1978a). Although the perspectives of these theorists differed, both saw growth and development in children as being based on the personal discovery that children make as they interact with the world around them (Pass, 2004; Vygotsky, 1978b). Piaget, referred to as 'The Father of Constructivism', advocated personal constructivist perspectives where learning is driven by a student's interest, readiness and interaction with the environment. On the other hand, Vygotsky's sociocultural theory explains learning as being mediated by interaction with more able others (Vygotsky, 1978a).

Piagetian thinking postulates that individuals have schemas, which are ways of organising clusters of information and their relationship to one another (DiMaggio, 1997; Pass, 2004). Children develop a series of schemas, to help them understand the world, based on their personal interaction with the world around them (Piaget, 1959). The child's knowledge and understanding are challenged as they acquire more information through interacting with their world. These interactions can extend current schemas or lead to the transformation of schemas and the shaping of new ones. Therefore, meaningful learning, according to Piagetian thinking, occurs as students explore stimulating environments that facilitate the adoption of new ideas and allow for the synthesis of these ideas into schemas, both new and old. In essence, this is the purpose of one aspect of the supervisory

teaching and learning environment where students are given opportunities to learn independently from the teacher and are thus able to process new experiences alongside current cognitive perspectives.

Vygotsky (1978a) saw learning and maturation as being interrelated and the development of a child as being a reciprocal process between the two. That is, learning and development should in some way match each other (Crain, 2010). For example, children of six years old, of average development, would not ordinarily learn and develop knowledge and understanding if asked to engage in university-level calculus. They would however learn more purposefully if they were handling basic arithmetic questions. As Vygotsky (1978b) shows, "…development is based on two inherently different but related processes, each of which influences the other. On the one hand is maturation, which depends directly on the development of the nervous system; on the other hand is learning" (p. 35).

This is not to say that a child needs to be presented directly with developmentally appropriate content to learn. Children learn before they ever enter a formal learning institution by engaging with their environment at a level appropriate to their developmental stage. Within the social context in which they function they are in a constant process of learning as they observe and make sense of what they see. However, according to Vygotsky the more suited to the developmental stage that learning is, the greater the level of growth and development (Vygotsky, 1978a; Wells, 1999).

Further understanding of the sociocultural school of thought comes from Vygotsky's (1989) general genetic law of cultural development. This law postulates that all cognitive operations appear twice in child development; first in collective interaction with others, then second as internal thoughts. Central to the genetic law of cultural development, and a point of difference from the Piagetian perspective, is the notion of the Zone of Proximal Development (ZPD). Vygotsky (1978a) described the ZPD as the difference between two levels of functioning (Pass, 2004). The first is the level at which a child can function independently of any external assistance from others. The second level is the level at which a child can operate with the help of a more capable other person or people (Crain, 2010). For example, within a specific context such as reading a child may have the chronological age of eight, the independent cognitive functioning of a nine-year-old, and be able to function with support at a 12-year-old level. The difference between the

cognitive functioning without support and the functioning with support is known as the ZPD.

In other writing the theory of the ZPD incorporates the notion of scaffolding. Scaffolding in the teaching and learning process is a metaphor that describes the support that teachers can provide for their students (Hammond, 2002). Bruner and Haste (1987) considered a scaffold to be a support mechanism provided by a more able person that enables the person being supported to operate at a level not possible if unscaffolded. Scaffolding's significance to the teaching and learning process has been well documented (Hammond & Gibbons, 2005; Pass, 2004). The essential principle that underpins this idea is that the scaffold, once established by a more able other, can slowly be removed to enable the one being supported to function at a higher level of independence.

The tutorial component within supervisory teaching is one in which the teacher provides scaffolds to support student learning. The teacher removes small blockages that prevent students from engaging in a task, for example, by explaining the meaning of an unknown word during the context of a guided reading lesson. The student might be well able to read the text but encountering one unknown word may impede understanding of the passage. The teacher stopping to explain the word, or engaging with the student to analyse the structure and possible meaning of the word, are forms of scaffolding. Vygotsky argued that learning occurs best when a child is able to function within the ZPD above the level of their independent functioning. Accelerated growth can then take place, and the independent capabilities of the learner increase, as the adult slowly removes the support being provided.

A supervisory teaching environment brings together key aspects of constructivism and social constructivism. Students learn both independently (constructivism) and with the support of others (social constructivism). The tutorial discussions provide links to social constructivism as a more capable person mediates learning. The independent aspect of supervisory teaching links to the Piagetian approach that advocates making meaning through exploration within an environment that allows student choice, that is, learning environments where students can have a voice in the direction that learning takes. This relationship is outlined in Table 2.1.

Table 2.1

Supervisory Teaching and Constructivism

	Supervisory Teaching	
	Tutorial Discussion	Independent Learning
Constructivism	Social Constructivism	Personal Constructivism
Common Attributes	Socially mediated learning Supported by significant other	Independent learning Learning independently

Within the constructivist school of thought, the vital element of dialogue allows construction of meaning through language. To Bruner (1986), language is vital if children are to think at increasingly higher levels. The construction of support structures (scaffolds) in learning environments is achieved in part through dialogue between teachers and students. On the role of dialogic interaction Bruner (1996, p. 93) states:

> And it is through this dialogic, discursive process that we come to know the Other and his points of view, his (sic) stories. We learn an enormous amount not only about the world but about ourselves by discourse with Others.

Here Bruner outlines the fact that discourse with others provides the opportunity for much learning. Attributing to dialogue the status of a powerful learning mechanism, underscores the potential of supervisory teaching, where teachers focus their energy on engaging in a dialogic process with students that scaffolds their learning.

2.2.2.2 Dialogic Inquiry

Dialogic inquiry involves communities of learning where meaning is jointly explored and constructed socially through discussion (Kumpulainen, & Lipponen, 2010). Learning environments that utilise dialogic inquiry can vary in shape and structure. The teaching and learning within these environments is conceptualised as collective, reciprocal, supportive, cumulative and purposeful (Alexander, 2006). That is, learning is ongoing as individuals participate in an environment where they interact socially with one another and focus on relevant topics so that new meaning and understanding are created. The emphasis is placed on shared authority with both teacher and student bringing

perspectives that are vital to the construction of learning. Dialogue, discussion and negotiation are therefore a pathway to constructing new learning. An essential component of dialogic inquiry is that members of a learning community build openly and freely on each other's ideas and thinking. The teacher participates in the learning process purposefully to support student learning. Tharp and Gallimore (1988) argue that dialogic inquiry positions the teacher in an even more important and strategic place, as both a member of the learning community and a facilitator of learning.

The essence of dialogic inquiry is the idea that at the heart of humanity is dialogue, and it is in the continual dialogue we have with others that we build a greater understanding of who we are and the world around us (Freire, 1970). Therefore, learning can involve a process of being actively dialogic. According to Wells (1999) and Kumpulainen and Lipponen (2012), dialogic inquiry both adds to one's knowledge base and transforms the base of what people know, or believe, to be true. As individuals engage in reciprocal dialogue, assumptions and ideals can be challenged by the perspectives of others. Out of this engagement new thinking and learning may arise.

There is evidence to suggest that dialogue, and the associated benefits, are not always widespread in primary classrooms due to the difficulties in implementing it purposefully. That is, teachers may see the value of reciprocal dialogue, however, facilitating it in a classroom environment is at times too challenging and therefore neglected. According to Kumpulainen and Lipponen (2010), facing the implementation challenge requires two things: practical pedagogical know-how, and sensitivity to the use of effective questioning. Teachers who want to include dialogic inquiry must be well equipped to manage the students in their classrooms so that learning is happening for all students. They need to meet the challenge of structuring the class so that dialogic learning is happening for all students. A whole-class discussion might lead to meaningful dialogic inquiry for some students while others remain completely passive. From both personal experience and the perspective of Kumpulainen and Lipponen, this management is not straightforward. It takes some time and considerable levels of teacher expertise and agency to enable dialogue to occur purposefully. Teachers themselves must be capable of shaping their own context intentionally, and have the ability to effectively manage a classroom of students in a way that allows for meaningful dialogic interaction. An example might include multi-group arrangement, where students are arranged in smaller groups and more likely to make contributions. According to Blatchford, Kutnick, Baines,

and Galton (2003), classroom grouping can take many forms but should be the result of careful planning. This planning should place students in a position where they can contribute to discussion and where the teacher can influence the course of inquiry as a mediator. Once this planning is in place, meaningful dialogic inquiry is more likely to happen.

It can be seen that quality dialogic inquiry does not just happen, it needs to be facilitated by teachers who have a level of knowledge and skill. Michaels and O'Connor (2015) have attempted to provide research-informed support to educators by way of what they describe as *talk moves*. Talk moves are sets of conversational strategies designed to achieve goals that vary from simply getting students to talk, through to creating conversations that involve critical input from students. These types of tools could be considered helpful in the quest to face Kumpulainen and Lipponen's (2010) 'implementation challenge'. It is also possible that facilitating an environment where there is an emphasis on dialogue between teacher and students in small-group discussions could, without specific conversational tools, give rise to such skills as teachers learn out of necessity to dialogue with students purposefully.

2.2.2.3 Formative assessment

Formative assessment offers insight into the dynamics of supervisory teaching. In recent decades formative assessment, or assessment for learning, has been the focus of considerable research (Hattie, 2009).

Formative assessment takes place as learning is occurring and involves specific feedback to the learner (Black and Wiliam, 1998a). Due to the need for this feedback to be specific and personalised and supervisory teaching's emphasis on teacher–student dialogue, there is a natural link between the two. Assessment is formative when any evidence collected is used to adapt teaching to meet the needs of learners. Formative assessment is further defined by Black, Harrison, Lee, Marshall and Wiliam (2002, p. 1) as:

> any assessment for which the first priority in its design and practice is to serve the purpose of promoting pupils' learning. It thus differs from assessment designed primarily to serve the purposes of accountability, or of ranking, or of certifying competence. An assessment activity can help learning if it provides information to be used as feedback, by teachers, and by their pupils, in

assessing themselves and each other, to modify the teaching and learning activities in which they are engaged.

Simply stated, assessment for learning is the process of assessing student learning for the purpose of promoting further learning. Formative assessment differs from assessment designed for summative purposes in that it serves to enhance students' learning experiences as they are occurring, rather than simply reporting on them or making generalisations on groups of students (Black & Wiliam, 1998a). Black and Wiliam (1998b) suggest that there are three key principles that underpin formative assessment, including:

1. *Involving students in the classroom assessment process.* A common theme that has emerged from research is that feedback on learners' work should not be the job of teachers only. Students have a vital role in assessing their own work (Butler & Winne, 1995; Hattie, 2009; McDonald & Boud, 2003).

2. *Increasing descriptive, specific feedback.* Learning is significantly enhanced when students receive specific feedback about the work they are doing. They should receive it during and after the task they are carrying out. Teachers promote an ongoing conversation about learning that focuses on the work at hand (Gregory, Cameron & Davies, 2000).

3. *Decreasing evaluative feedback.* Testing and evaluative feedback, where a grade or mark is assigned to a piece of student work, is shown to have a negative impact on students' motivation (Assessment Reform Group, 2002). Evaluative feedback teaches little, if anything, about the task that learners have undertaken, and they are left feeling unsure about the direction that should be taken in the future.

The implementation of these principles in education is supported as they have relevance for enhancing learning across curriculum areas (Hattie, 2009). Assessment becomes formative when evidence is used to adapt what is taught to the learning needs of any individual or group (Black et al., 2002). Formative assessment is helpful to learners in a variety of settings as it promotes learning that is more relevant and suitable to the student. More specifically for supervisory teaching, it offers guidance to teachers for providing

feedback to learners. As tutorial discussions unfold teachers could benefit from utilising formative assessment practice to inform the way they speak with students so that conversations can give relevant feedback that enables students to move forward with their learning.

Formative assessment of this type is empirically proven to significantly enhance learning (Hattie, 2009; Brookhart, 2007; McDonald & Boud, 2003). Black and Wiliam (1998a) concur with this notion and contend that there are few educational initiatives that are supported by such a large foundation of research documentation. Given the fact that it focuses on communication between teacher and student it is significant to the discussion on supervisory teaching, which relies heavily on dialogic inquiry processes involving both teacher and student.

Teacher feedback that is descriptive and involves the student is of immense value to empowering students in their learning (Wiliam & Black, 1998b). Brookhart (2007) states that formative learning conversations make a difference as they encourage learners to collectively contribute to learning on both a motivational and cognitive level. Students are included through purposeful questioning as they work towards achieving greater understanding (cognitive), while their sense of control over what they are learning is enhanced (motivational).

It should be noted that despite a plethora of powerful claims about assessment for learning, feedback, and the wider notion of formative assessment, formative assessment is viewed by some theorists as being without thorough substantiation. For example, Dunn and Mulvenon (2009, p. 1) claim that:

> a review of the literature revealed limited empirical evidence demonstrating that the use of formative assessments in the classroom directly resulted in marked changes in educational outcomes.

Dunn and Mulvenon's position is worth serious notation, although so is their point that a lack of substantial evidence supporting formative assessment practices does not necessarily mean that they are of no value. They do bring into question the current pedagogical assertion that formative assessment is a pedagogical imperative. So too do critiques of Hattie (2009). At the time of initial publication, Hattie's book *Visible*

Learning was held up as monumental research for educators because it provided a list of those interventions claimed to have the greatest impact on student learning. At the very top of this list was feedback, a core tenet of assessment for learning. However, in recent years several theorists including Snook, O'Neill, Clark, O'Neill, and Openshaw (2009) and Myburgh (2016) have shown that there are some flaws in both the statistical analysis within the meta-analysis and its interpretation in the wider educational community. This uncertainty leaves assessment for learning without the assumed pedagogical supremacy some had attributed to it.

Despite the critiques, research into assessment for learning could offer much to a teacher implementing a supervisory teaching approach. A key focus for formative assessment research has been exploration of the quality of conversations, and teachers' feedback in particular (Black et al., 2002; Tunstall & Gipps, 1996). As Kumpulainen and Lipponen (2010) point out, some teachers may lack knowledge of how to effectively facilitate dialogic interaction in classrooms. Formative assessment practices offer empirically backed guidance for enhancing learning conversations within the supervisory teaching environment. Yet conversely, as a classroom teacher I had learnt much about formative assessment but struggled to find meaningful ways to implement it in a busy schedule with more than 30 students in my class. Supervisory teaching provides a potential structure for finding this time. Therefore, the field of assessment for learning has much to add to that of supervisory teaching and vice versa.

2.2.3 Models in primary education

Within the international school context, where this research takes place, there are several notable pedagogies in tune with a supervisory teaching approach. I will now examine three existing models that follow a supervisory approach to curriculum delivery. The three models are Reading and Writing Workshop, The Daily Five, and The Socratic Seminar. These models are readily found in international primary schools.

The Reading and Writing Workshop model (Calkins, 2006) and The Daily Five (Boushey & Moser, 2014) are both approaches to teaching literacy using a supervisory teaching pedagogy with the fundamental structures of firstly, students working independently for extended periods of time, and secondly, teachers conferencing with students in individual and small-group settings. In addition, explicit whole-class teaching is limited to short daily mini-lessons within these two models. The Socratic Seminar is an established

approach to teaching dialogically and utilises Socratic dialogue with larger groups of students. The Socratic seminar is an approach that often involves more students than tutorial discussions would typically have. However, it follows a structure that encourages dialogic enquiry to empower students to articulate their own ideas and intentions.

These three models have been selected because I am familiar with them in my capacity as an educator in international schools, and they are examples of supervisory teaching in a primary setting.

2.2.3.1 Reading and Writing Workshop

The Reading and Writing Workshop is a popular approach to teaching literacy originating in the United States of America and is being adopted across the world in various contexts, including international schools. Within this model students ideally have both a reading workshop and writing workshop each day, both lasting up to an hour (Calkins & Martinelli, 2006). Oftentimes, the workshop will follow a simple procedure (Calkins, 2006):

i. whole-class mini-lesson,
ii. independent writing/reading,
iii. teacher–student conferencing,
iv. sharing.

The independent reading/writing and the conferencing time are in essence an example of supervisory teaching and occupy most of the time within this model. Students spend their time during a lesson either reading or writing while the teacher focuses on conferencing with individual students.

Learners are set up for success during this time because the teacher establishes a culture of independence early in the year (Calkins and Martinelli, 2006). Students are guided to read or write continuously without needing the support of the teacher (Calkins, 2006). Expectations are established in the first few weeks of the school year by gradually building reading and writing endurance, beginning with intervals of less than 10 minutes and building up to 40 minutes of independent reading or writing. Students are encouraged to view writing and reading as continuous daily activities. They are taught that literacy time is a chance to work on their writing and reading and once one task is finished a new one can begin, because writing and becoming a better writer is a process. As Calkins and

Martinelli (2006) put it to their students, “when you think you are done, you’ve only just begun”. Once one writing piece is complete, the student can set a new course by starting a new segment of writing. Writing and reading stamina is developed as teachers slowly lengthen the expected writing time (Calkins, 2006). Students not only learn to be independent but they learn to be independent for long periods because the teacher has established the expectation that writing time does not finish. When a particular piece is completed the student either reworks it or begins another piece. Working independently allows students to develop key personal attributes such as confidence, self-awareness, and an ability to overcome one’s own limitations (Meyer, Haywood, Darshan, Faraday 2008). During this independent time the students are expected to read or write without the teacher to direct them, to set goals and implement feedback from previous conferences with teachers (Lehman & Calkins, 2011). The purpose of this time is for students to think independently, taking ownership of the process while they read or write (Calkins, 2006).

A culture of ongoing independent writing gives the teacher time to move from table to table and have conferences with students. Conferences follow a simple format: research, decide, teach, and link (Calkins, 2006). This structure is characteristic of formative assessment approaches. Initially the teacher will research to find out what the child has been doing. This involves observing the writing or reading and naming certain techniques that are being adopted. Some of these techniques may have been explicitly discussed during the mini-lessons, others might be things that students have done of their own volition. As part of the research process the teacher will also ask questions to elicit information, such as, “What are you working on as a writer at the moment?” This question allows the students to discuss with the teacher the areas they are focusing on and to articulate how they are working to improve this area.

After the initial research the teacher will decide on the teaching point that they will adopt. The teacher needs to think at this stage, “What is the thing that will make the most difference?” (Calkins & Martinelli, 2006). Obviously, there is no one answer to this question and the teacher must decide what, in her or his opinion, will make the most impact and support the student moving forward, as determined by the direction set collaboratively by the student and the teacher in light of curriculum expectations. The teacher also crucially decides how the area of content or skill will be taught. As Calkins (2006, p. 5) puts it:

> At this crucial juncture, we also think, "How will I teach this to the child?" and weigh whether we will teach by giving the child guided practice, by demonstration, by explaining and showing an example, or by inquiry… we decide on a method of teaching.

The decision phase needs to happen quickly, while the conversation is occurring, so that the teacher can move effectively into the next phase, teaching. This pattern is typical of situations that arise in supervisory teaching. Opportunities for teaching arise as learning conversations are occurring, and teachers must act on them, making decisions about key learning to be focused on (Cosgrove, 2009).

The teaching phase usually begins with something along the lines of, "After watching you write, I have one thing I'd like to teach you" (Calkins, 2006). The beginning of this phase can differ in approach but essentially the teacher aims to get the child's attention and set him or her up for the point that needs to be made. Obviously, the number of teaching points are myriad and not at all definitive, as are the ways that they can be communicated. The teacher might very clearly state what the child could do to improve her writing. Alternatively, he could make his point through asking a child to reread a section of her text, before asking her some pointed questions. Finally, a conference concludes with the teacher "linking" what has been happening, by naming what the child and teacher have been working on and reinforcing the need to do this in the future. The student then has some clear feedback that can be used during their future reading and writing.

The independent writing and conferring aspects of this model are linked closely to a supervisory teaching approach in that the teacher plays a role that is more in line with a "guide by the side" rather than a direct instructional role. Learning conversations start with the student sharing what they are doing to improve their writing. Yet at the same time the teacher gets involved with the learning and takes an active role, directing the student toward specific foci. The student has the chance to exercise autonomy over the learning, making choices in the lead-up to the conference as they work independently, setting their own goals and overseeing the direction that learning is taking, often in response to teacher questions.

Despite the Reading and Writing Workshop being prevalent in many hundreds of schools in North America and its accelerating popularity in international schools around the

world, it remains without direct empirical backing. Graham and Sandmel (2011) contend that there is a real need for The Writers' Workshop approach, and others like it, to be more thoroughly evaluated. Proponents of this approach argue to the contrary, saying that a strong research base underpins this practice. For example, the need for an ample amount of independent reading and writing time to develop ability in these areas, as advocated by the Workshop approach, is supported by Cipielewski and Stanovich (1992) and Arlington (2013). Both advocate independent reading and writing time as critical to raising student engagement and achievement. This time allows students to think independently and clarify their thoughts without pressure.

In support of the tutorial aspect of Readers and Writers Workshop, Perkins and Cook (2012) suggest that conferencing with the teacher promotes responsive instruction because students are expected to contribute to their learning by having a focus area (Schunk, 1990). The teacher does not approach the student with a set idea of what will be discussed. During the Reading and Writing Workshop the initial contact between teacher and student often involves the teacher inquiring about what the student is working on as a writer (Calkins, 2006), thus enabling the student to set the direction of the conference around their own needs.

2.2.3.2 The Daily Five

Another model utilising a supervisory teaching approach is the Daily Five (Boushey and Moser, 2009). In this model teachers and students utilise a supervisory approach to learning, working on a set of tasks each day. Originally, this model involved five tasks to work through each literacy lesson. However, the authors revised this number and now suggest that three of the five tasks is a more realistic goal for daily learning. The five components of the daily five are: 1) read to self, 2) work on writing, 3) read to someone, 4) listen to reading, 5) word work. Each day students make 3–5 choices from this list. As is typical of a supervisory teaching approach, the teacher's work is undertaken as a tutorial one-on-one or in a small group. The teacher chooses to either confer with students individually, run guided reading or writing groups, or assess learning. Students change their activity every 15–20 minutes and manage their time, completing tasks in the order that they choose.

Boushey and Moser (2014), creators of the Daily Five, make strong claims that this approach is backed up by research evidence, although reference to empirical backing is

not consistently apparent throughout their published literature. They state that each student can have a learning pathway that is tailored to his or her needs if they are allowed to follow a format where students and teachers share the responsibility of shaping the literacy programme. The student does so by choosing activities and goals and working on them as an individual or with a partner. The teacher supports this process by making choices about what will be discussed and taught in small groups and when interacting with individuals. Both the independent self-directed work and individualised teacher interaction are of value in promoting learning. The effectiveness of the independent learning time is supported by Buchan (2016, p. 1), who in reference to the Daily Five approach states that "given extended periods of time to practice, combined with focused, intentional instruction, students can and will increase reading achievement".

The distribution of time spent between different students in a class was an issue in the early development of the Daily Five. Boushey and Moser (2014) were themselves implementing the model as classroom teachers and felt that some students were missing out, usually the more able readers and writers because teachers felt more inclined to support the underachievers. Eventually the teachers became more comfortable with spending varying amounts of time with students from different ability groups. Such an approach is supported by Connor (2007) who found that assigning self-directed work to more able students did not negatively impact on their academic progress, as more able students can get by with less tutorial support and more independent learning time.

2.2.3.3 Socratic Seminar

The Socratic Seminar is an adaptation of the Socratic approach to suit modern-day learning contexts (Treadway, 1995). It is utilised in both primary and secondary classrooms to explore topics using a dialogical inquiry approach. It can include groups of up to 25, but often occurs with smaller numbers of students.

During the seminar students engage in a structured discourse about a big idea or moral dilemma (Chowning, 2009). They sit in a circle so all members are able to face each other. A vital part of the learning is the use of prior learning, as in a flipped classroom. Students either begin class, or come to class, having examined a certain text, video, or other artefact such as a painting. Once this resource has been read or studied the Socratic Seminar can begin. The teacher or facilitator poses a question, such as "Are recess times too short?". She then asks students to take a position in relation to this question

(Treadway, 1995). Students must then cite evidence to support their position. Within this simple structure students learn using a "variety of thought-demanding ways to explain, muster evidence, generalize, apply concepts, analogize, represent in a new way" (Perkins, 1993, p. 32). As Woolever (1987) shows, students must reason, predict, and project what will happen. This active and participatory development of understanding is better than a passive approach to learning because it involves higher-level thinking (Benware & Deci, 1984; James et al., 2002).

The self-efficacy mechanism in agency development will be explained later in this chapter. For now it is worth noting that the opportunity for students to effectively bring their ideas to the fore and persuade teachers and their peers is a chance for the type of success necessary for self-efficacy growth and agency development. Self-efficacy is a vital component in agency development (Bandura, 1982, 2006; Hewson, 2010). The success that comes from effectively postulating one's ideas has the potential to build self-efficacy because self-efficacy is primarily based on opportunities for mastery experience (Chowdhury, Endres, & Lanis, 2002).

2.2.4 Summary of supervisory teaching

Supervisory teaching has been shown to be a well-established pedagogical approach at the university (Lane Fox, 2008; Palfreyman, 2008), secondary (Treadway, 1995), and primary (Calkins, 2006) levels. Its having endured for millennia indicates that supervisory teaching has been highly regarded in some form by those who have embraced it. Having explored this process of teaching and learning I will now delve deeper into what some consider a worthwhile goal for education, namely, human agency, and its relationship to supervisory teaching.

2.3 Agency

Agency refers to a person's ability to shape the experiences of their own lives (Bandura, 2008). Klemencic (2015) supports this definition: "Student agency refers to the quality of students' self-reflective and intentional action and interaction with their environment" (p. 11). Individuals vary in their ability to influence their surrounding environment. Agentic people know what it means to act to ensure that they are determining how they function in the world around them. In the words of Sen (1999), the agentic person is one who "is free to do and achieve in pursuit of whatever goals or values he or she regards as important"

(as cited in Alkire, 2005, p. 203). Before exploring the development of agency, I will attempt to bring more clarity to what is meant by agency within this study.

Early psychological models stripped humans of agency implying that individuals were products of the environment (Bandura, 2006). More recent advances in the field of psychology have described the shape of human behaviour as being a dynamic interplay between intrapersonal, behavioural and environmental determinants (Bandura, 2001; Kumpulainen, Lipponen, Hilppö, & Mikkola, 2013). Bandura (1982), a pioneer in the field of human agency, saw the construction of selfhood as a mixture of reflecting on one's own experiences and ongoing social interaction (Elder, 1994). This process begins in infancy when individuals first gain a sense of agency as they realise they can act intentionally in the world around them. For example, shaking a rattle or crawling away from a parent are simple actions that influence the environment around an individual, giving the child a sense of agency as she intentionally influences her world. Personal agency is developed from infancy and throughout life as individuals shape, and are shaped by, their unique social context.

The concept of agency can be more deeply understood by looking at the 'structure versus agency' debate (Bourdieu, 1990), which has given rise to awareness of agency. The dynamic between the two opposed positions of structure and agency has done much to bring agency into the spotlight within psychology and applied social sciences (Barker, 2005). Structuralist theory proposes that human behaviour is determined by the social structures in which individuals are embedded (Blackburn, 2008). Any perceived agency that people have is seen as the result of the social structures that are in place (Archer, 2003). Others refute such an argument, for example, Bandura (2006, 2008) who asserts that humans have the capacity to act independently and contrary to social forces. Berger and Luckmann's (1966) ground-breaking work sought to show that the relationship between agency and structure was a balanced one, where each influenced the other. This view was later supported by Bourdieu (1990), who showed that social structures and agency have a reciprocal influence on each other. Social structures influence the agency of an individual, and the agency of an individual or individuals can influence social structures.

2.3.1 The Four Properties of Agency

Bandura (2001) described the four properties of human agency as intentionality, forethought, self-reactiveness, and self-reflection. These four traits essentially describe the characteristics of an agentic person (Bandura, 2001). Exercising agency involves acting in these four ways, which leads to effective self-determination of one's circumstances and not being passively directed by surrounding forces. These four characteristics provide a simple framework for understanding the nature of agency and will used throughout this research.

Each characteristic describes something of what makes a person able to act purposefully in their circumstances. *Intentionality* refers to the way that people have ideas (intentions) about how they would like their future to unfold. These intentions might be referred to as goals or ambitions. Agentic people are intentional people and know what direction they want their lives to take and what goals they want to achieve (Bandura, 2006; Klemencic, 2015). Those people who have low levels of agency hold fewer aspirations and less clear intentions about how they hope their future, whether immediate or long-term, might look (Paris & Lung, 2008). The nature of what agency looks like in the primary classroom is flexible and varies between contexts, as Klemencic (2015, p. 11) states:

> Student agency refers to the quality of students'… intentional action and interaction with their environment. It encompasses variable notions of agentic possibility ("power") and agentic orientation ("will").

Added to these intentions are some clearly developed ideas, or plans, for what needs to happen to realise the intentions. Bandura referred to these plans as *forethought*. A forethoughtful person thinks coherently about the future leading to clearly visualised goals and the means by which they can be reached (Bandura, 2008). To influence the direction of one's life, agents must move beyond having internally held perspectives and goals and actually construct and implement action plans in the world around them. The process is referred to as *self-reactiveness*. The notion of self-reactiveness describes a vital piece in the description of agency because it underlines the necessity of bringing thought to action. The fourth attribute of agency is *self-reflectiveness*. According to Bandura, reflecting on one's thoughts and actions is the core property of agency (Bandura, 2006). The ability to think critically about past events and ones that are currently unfolding allows the individual to adapt to changing and unexpected circumstances.

There are several notable links between the development of agentic attributes and supervisory teaching. Firstly, the independent learning time that is a crucial part of supervisory teaching could provide a context to grow the attribute of intentionality. Students are expected to have autonomy in their learning owing to the fact that the teacher is not always available to prompt and guide them during this time. Therefore, one student is free to pursue their learning in a slightly different way from another. One example of this occurs in the Writing Workshop (Calkins & Martinelli, 2006). During independent learning a student may finish a piece of writing but as the teacher is not available to discuss next steps at that time, the student needs to make a choice about what will happen next. The student might decide to rework the writing and make improvements or she may choose to move on to craft another piece. Moore (1973) suggests that within a supervisory approach each learner pursues knowledge in his or her own fashion. So, if teachers utilising a supervisory approach can provide learners with the opportunity to follow their own intentions then the students are likely to be more intentional in their learning as they take this opportunity. This argument is supported by Klemencic (2015) who says that agency develops through more "enabling conditions" where students are given the chance for action.

Another obvious connection between Bandura's (2006) agentic attributes and supervisory teaching is in the area of reflection. The dialogic aspect of supervisory teaching, where students and teachers enter into discussion, gives rise to reflective thought. This notion is supported by Edens (2012) who explains that reflection is a by-product of dialogue. Further, Costa and Kallick (2008) say that teachers can use discussion times to guide students into reflection about their learning, often through questioning and the testing of existing ideas. Their conclusion was that teachers' discussion of learning with students invites metacognitive processes. So, it can be seen that the exercising of agency can potentially be linked to the attributes of supervisory teaching.

2.3.2 Modes of Agency

There are different modes in which agency can be exercised. Bandura (2006) sees agency being expressed individually, socially, and on a proxy basis, that is, on behalf of someone else. A person can exercise agency among the myriad personal interactions they encounter. However, individual agency is not the only way that humans can exercise agency. Agency can also be exercised in a collective where individuals work together to

achieve a common purpose (Bandura, 2008). Sometimes groups can pool their resources and effect change more effectively than an individual or groups of individuals. There are times whereby agency can be exercised so that one person acts on behalf of another to fulfil certain agentic capacities. For whatever reason a person might not be able to realise their intentions, but can utilise others and their abilities to help achieve their goals.

The structure of supervisory teaching has the possibility to develop all three modes of agency. As Palfreyman (2008) points out, a supervisory approach strongly emphasises individual connection with the teacher, which means that students can freely participate, bringing their own perspectives to learning conversations and exerting their own perspectives and control on the direction of the discussion. Social agency has the opportunity to develop because supervisory teaching relies on meaningful learning time away from the teacher (Lane-Fox, 2008). This time is often interpersonal in nature and involves working with others on a common purpose. Further to these opportunities for individual and social agency, supervisory teaching gives rise to learning experiences that involve the third mode of agency – proxy agency. This opportunity can happen as students, from time-to-time, enlist the support of others to realise their individual goals. Proxy agency could happen organically within the independent learning time as students rely on each other to provide support.

2.3.3 Developing Agency

Understanding how agency is developed is clouded by some uncertainty, exacerbated by the fact that within education the study of agency is a relatively new phenomenon. The literature points toward certain principles that might guide educators to develop meaningful learning experiences that develop agency. Most obviously, there is Bandura's (2001, 2006, 2008) description of the four characteristics of agency described in the previous section. This breakdown of agency adds definition, and therefore direction, to those interested in understanding how agency might be further developed. However, Bandura’s discussion around the development of agency does not extend to ways of how practising professionals might intentionally develop agency through their practice. Klemencic (2015) confirms this uncertainty saying that students’ expression of agency is hugely variable, meaning that manifestations of agency can take many different forms. Thus identifying pedagogies that develop agency is complicated. Fortunately, there is a growing interest in this area among academics, who in in the past decade or so have

described more fully the development of agency, particularly in children (Kumpulainen, Lipponen, Hilppö, & Mikkola, 2013; Olitsky, 2006; Wray & Kumpulainen, 2010).

Kumpulainen & Lipponen (2010) state that an important factor in developing agency in educational contexts is the learning environment. If agency is to be exercised certain conditions need to be in place (Barab et al., 2009). In the classroom Kumpulainen et al., (2013) point toward students' sense of agency being developed by small everyday interactions with others rather than significant extraordinary moments. Further to this, Barab et al. (2009) state that agency development will include active moments of dialogic interaction. It is therefore argued that for agency to develop students must be situated in an environment that allows for frequent episodes of meaningful dialogical interaction with others. For students to have agency in their learning their classrooms must have a culture where agency is expected both in what students say and do.

Supervisory teaching can be seen to have the potential for "episodes of meaningful interaction" that in turn have the potential to lead to agency growth. Notably, the ongoing interpersonal focus that transcends supervisory teaching aligns with Kumpulainen et al.'s (2013) need for "everyday interaction" that is rich in dialogue. Moreover, these interactions give rise to a student and teacher building a relationship that allows for quality learning because quality relationships between the teacher and her students are key to establishing quality learning (Absolum, 2013; Fan, 2012). Combs (1975, 1999) showed that students develop a greater focus for learning when they can build a relationship with their teacher. As they develop meaningful personal interactions, perceived threats in the learning environment are diminished. Therefore, tutorial discussions can pave the pathway toward growth-promoting, learning-focused relationships as teachers make personal connections with students through regular dialogue. The supervisory teaching approach makes provision for these types of interaction.

Further to relying on a conducive environment for learning, students build agency in the classroom by drawing on agency from outside their educational context (Wray & Kumpulainen, 2010). Allowing students, when learning in a classroom setting, to exercise agency and build on existing areas where they have previously exercised agency is important for ongoing agency development. As Kumpulainen & Lipponen (2012, p. 113) state, "Children do not merely react and repeat given practices, but intentionally transform

and refine their social and material worlds as they confront particular challenges". Therefore, being allowed to introduce aspects of students' own worlds into the classroom can support agency development. Greeno (2006) supports this claim, maintaining that to promote agency in one context students must utilise experiences, ideas, and skills developed from more familiar contexts. Thus if students have agency in areas such as sporting and other extra-curricular activities, then allowing them to make connections with these other areas in the classroom supports agency development. Students learn to establish a strong sense of ownership and an underlying belief that they can evaluate and resolve issues themselves because they have previous experience of doing so.

Supervisory teaching can provide a way for students' own perspectives and thoughts to develop. That is, they are not locked into certain prescriptive practices. They are invited to share their own thoughts and ideas in tutorial discussions, and often must act with autonomy during independent learning time (Calkins & Martinelli, 2006). For example, during the continuous writing phase of Writing Workshop, students are often permitted licence to write about topics and areas of interest from their own lives. These topics often become the focus of later learning conferences with the teacher (Calkins, Hartman, & White, 2003). This autonomy invites the transformation of thinking that Kumpulainen and Lipponen (2012) refer to as vital in agency development because students are involved in the constant refinement of existing ideas. Significantly in supervisory teaching, students are asked to work independently, sometimes for extended periods, so they have time to formulate their own ideas around the topic or activity (Calkins, 2006; Cosgrove, 2009). They have the chance to bring their own thoughts, ideas, and experiences to the learning, which contributes to the ongoing development of agency levels through the simple expectation of independence in what students think and do.

Tutorial discussions between teacher and student further promote opportunities for students to draw on experiences from outside the classroom context. The personalisation that comes from working with only one or two students at a time, focused on their own specific learning, allows for the conversation to be specific to those involved. The ideas, views, and experiences of the students thereby come to the fore (Lane Fox, 2008). Eliciting and building on students' own perspectives is achieved in two main ways. In the first instance, tutorial conversations are focused on work from the independent learning phase (Calkins, 2006), which means that the topic of conversation often centres on the learning that students have already been engaged with and have often been involved in

shaping. Secondly, learning in this context is conversational (Cosgrove, 2009; Palfreyman, 2008), where the teacher utilises questioning to learn more about the students' perspectives (Calkins, 2006).

So, it can be seen that agency develops, or is established, as students are allowed to exercise it more and more in meaningful social contexts. Like a muscle or the cardiovascular system, the more it is exercised the more it develops capacity. In the words of Kumplainen & Lipponen (2010, p. 50):

> the competence of function in multiple contexts is developed while students are posited in activity systems where they are framed as authors of their own learning. It is hypothesised that this strengthens students' agency; in other words, it gives them the possibility to learn to act authoritatively and accountably (problematising and solving issues), and to build a strong participatory identity and ownership of learning.

Agency is developed when students take on challenging roles in the class, including that of teacher. In this sense the notion of relational agency as described by Edwards and D'Arcy (2004) is important. Relational agency suggests that optimum agency development occurs as adjustments are made depending on the strengths and weaknesses of others in the community. A dynamic learning environment that allows for adaptations such as relational agency can be seen as important because students can rise to take on challenging roles. While the teacher's focus is on tutorial discussions with one or a small number of students (Calkins et al., 2003; Cosgrove, 2009), the remaining students in the class have the chance, while learning alongside peers, to assume positions of responsibility and leadership depending on their level of ability in that area. This aspect of supervisory teaching provides the chance for flexibility and challenge posited by Kumpulainen & Lipponen (2010) as necessary for agency development.

Having established the nature of what agency is and some of the mechanisms that have an impact on agency within the classroom I will now examine one intrapersonal factor seen as vital to agency development – self-efficacy.

2.3.4 The Significance of Self-efficacy

The notion of self-efficacy is viewed by Bandura (2001) as vital in establishing agency. Self-efficacy is the belief in one's ability to succeed in certain tasks (Bandura, 1982; Ormrod, 2006). Bandura (2006) sees self-efficacy as an important component in agency, and that the exercising of agency is impacted by context and task-specific beliefs.

Self-efficacy levels are a result of continually evaluating one's abilities within specific areas (Bandura, 1982; Schunk, 1995). Favourable self-evaluations lead to increased confidence, better levels of stress control, and more favourable responses to failure. The effect on agency is significant because the essence of agency is to influence surrounding structures and to do so requires a belief that it can happen. Self-efficacy levels determine the effort a person will extend to overcome an obstacle. A person with greater personal efficacy will persevere longer, spurred on by the belief they have of reaching a desired outcome (Alvarez, 2013; Mischel & Shoda, 1995). In his detailed meta-analysis of self-efficacy, Pajares (1996) supported the correlation between self-efficacy and drive toward accomplishing desired outcomes. Schunk and Pajares (2001) lay further support to the value of self-efficacy's link to agency development, showing that perceived self-efficacy links directly to emotional motivation, which drives action in individuals.

2.3.4.1 Development of self-efficacy

There are four main sources of self-efficacy – mastery experience, vicarious experience, verbal and social behaviour, and emotional states. The first and most significant influence on a person's self-efficacy level is previous mastery experience (Bandura, 1977; Chowdhury, Endres, & Lanis, 2002). For example, an individual's previous success can build a positive self-appraisal, in contrast to a previous failure, which may inform a negative one. Smith (2002) says the reason for this relationship is twofold. Firstly, mastery experiences are personal experiences of successfully achieving a desired outcome. They are immediately connected to one's sense of self. Secondly, and following on from the first point, mastery experiences are most often directly attributed to one's own abilities. A person rarely attributes a genuine mastery experience to sources other than themselves.

Another important contributor to self-efficacy development is vicarious experience, otherwise known as social modelling (Bandura, 1977). Seeing others perform tasks can give the perception that similar tasks and challenges are achievable: "Proficient models

build self-beliefs of capability by conveying to observers effective strategies for managing different situations" (Wood & Bandura, 1989, p. 364). Importantly, the vicarious influence depends on the profile of the person being observed. As Zimmerman (2000, p. 88) states, "If a model is viewed as more able or talented, observers will discount the relevance of the model's performance outcomes for themselves". Therefore, a significant dimension in the process of self-efficacy development is that students see success in other students who have a similar level of capability.

The verbal persuasion and social behaviour of others is a third factor that contributes to self-efficacy development. Positive feedback from others can give a favourable self-evaluation, and negative feedback a less favourable one. More specifically, positive verbal feedback immediately following a performance accomplishment (mastery experience) is the most valuable type of social interaction for growing personal efficacy levels (Wise and Trunnell, 2001).

Finally, the psychological state of an individual can add to or detract from self-efficacy. Psychological state includes emotional and physiological responses to situations (Bandura, 1977). Stress levels can influence a person's psychological state and how people perceive themselves at any given time. Wood and Bandura (1989) point out that an emotionally stimulated state arising from a stressful situation is often translated into negative perceptions of abilities. For example, a person experiencing the onset of fatigue when facing a stressful situation can translate the fatigue into a perception of physical limitations. Developing the ability to moderate one's emotional and physical responses to challenging situations is important in maintaining positive levels of self-efficacy in that situation.

Understanding the significant factors in self-efficacy development is important, as the self-efficacy mechanism is an important driver of agentic action (Bandura, 2006). Any work in the area of student agency should therefore make links with a theory of personal efficacy development.

2.3.5 Agency as a goal for education

To act with a high level of agency is to approach life in a way that enables a person to reach his or her potential more readily. Moreover, it is a theoretical perspective that

encompasses what is already known to be vital for higher human functioning such as self-efficacy, engagement, and metacognitive processes (Hewson, 2010).

Establishing that agency development in learners is important leads to the question of how agency can best be developed. This literature review has indicated that there are several clear links between supervisory teaching and the potential development of human agency. Supervisory teaching is seen as having the ability to enhance agency within classroom practice because it invites the exercising of the agentic characteristics described by theorists such as Bandura (2006) and Hewson (2010). The essential attributes of intentionality, forethought, self-reactiveness, and self-reflection are necessary to function within the two aspects of supervisory teaching. Teacher tutorials and independent learning both, in different ways, call on the student to exercise the properties of agency. Aspects of supervisory teaching, such as students working for extended periods without teacher interaction (Boushey & Moser, 2014; Cosgrove, 2009) while also regularly engaging in tutorial discussions, involve the students' thinking for themselves and exercising autonomy in their learning. This conclusion suggests that supervisory teaching could be a learning context useful for agency development.

2.4 Acts of Teaching

When distinguishing what works from what does not work in education, Wilson and Peterson (2006, p. 1) advocate the need for educators to develop a "solid understanding of the foundational theories that drive teaching, including … how teachers can enable student learning". Therefore, in any exploration of effective teaching practice there is a need to consider what intentional acts teachers employ to achieve desired outcomes. At this point it is important to consider a set of teaching acts that could, later in this research, be utilised as a reference to potential factors in agency development.

The work of the New Zealand Ministry of Education (2003) surrounding Deliberate Acts of Teaching has been utilised. Deliberate Acts of Teaching are those strategies that teachers use as tools in the classroom to meet the various instructional needs that teachers have. Phillips, McNaughton, and MacDonald (2000, p. 18) state that:

> effective teachers use a variety of strategies in an informed way. …What this means is that different instructional activities and forms of guidance are employed,

not as a recipe but as an integrated whole, and these are changed and adjusted to suit individual needs.

The New Zealand Ministry of Education (2003) states that there are seven deliberate acts of teaching, including modelling, directing, prompting, giving feedback, telling, questioning, and explaining. For the purpose of this research, some of these acts were combined to form larger concepts on the basis that they have similar traits. The seven Acts of Teaching were simplified into three key categories – questioning, direct instruction, and modelling. As an example of this simplification, directing, prompting, telling and explaining have been grouped together and described as direct instruction. Giving feedback has been excluded as it is considered an act of teaching that could transcend all other acts of teaching and not a specific act in and of itself. For example, a teacher might be able to give feedback while prompting, directing, or questioning. This notion is supported by Hattie and Timperley (2007), who state that feedback can take many forms.

2.5 Gap in the Literature

While there seems to be a potential link between supervisory teaching and agency development, there are no direct studies that explore this relationship, particularly in the context where I am personally most interested, that is, in primary schools.

There is a need to better understand any possible relationship between supervisory teaching and agency development. Further motivation to pursue this line of inquiry comes from Kumpulainen & Lipponen (2012), who argue that implementing an effective dialogic learning environment is a challenge and that more needs to be done to support educators in understanding and implementing effective dialogic learning environments. Furthermore, Wray and Kumpulainen (2010) make it clear that educators are only beginning to see the value of dialogic inquiry that helps to develop student agency.

In addition, supervisory teaching as an approach remains relatively untested according to Cosgrove (2009), and yet has an attraction that Palfreyman (2008) refers to as “mythical”. So, there is a sense that it would be beneficial to explore this pedagogical approach in a more robust way. As already noted, supervisory teaching in the primary years has very little in the way of direct research. Graham and Sandmel (2011), who researched the

effectiveness of the Reading and Writing Workshop approach, concluded that there is a need for more research into this type of learning.

Critiques and deeper analysis at primary level are often limited to specified curricular outcomes. Graham and Perin (2007) are an example. Like Graham and Sandmel (2011), they link their study to writing achievement rather than to broader dispositions such as agency. Much work therefore needs to be done to deepen our understanding of supervisory teaching in general and with regards to how, if at all, it enables greater agency in learners.

2.6 Chapter Conclusions

Supervisory teaching is a student-centred approach to teaching and learning that has stood the test of time (Ashwin, 2005; Lane-Fox, 2008; Moore, 1968; Plato, 1989). Agency is an essential human attribute viewed as vital for functioning effectively in the world. After reviewing the literature on supervisory teaching and agency it has been established that the development of agency is valuable to learners in our education systems, and that supervisory teaching could offer one way to help contribute to agency development. Therefore, the next logical step is to dig deeper and learn more about the dynamics that exist between supervisory teaching and agency development.

There is a need for an initial inquiry into the relationship between supervisory teaching and agency development in primary students. This research needs to be exploratory rather than definitive. A qualitative case study would open the way in researching this area and set the scene for future, possibly quantitative research into any link between supervisory teaching and agency development. There are two key reasons that a project of this nature has significance. Firstly, it will point to elements of supervisory teaching, if any, that play a role in agency development. This research will thus focus on understanding the intentional acts of teaching that contribute to the development of agency. Secondly, more will be understood about the effectiveness of supervisory teaching in a primary classroom context. As the literature review has demonstrated, supervisory teaching is a well established pedagogy that is viewed as an effective means for facilitating teaching and learning, leading to heightened thinking on both a critical and creative level (Calkins, 2006; Palfreyman, 2008). However, little is known about the specific aspects of this pedagogy that make a difference to students in classrooms (Cosgrove, 2009; Graham and Sandmel, 2011). Therefore, having accepted the value of agency as a goal for education,

the intention of this research is to add insight into the potential to develop agency within supervisory teaching.

2.7 Research Questions

In order to access new learning surrounding how supervisory teaching might influence the development of student agency, the following questions have been developed.

1. In what ways is student agency, as indicated by intentionality, forethought, self-reactiveness, and self-reflection, perceived to be influenced within a supervisory teaching environment?

2. What acts of teaching within the supervisory teaching environment are perceived to promote student agency?

3 Chapter Three – Conceptual Framework

3.1 Introduction

This chapter outlines the framework used to underpin the research in this project, the Supervisory Teaching Framework (STF). It has been developed to describe the nature of supervisory teaching in primary-years classrooms and link it to agency development. In the development of the STF, particular attention has been paid to Cooksey and McDonald's (2011) perspective that conceptual frameworks that outline general relationships are particularly useful for interpretivist research. They state that these frameworks are "typically less precise and less closely tied to data, displaying more general relationships" (p. 254), as opposed to theoretical frameworks that are generally more precise and linked to past research.

This framework connects supervisory teaching and agency development by describing the varying levels of structure that exist within the supervisory teaching approach. The STF defines the key aspects of a supervisory approach and then outlines how these aspects can vary depending on the level of structure that teachers allow. For example, the nature of tutorial conversations changes considerably when the teacher allows the students to shape the direction of the conversation with their own perspectives and ideas. This point is explained in greater detail later in this chapter.

The development of this conceptual framework utilised several different sources. Maxwell (2005) highlights four components that can be utilised:

- experiential knowledge, where researchers draw on their own experiences to shape the framework
- existing theory and research, where researchers draw on the existing literature, in various ways, to provide the focus for the framework
- a pilot, where researchers incorporate preliminary investigation or a pilot into a framework, and,
- thought experiments, where researchers run mental simulations of their planned research in order to understand what might be relevant to include in the framework.

All four components have been used in the construction of the STF. Firstly, the framework was based primarily on my experiential knowledge from implementing supervisory teaching in my classroom. I also utilised the experience of overseeing the implementation of supervisory teaching in the schools where I worked as a school leader, which can be viewed as a pilot. As for my use of existing research and theory, this framework has been established using ideas from supervisory teaching's historical background as well as its current manifestation in primary classrooms. Lastly, the whole notion of supervisory teaching in the primary classroom was experimented with extensively in my last year of classroom teaching in 2010, and since then as I have mentored and supported teachers using this approach.

3.2 Overview

The STF has two distinct characteristics or phases in which the students and the teachers are involved. These two phases are the essence of supervisory teaching and therefore define this framework. Both phases can occur concurrently within a primary classroom.

3.2.1 Phase One: Supervisory tutorials

Supervisory tutorials occur between the teacher and one to four students, that is, either one-on-one or in a small group. The purpose of the tutorial is for both teacher and student to engage together in exploration of a particular phenomenon. The idea is that these interactions during the tutorial build on the time students spend independently while working in Phase Two. The end purpose of the tutorial discussion is to construct new learning. The tutorial follows the form of a discussion. Teacher and student go back and forth and explore ideas, listening and responding to one another. The underlying purpose of this phase is that the student and teacher focus on a specific area for learning, and through dialogic inquiry dig deeper and make more sense of the focus of the learning.

Often teachers will use questioning to guide the discussion. They may choose to begin with a simple question to help access the students' prior learning from the independent phase. For example, "What have you been writing about during writing time?" Or, "What has been the focus of your project time?" Following this initial question, the teacher may choose to use more questioning to guide the conversation toward a deeper exploration, such as, "Was there anything interesting that jumped out at you when you were collecting information?" Or, "Is there anything that you found difficult during this time?" Teachers

will also listen and offer comments during the discussions. At times, they might make suggestions or draw links to ideas that the student does not know about.

The focus of the tutorial conversations may vary widely. Teacher and student may discuss a piece of writing a student has recently written or they might explore a project that one or more students are working on. The curriculum focus of the tutorial will depend on how the teacher has arranged learning in the classroom. Tutorials that take place during writing time would ordinarily focus on writing. However, the tutorial could centre on either the writing process, content, or outcome. During mathematics the teacher may use tutorial times to focus on helping students to learn specific pieces of mathematical knowledge or to involve a collective exploration into a problem-solving task.

3.2.2 Phase Two: Independent learning

When not engaged in a supervisory discussion with the teacher, students spend their time engaged separately from their classroom teacher but under the teacher's supervision. They may work in isolation from other students on an individual level or within small-group settings. The purpose of this time is learning through thinking and acting autonomously. The nature of the activities can vary hugely, from prescribed reading and writing tasks through to completing projects or playing games.

Once a supervisory teaching environment has been established, teachers and students know that this is not just a time for students to learn independently, but also that the learning is a continuous experience. That is, it is not focused around one task that has a defined start and finishing point. It is a process whereby students move from task to task or within levels of the same task. For example, in mathematics rather than giving a whole class one set task, the teacher might give groups within the class task boards. These boards have several tasks for students to complete, including open-ended problem solving and more prescriptive tasks, such as basic facts challenges. Students have autonomy to work through their task board at a pace that suits them.

3.3 Classifications of structural levels

The Supervisory Teaching Framework Matrix, as seen in Table 3.1, describes the variations in structural levels when supervisory teaching is taking place. The table is a way of understanding the variable nature of the activities that take place within the STF, showing the variance in levels of structure. Structure is a significant dynamic in

understanding the theory of agency (Barker, 2005), and is therefore embedded within the STF Matrix. As previously mentioned, there is an ongoing debate over whether social function is the result of an agent's own intentions or the structural forces that surround that agent (Archer, 2003). Monitoring the levels of structure is intended to support later conclusions about agency development.

Table 3.1

The Supervisory Teaching Framework Matrix

Phase One – Tutorial Discussions			
	Type One Structured	Type Two Semi-structured	Type Three Unstructured
Discussion Structure	Dialogue follows set question and answer format.	Dialogue follows flexible guidelines.	Unstructured dialogue.
Discussion Focus	Focused on specific outcomes.	Focused on broad areas of learning.	No set focus.
Teacher Role	Teacher as guide toward specific knowledge set and outcomes.	Teacher as facilitator of exploration.	Teacher as co-learner and questioner.
Discussion Control	Dialogue driven by teacher-set agenda.	Dialogue guided by teacher and student questioning.	Dialogue driven by student perspectives.
Phase Two —Independent Learning			
	Type One Structured	Type Two Semi-structured	Type Three Unstructured
Task Specifications	Teacher-prescribed tasks and guidelines	Students choice within parameters set by teacher	Open-ended tasks with broad guidelines.
Learning Outcomes	Teacher sets criteria.	Teacher and students define success together.	Students define success and the direction learning takes formally and informally.
Assessment	Specific assessment tasks with clear outcomes.	Broad assessment criteria.	Collaborative assessment process between teacher and student.

The Supervisory Teaching Matrix has been developed by drawing on two of Maxwell's (2005) sources, namely, existing theory and experiential knowledge. Cooksey and McDonald (2011) and Maxwell (2005) consider existing theory and experiential knowledge as effective for the development of a conceptual framework. The key sources of existing theory are Boushey and Moser (2014), Calkins (2006), and Calkins, Hartman and White (2003), who all provide descriptions of what learning tutorial discussions look like at primary level. These descriptions were combined with other types of learning

conversations that I had observed in primary classrooms and arranged on a continuum between structured and unstructured. It is understood that at different times and for different reasons the level of structure will vary within a supervisory teaching environment. The matrix helps to define how structured learning is at a given point in time.

3.4 Setting

The Supervisory Teaching Framework can be implemented within various primary classroom settings. The STF views learning as functioning within mixed-ability classrooms. It may at times be implemented in a way that includes other configurations such as open-plan classrooms or small groups. The configuration of furniture may vary. Usually there will be space for an area where the teacher can conference with individuals and small groups, although teachers may move to the students' learning areas to facilitate Phase One tutorials. Students utilise areas with furniture such as chairs with desks, tables, other types of seating such as beanbags, or they may choose to learn with no furniture at all.

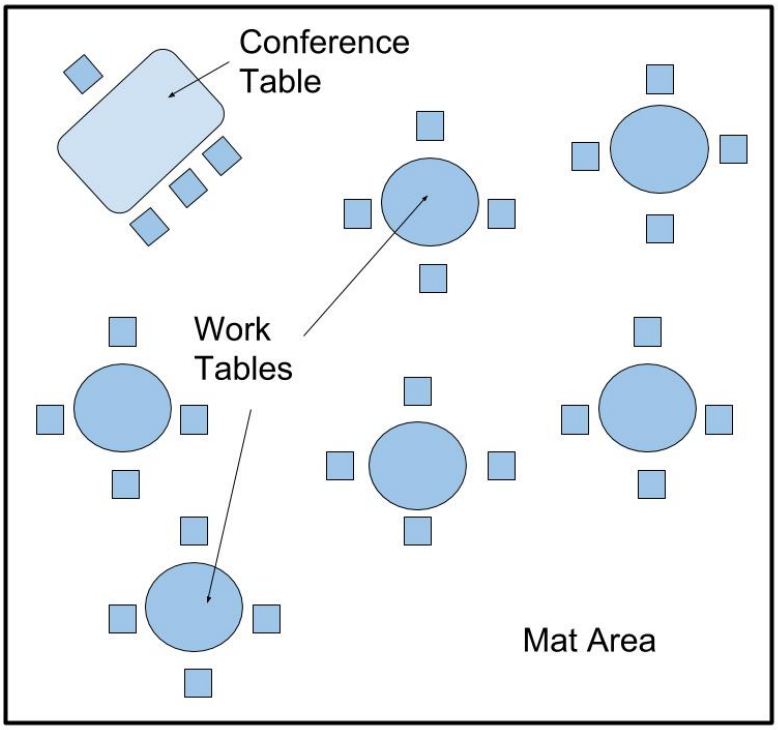

Figure 3.1 – Example of classroom layout

It can be seen that the layout in Figure 3.1 is not dissimilar to a typical classroom layout. The learning space includes tables where students can work individually or collaboratively, there is a mat area, and a teacher conferencing table. These are all

features of regular primary classrooms. This arrangement allows for both phases of the STF to be implemented. The teacher utilises the Conference Table to meet with individual students or small groups. This conference table could be replaced with a mat area. The other areas are available for the students' learning as they engage in Phase Two.

Within the classroom setting there may be a variety of learning tools available to both teachers and students. These tools may include, but not be limited to, laptops and tablets, books, whiteboards (big and small), subject-specific tools such as rulers and paint brushes, writing journals and other exercise books, and other general stationery items such as scissors and tape.

3.5 Role of the Teacher

The teacher's role is predominantly one of tutoring students in small groups or one-on-one. Naturally they need to supervise the rest of the class as they engage in Phase Two activities. However, the teacher's time and focus are on tutorial discussions in the small-group setting. The tutorial discussions can take place at a set location in the class, as has been illustrated in Diagram 3.1 above. They can also take place at students' desks.

The teacher seeks to engage students in a process of dialogic inquiry around the present field of exploration. The focus might be a mathematics problem, a writing piece, or a topical project, all which would typically link to the curriculum. Following this initial starting point, the conversation could take a variety of forms. The teacher will use her best judgment to decide what this might look like depending on how she wants to approach learning. The teacher could use set checklists to prompt discussion, such as success criteria, in a Type 1 structured conversation. At other times the teacher might start the conversation with no set direction and allow the conversation to be prompted by what the student has been doing immediately preceding the discussion. In this case, the teacher might simply start by saying, "What have you been working on as a writer?" From there the conversation could move in several different directions based on the student's response. This scenario would be classified as a Type 3 conversation.

Oftentimes teachers may incorporate unstructured discussion with specific teaching points. Calkins, Hartman, and White (2003) use a format for shaping one-on-one conferences that takes this semi-structured or Type 2 approach. The tutorial conversations, or conferences as they refer to them, begin with the teacher engaging the

students in discussion about their work, to learn what they have been doing during their independent time. The teacher then angles the conversation toward a specific teaching point. This scenario is referred to as a TAG conference: Tell something you like, Ask questions, and Give advice (Rog & Kropp, 2004). TAG is an example of a Type 2 conversation where the conference begins with the teacher and student engaging in discussion around the student's work, and then highlighting what they collectively agree to be a successful component of the work and why. A reciprocal discussion about the work follows, including further directions to improve or extend the task to meet or exceed the learning outcomes. It is during this time that the teacher forms an idea of one key teaching point.

3.6 Role of the Student

For much of the learning time the student acts autonomously from the teacher, which may be in collaboration with peers or completely independently. It is during this time that the student makes sense of content and formulates new ideas. Some of these ideas will be developed and explored further in the supervisory discussion. Phase Two learning ranges from open-ended learning where students are involved in setting the direction that learning takes through to tasks with set parameters assigned by the teacher.

The teacher supports the student on the journey toward independence as they establish routines early in the school year. This process can take time and the teacher must pay careful attention to set her students up for success. A key component of establishing independent work habits is building up the ability to learn independently for extended timeframes. Boushey and Moser (2009) suggest that with reading and writing, students need to begin with shorter intervals of reading and writing and slowly build up over a number of days to the desired time for that age and individual student capacity.

When students join the Phase One discussion with the teacher, they enter into a time of mutual meaning making. Learning is unpacked and discussed and the learners are focused on the imperative to 'find answers' (Wells, 1999) together. Like the learning that takes place in Phase Two, the supervisory discussions can range in the level of structure. The student's role can vary from responding to set questions that the teacher presents (structured), through to being the provider of the essential information that promotes learning talk (unstructured). The key is that teacher and student are able to participate in

the learning together and that students do not take a passive role in the learning conversations even when the teacher structures them to follow more prescriptive lines.

3.7 Other Pedagogical Approaches

The Supervisory Teaching Framework functions in unison with other pedagogical approaches appropriate in primary educational contexts. The STF may be used for a large proportion of a lesson but it may be more helpful to present a short mini-lesson to the whole class as an introduction before the supervisory teaching begins. For example, if a teacher wished to share information to the whole class about an upcoming field trip, she would not necessarily choose to use tutorial discussions and share this information multiple times. In this case a whole-class lesson would be more helpful. The melding of another pedagogical approach with supervisory teaching can be seen quite clearly in the Reading and Writing Workshop approach (Calkins & Martinelli, 2006; Calkins, 2006). Here students spend most of their learning engaged in a supervisory model, with autonomous reading and writing time and brief interludes for conferencing with the teacher. However, usually each lesson begins with a mini-lesson, which is a whole-class time where the teacher uses exemplars to teach specific concepts about reading and writing. These mini-lessons, although not personalised like the tutorial discussions, can be seen as valuable in the overall learning process. So, while the STF is seen as a comprehensive approach to curriculum delivery, it is not exclusive and the use of other approaches enhances the effective implementation of the STF. In leaning on the parameters followed in higher education, Palfreyman (2008, p. 3) writes that the tutorial aspect of supervisory teaching "does not replace other methods, such as instruction by lecture or in class. It clearly cannot replace private study". Therefore, as significant as supervisory teaching may be to those who utilise it within the teaching and learning process, it will be at times not the pedagogy of choice for some teachers.

3.8 Summary

The Supervisory Teaching Framework is a simple framework that describes an established pedagogical approach in a primary-school setting. The STF describes two main phases of learning. Both phases are seen to support each other and provide mutual impetus for the other. The STF draws on a very old pedagogy that defines roles for both teachers and students. It makes provision for the way these roles might vary depending on how structured the teacher makes the learning environment. It is in the connection to structural forces within the STF that links to agency can be made. Therefore, the STF is

not just a tool for describing supervisory teaching within the primary context, it is also a tool useful for understanding dynamics that influence agency development.

4 Chapter Four – Methodology

4.1 Introduction

This chapter will explain the methodology of the research project. A description of the procedures that have been followed in the collection and analysis of the data is laid out below. This is preceded by a discussion of the philosophical ideas that underpin the type of research that has taken place.

The purpose of this project was to explore the ways in which a supervisory teaching environment influences student agency. In order to accomplish this exploration, a qualitative research approach was adopted for several reasons. Firstly, this approach suits the exploration of student agency. Agency is determined by a person's perceptions of self (Emirbayer & Mische, 1998) and is closely linked to internally held beliefs (Bandura, 1982). Therefore, utilising a quantitative approach in the research is not likely to access the existential nature of the experiences that are the focus of this research. This rationale is supported by Stake (2000) who maintains that qualitative research fits well when the line of enquiry surrounds how or why something is the way it is. Patton (2002) attests that qualitative research provides a means by which researchers can view phenomena in a more in-depth manner by enabling the subjective world of participants to be explored. Being able to access the experiences and thoughts of participants through qualitative observation and questioning is important when exploring human agency because agency is partly comprised of a person's internally held views, beliefs, and ideas (Bandura, 2006).

The second reason for a qualitative approach is that it has the capacity for bringing understanding to social dynamics within a given context (Esterberg, 2002). Interaction between individuals and within groups is always contextual. Qualitative research methods offer the researcher the ability to take into consideration the many details that surround behaviour within a particular environment. Building understanding about the dynamics between supervisory teaching and agency involves making sense of an ongoing interplay between pedagogy, learning environments and students' individual and collective interactions and responses. It was hoped this flexibility might provide relevant insight to what was being investigated.

Thirdly, qualitative research methods emphasise the position of the researcher as a possible participant in the research project (Creswell, 2005). In this case study I am the

principal of the school. My interest in supervisory teaching and agency existed as a significant part of my professional life as an educator prior to the commencement of this research. Rather than see this as a problem I accepted, and even welcomed, my connection to the location of this research when embarking on this project. Thus the professional work I had already established could be utilised and even embraced as part of this research. However, I also needed to be mindful of bias and the question posed by Lincoln and Guba (1985, p. 290), “How can an inquirer persuade his or her audiences that the research findings of an inquiry are worth paying attention to?". To achieve this aim, I took heed of the comments of Campbell (1996) who states that reliability in qualitative research comes by developing quality raw data, a process that my proximity to the research could add to. I have therefore made the process, my involvement, and the limitations of this research as clear as possible throughout.

Qualitative methods used in this case study include teacher interviews and observations of classrooms. Details of the use of these methods will be provided later in this chapter. Teacher interviews and observations were considered the best ways of accessing the dynamics of classroom interaction and activity. Student interviews were considered and attempted. However, I found that because of the age of the students it was difficult to collect viable data that provided significant insight into what was happening in the classrooms. Upon reflection, the student interviews could have been better designed and potentially followed a more child-friendly approach. The one-adult-interviewing-one-child approach produced very short and non-descript responses. Portelance and Bers (2015) provide an effective example of data collection with young children. Their research design involved students interviewing each other and recording the interview using an iPad. The interviewer, a child, was given the questions to ask of her partner. Further research on this topic should include interviews with students, and child-friendly research design using examples such as described by Portelance and Bers should be explored.

Once the data were collected they were analysed with guidance from Berg’s (2004) Stage Model of Qualitative Analysis. The process was not a simple step-by-step progression, but involved an iterative approach to analysis, following the stages advocated by Berg but at the same time taking the advice of other theorists such as Stake (2000) and Cooksey and McDonald (2011) who advocate an undefined and sometimes messy approach to

analysis. What this often looked like was the retracing of steps in the research process. For example, in the process of examining certain themes in light of literature, new ideas emerged that were not seen during the initial examination and coding of data. So, I needed to retrace my steps and see if some of the developing ideas were supported by my data. At times evidence was found that led to an emerging hunch and further inquiry within the literature was required to make sense of this hunch.

Before further discussion of the methodology, more definition of the epistemological position utilised in this research will be presented as the precursor to an explanation of how a theoretical model was developed and adopted. Further clarity around the methodology of the research will then be provided.

4.2 Guiding Assumptions / Philosophical Foundation

This qualitative study is situated within a constructivist paradigm. A constructivist view of knowledge asserts that people make sense of the world in different ways (Crotty, 1998). This varied approach to meaning making can happen even as people experience the same event. There is no clear origin for qualitative research as a method of inquiry. It has evolved over time and morphed as historians, ethnographers, and literary critics have shaped modern approaches to this type of research (Bogdan & Biklin, 2003; Cooksey & McDonald, 2011). The interpretive approach of qualitative research seeks to understand phenomena within the context in which they occur, while attempting to make sense of, and interpret, the meaning people bring to them (Denzin & Lincoln, 2003).

Stake (2000) asserts that one of the basic assumptions of constructivist research is that knowledge is something that is socially constructed as the interpretations of human beings are explored. Constructivism is relevant to this research because the purpose is to explore socially constructed phenomena and make sense of them rather than simply uncover a set of pre-existing facts.

This research focuses on the interpretations of educators who are located within a specific educational setting. Each participant's interpretive position, including mine as the researcher, allows for knowledge construction based on individual and shared experiences. The interpretive approach allows me as the researcher to uncover knowledge about the development of agency in learners because I was, at the time of the research, immersed in the lived experience of the participants. Immersion in the research context is

viewed by Esterberg (2002) as vital to knowledge construction within the constructivist paradigm.

The ongoing interpretive role of the researcher within the research has always been important in qualitative research and remains central to the nature of the approach (Stake, 2000). Proponents of qualitative research argue that the researcher should enter the lived experiences of participants and make sense of them as a member of the research context. Furthermore, they see that technical ways of inquiring into the world, such as surveys and questionnaires, are not satisfactory on their own for understanding what is really happening. In the words of Lave and Kvale (1995, p. 220), "the only instrument that is sufficiently complex to comprehend and learn about human existence is another human". The researcher's perspectives and interpretations are thus vital in the research process.

4.3 Research Design

This research uses a qualitative case study methodology. Case study research has been well documented. This study will be guided by several prominent case study theorists such as Yin (2014) and Berg (2004) who's Stage Model of Qualitative Analysis has a particular focus. The four stages of Berg's model will be discussed in more detail later in this chapter.

This research is exploratory, in that it is delving into an area that seems to have been previously unexplored empirically, namely the link between agency and supervisory teaching in primary classrooms. Exploratory research does not always seek to establish definitive conclusions but rather to stir up perspectives and deeper understanding that can provide a basis for further more focused research (Shields & Rangarajan, 2013). One purpose of exploratory research is to establish research priorities. Taking the qualitative approach is appropriate for this research project because it enables a better understanding of both the experiences and the perspectives of participants that might lead to more focused research in the future. These lived experiences can be very insightful and shed light on how agency might develop as a response to supervisory teaching.

Case study research is a form of inquiry that focuses on in-depth exploration of a program, event, activity, process, or one or more individuals (Stake, 2000). The case study focused upon in this thesis is comprised of three primary-school classrooms, and their teachers and students. The phenomenon that I explored is the development of agency

in students through the use of a supervisory teaching pedagogy by the teachers. I collected information through two specific methods, interviews and observations within classrooms. Interviews were carried out at two points in the research process. Firstly, at the outset of the five month data collection phase. Secondly, at the conclusion of the data collection phase. The classroom observations where carried out throughout the five month data collection period.

Interviews were audio taped then transcribed. A copy of both sets of interview questions is included in Appendix Two. The purpose of the interview was twofold. Firstly, the questions were designed to allow teachers to speak about how the aspects of supervisory teaching influenced student learning. An example of a question that supported this aim was Question One from Interview One, which reads "What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?" The question directly references a feature of supervisory teaching that the teachers were all involved with and created an opportunity for the teacher to elaborate on how that feature might support learning. The second purpose of the questions was to reference examples, if any, of agency in the classroom. These questions referenced specific aspects of agency and asked teachers to comment on whether they were present in their classroom. An example was Question 4 from Interview 2, which reads "Can you give me examples of your students being self-directed and taking personal responsibility?" The question directly references agency and asks whether teachers saw examples of it in their classrooms as they facilitated learning through a supervisory teaching approach.

Observations were recorded via field notes taken during visits to the three classrooms over a four-month period. The observations were typically conducted weekly. This process was problematic on occasions when clashes occurred as is typical in schools from time to time. In my role as the researcher I decided to take a minimally invasive position in the class. I very rarely interrupted students as they were learning unless I really wanted to know the reason behind why they did something. I made a habit of observing students as they engaged with the teacher in Phase One and as they worked independently during Phase Two. I tried to describe briefly what I was seeing and then later I added detail when I was back in my office. My focus was on what students were doing and how it related to the supervisory teaching approach. I was looking for dynamics in the classroom that gave rise to supervisory teaching, as well as those things that did not.

The case study was conducted across three different classrooms, chosen randomly from a pool of possible teacher participants. The research in each classroom was focused on the specific curriculum area in which the teachers were implementing supervisory teaching.

4.4 Research Site

This research was conducted at the school where I worked as Principal in Hong Kong from August 2013 until July 2015. United International School (pseudonym) is a Kindergarten to Grade 12 international school and accommodates students who are five to 18 years old. The school at the time of the research had approximately 850 students situated in two campuses. I was the Principal of the campus for students from Preparatory (four years old) to Grade Three (nine years old), known as the Lower Primary Campus (LPC). This campus had approximately 390 students during the data-collection period. The second school campus accommodated Grades 4 to 12 students and teachers. A Head of School was responsible for both campuses and was based at the other site. As Principal of the LPC I reported directly to the Head of School who would undertake brief site visits approximately every second week.

For the duration of the research the LPC of United International School had 20 classroom teachers, two PE specialists, a music specialist, an art specialist, a teacher-librarian, a library technician, a learning support teacher, a learning support technician, and 14 educational assistants. There were also two clerical assistants providing general administrative support. The Assistant Principal and I were employed in non-teaching, administrative roles, fully released from classroom responsibilities.

4.5 Research Assistant

A research assistant was engaged to support the recruitment of participants and to interview the teachers, because I was the principal of the school where the data collection was taking place and there was the potential for power issues to impact on the validity of the research. Karnieli-Miller, Strier, & Pessach (2009) point out that qualitative researchers, who embrace connections between the research field and the researcher, need to be aware that issues of power could pose methodological challenges. In this case I needed to be aware that although interpretive methods give freedom for researchers to be immersed in the research context, there was a real risk that teachers would feel compelled, firstly, to sign up if asked and, secondly, answer questions in certain ways during the interviews.

4.6 Participants

Participants for this research were sourced from the school that I was working at during the time of this research. Situating the data collection within this context was useful, as I knew that there were a number of classrooms where teachers had embraced a supervisory approach to teaching. It was also convenient for me as my place of work, meaning that the choice made sense on a practical level. I also wanted to make real links between my academic work and my practice as a primary educator. This link was one of the stated objectives of the University of New England, Doctor of Education when I enrolled.

4.6.1 Classroom selection

Selection of participants was a mix of purposive and random. I collaborated with the research assistant and we identified a list of suitable teachers who could participate in the project. Prior to the research, as part of the school's professional development programme I had spent some time in my role as principal expounding on the merits of a supervisory teaching approach. The response of teachers prior to the research was an important factor when listing possible participants. Teachers who had already shown a level of amenability to supervisory teaching were for obvious reasons more likely to be suitable. Chiefly, they were already implementing the underlying principles of the Supervisory Teaching Framework in aspects of their classroom teaching. It was decided that teachers who had expressed concern about or shown reluctance to develop supervisory teaching principles should be left out of the group of potential participants.

The recruitment process involved the research assistant being briefed on the scope of the research project. Teachers in the school were added to a potential list if they were using a supervisory teaching approach in at least one curriculum area. The research assistant ordered the names randomly and approached the teachers one at a time until three teachers were found. Teachers were then given an information sheet and the consent papers to sign if they were happy to continue. The initial contact by the research assistant outlined that the time commitment would include two interviews of up to 45 minutes and regular observations. Documents used in this process can be seen in Appendix One.

4.7 Classroom Descriptions

Data were collected in three classrooms at United International School over a four-month period. The teachers in each classroom were in the early stages of implementing a supervisory teaching approach in one or more subject areas. Supervisory teaching practice

within one subject by each teacher became the focus of the observations. The three classrooms were physically arranged in a way that might be described as a 'normal' classroom setting. More specific details for each classroom are provided below.

4.7.1 Classroom X

Classroom X was a Grade 1 classroom with students who were 6 or 7 years old, taught by Gordon (pseudonym). There were 23 enrolled students in the classroom for the duration of the data collection. The class had five tables that could comfortably seat between four and six students. There was a mat area big enough to accommodate all 23 students, where there was a teaching station and whiteboard. There was a classroom library with books that Gordon changed regularly. The class had an educational/teaching assistant who would support Gordon for two to three hours per day and was present during some, but not all, of the observations. The role of the teaching assistant was to provide general support. She did so by working with small groups or individuals, and by attending to general administration as needed.

Gordon began his teaching at United International School approximately three-and-a-half years before the commencement of the data collection. Gordon is Canadian and completed his teacher education at a Canadian university near where he grew up, before moving to take up a position in Hong Kong. Gordon was the only teacher who was operating a supervisory teaching environment prior to my arrival at the school. He welcomed new professional development around supervisory teaching and applied it to several teaching areas, as well as the one he was already utilising it in.

Within Classroom X "Exploration Time" became the focus of the research. Although not a traditional subject, Exploration Time was a daily occurrence in Classroom X because of its cross-curricular value. Exploration Time was seen by Gordon as valuable for developing ideas and skills relevant across all areas of the curriculum, including intrapersonal, interpersonal, and fine-motor skills. During this time students could choose their own project. Ordinarily students would enter the classroom at the completion of afternoon recess and there would be five or six learning centres set up within the classroom. Students could choose the centre at which they wanted to work, but could not choose the same centre for more than two or three days in a row. Students worked on projects while the teacher focused on having learning conversations with individuals or small groups at their centres. Tutorial conversations would range in length from one

minute to four or five minutes. Examples of some of the centres were Lego building, book making, card making, painting, card games, and building (using cardboard boxes, tape, and scissors).

4.7.2 Classroom Y

Classroom Y was a Grade 2 classroom where students were 7 or 8 years old, taught by Kristina (pseudonym). There were 23 students enrolled in this classroom for the duration of the research. Like Classroom X, Classroom Y also had an educational assistant for around two to three hours per day. Each student had a desk and the desks were organised into four groups of six. There was a mat area big enough to accommodate all 23 students, where there was a teaching station and whiteboard. The educational/teaching assistant shared her time between two other classes and was present during some of the observations. The role of the teaching assistant was to provide general support, which involved working with small groups and carrying out general administration such as preparing resources.

Kristina had taught at United International School for four and a half years before the commencement of the research. Her post at United International School was her first classroom-teaching role. Previously, she had taught music at another international school.

The area of focus for the research in Classroom Y was literacy. Kristina ran a daily literacy programme that included using a centre-based approach where students would work at stations around the room. She would then interact with students in one of two ways. Either she would facilitate small groups on the carpet, which were generally instructional reading groups, or she would circulate and have learning conversations with students as they worked on their different literacy activities. This approach included both key components of supervisory teaching. Firstly, the teacher spent most of her time in dialogue with students around their learning, rather than just observing and correcting. Secondly, the students spent extended periods learning without teacher support or intervention.

4.7.3 Classroom Z

The third classroom was a Grade 3 classroom where students were either 8 or 9 years old, taught by Libby (pseudonym). There were 23 students enrolled in this class for the duration of the research. Classroom Z had five tables suitable for four to five students to

sit around. The teacher also had a kidney-shaped teaching table and would often use it to conduct tutorial learning conversations with students. Like in the other classrooms, there was a mat area with a teaching station. In Classroom Z an educational/teaching assistant was present occasionally during observations, as she shared her time with three other Grade 3 classrooms.

Libby was in her second year of teaching at United International School and in her first teaching post. She had a strong appetite for growing as a teacher and was always looking to improve her practice.

The area that was observed was mathematics. Libby ran a daily mathematics programme that included a centres approach to delivering the curriculum. Lessons were of roughly 50 minutes duration and students were organised into groups of around 5 or 6 that operated at one of four centres. Students would rotate around the centres over two days, meaning they went to two centres per day. Sometimes Libby would start a two-day rotation with a mini-lesson of around ten minutes to the whole class in order to model a specific mathematical concept. On a typical day all but one centre ran independently of the teacher. The teacher would engage with her students at one centre convening a tutorial discussion. While there were only ever four centres operating, there were six different options that Libby would choose from to include in the rotation. These options were games, problem solving, iPad, computation practice, teacher mini-lesson, and textbook. While the centres were operating, Libby's role was to facilitate a tutorial conversation at one centre. On occasions she would establish four independent centres and would move around the centres conducting tutorial conversations with individuals. For example, she often stopped at the problem-solving centre and asked some questions to prompt reflection. Examples of these questions are:

- Which questions have you been working on?
- How did you solve that question?
- What strategy have you tried for that question?

These questions and others like them were used to begin further dialogic exploration.

4.8 Data Collection

The data collection took place between February 2014 and June 2014. This study utilised two key sources of data in the collection stage – teacher interviews and observations of

classrooms. Yin (2014) makes it clear that case studies benefit from the triangulation of data because this approach ensures that conclusions reflect the participants' perspectives more accurately. Stake (2000) agrees with the necessity of triangulation stating that it allows the researcher to more accurately tell the story of participants. Data from this research were coded separately and then initial findings were explored alongside each other. This process allowed me to firstly establish what each set of data was saying and then compare to see if both sets agreed.

4.8.1 Interviews

Interviews are often a vital part of the research process for qualitative researchers. As with other like-minded researchers, I was interested in hearing and learning from the lived experiences of the teachers in the classrooms. For this reason, the interviews were semi-structured and made provision for new ideas to be brought up. These types of interviews allow access to participants' insights into the field under exploration. As Seidman (1991) maintains, semi-structured interviews are for those who want to make meaning from people's stories as the researcher makes sense of details from the participants' stream of consciousness. Merriam (2002) further lends support to the use of qualitative interviews saying they result in rich descriptions of the phenomena being studied.

As mentioned above a research assistant was engaged to recruit the participant teachers and to conduct the two rounds of interviews. My position as the principal at the school was an issue because it potentially opened up possible power issues that could negatively affect the quality of the data.

Interviews were developed to elicit responses that provided data for the purpose of addressing the research questions. The research assistant conducted interviews with each of the three teachers at two separate times. The first interview was at the outset of the data-collection phase, and the second was at the conclusion of the data-collection phase. Interviews were audio recorded on a laptop computer. I then transcribed recordings so that they were in a form that could be effectively analysed.

As part of the interview process, the research assistant started each interview reading details about the purpose of the interviews. These scripts can be found in Appendix Two. The purpose was to remind participants of the purpose of the research before the interviews began and what would happen to information that was recorded. As outlined

above all the interviews were based on a uniform set of open-ended questions and followed a semi-structured approach. The open-ended questions allowed for participants to respond freely to questions (Esterberg, 2002). As part of the semi-structured nature of the interviews, at times the researcher used probes to find more information. Gillham (2000, p. 46) states that "Probes are supplementary questions or responses which you use to get interviewees to feed you more – to expand on their response, or part of it." One example was seen during Libby's second interview. She was asked, "How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?" Libby gave a very detailed answer; however, it only included one specific example. The research assistant then asked, "You gave one example of students in your classroom working together. Any other examples you can give me from your classroom that show how this model is teaching independence?" This probe allowed the interviewee to stop and think if there was anything else that needed to be said before moving to the next question.

4.8.2 Observations

Participant observations can be a vital part of the investigation process for qualitative researchers. Observation methods are useful for qualitative researchers in several ways. Primarily, they provide researchers with ways to check for information that is hard to quantify, such as non-verbal expression of feelings (Schmuck, 1997). The researcher can not only record responses, they can dig deeper in their investigation looking beyond what participants have said, to the subtleties of body language and some of the spontaneously occurring social interactions (Mason, 2002; Kawulich, 2005). For example, a teacher or child may never take the time to comment or to express their excitement when something happens that empowers them to be more agentic. However, it may be apparent by observing body language when something specific happens in the class that leads to agency development. Being able to record how, why, and when participants act in certain non-verbal ways affords researchers the chance to explore the lived experiences of participants.

I used an unstructured approach during the observations, which meant that I did not follow a set template. Instead I noted down activity that was relevant to my research questions. I constantly referred back to my research questions before, during, and after times of observation. The purpose was to collect a rich description of the classroom

environments. I took the recommendation of Spradley (2016) who states that to discover, the researcher must take on the role of a student and learn from the research field.

I found Chiseri-Strater and Sunstein's (1997) scaffold for observation writing very helpful. They developed a checklist for observation note taking that I adapted slightly. I kept a checklist that I constantly referred back to, which included components that researchers should include when making notes:

1. Date, time, and place of observation
2. Specific facts and details of what is happening at the site
3. Impressions: sights, sounds, and other sensory happenings
4. Personal responses to what is happening in the field
5. Specific examples of conversations and actions
6. Questions about what is happening for future consideration

   Adapted from Chiseri-Strater and Sunstein (1997, p. 73)

In terms of my observations, the teachers usually had very little warning about when I would be able to observe, as I had to fit observations in whenever it was possible to do so in terms of my other commitments as Principal. Therefore, the teachers were not preparing 'special lessons' that could potentially affect the quality of the data collected from observations.

During the observations I utilised two levels of note taking. Firstly, I made initial comments on what I saw. Immediately after a particular session had finished, I then elaborated on the initial reaction. At this point I added more details including any links to my research focus. Ensuring that I had these two levels of note taking was important because it allowed me to gather data while in the classrooms, while staying focused observing what the students and teachers were doing, rather than spending my time while in the class making elaborate sets of notes.

A key tool utilised was memo making. According to Emmerson, Fretz, and Shaw (1995), memos are notes a researcher makes to him/herself that are useful for making sense of findings as they emerge from a text. One example from my research came after watching the teacher during a learning conversation I recorded in my notes where the teacher had asked the student, "What do you think your next steps should be?" This question led to

some conversing where the student shared his future intentions. Just prior to this dialogue, the teacher had inquired into the student's progress to date by asking, "What have you been doing since we last talked?" This question had caused the student to respond reflectively. After reading back over this observation, I made a memo that noted how different types of questions by teachers seem to elicit different properties of agency. Memo notes like this served as a reminder of areas to consider during future observations.

4.9 Data Analysis

Denzin and Lincoln (2000) argue that there is no set way of completing analysis of a qualitative nature. They maintain that qualitative research analysis is a creative process and not a prescribed and mechanical one. For this reason, I started informally unpacking and analysing data as soon as I started collecting it. This process specifically related to point six of Chiseri-Strater and Sunstein's (1997) list whereby researchers are encouraged to pose questions as they record information. So, as possible themes emerged during observations, I would note them for future consideration during later observations. I could see this method as being supported by Stake (2000) who maintains that qualitative research seeks to make sense of phenomena in ordinary ways. Analysis according to Stake is simply taking something apart. Thus my analysis started, through the posing of questions for future consideration, as soon as I started contemplating and exploring what I was seeing when observing classrooms and transcribing what teachers said during interviews.

Following the data collection I utilised an adaption of Berg's (2004) Stage Model of Qualitative Analysis. Berg's model consists of the following steps:

Step 1 – *Determine analytic categories*

Analytic categories used in this research were Bandura's (2006) four properties of human agency. The purpose of using these four properties is that they provide a clear description of agency that would allow me to identify agency as it occurred in the classrooms. Data were coded according to five categories – intentionality, forethought, self-reactiveness, self-reflection, and multi-category occurrences. Multi-category occurrences refers to times when there were two or more of Bandura's properties of agency.

Step 2 – *Read through data and establish grounded categories*

I then worked through the data to establish grounded categories, or themes that emerged from the data. This process is recommended by Berg (2004), who suggests the researcher initially work through the data with the purpose of establishing categories in which to sort data. Esterberg (2002, p. 158) supports this notion saying, "you work intensively with your data, line by line, identifying themes and categories that seem of interest". This is exactly what I did, moving through the data, noting themes as they emerged and recording the frequency at which they occurred.

Step 3 – *Determine systematic criteria for sorting data chunks into categories*

After accumulating, recording, and quantifying the frequency of the various themes, I then linked the themes together to create broader themes.

Step 4 – *Relate the analysis to the literature on the subject*

Each theme was further analysed using a narrative display (Cooksey and McDonald, 2011). This stage was not merely presenting findings but also involved refining the specifics of what those findings are. Making cross-references with relevant literature is an important part of the process of making sense of the data.

The adaption of Berg's approach is outlined in Chapters 5 and 6 and the overall process modelled in Figure 4.1, which shows the way the data are slowly processed from a raw state to a point where clear conclusions can be drawn. Chapter 5 is the initial data analysis and incorporates Steps 1–3 from Berg's (2004) model. Chapter 6 is the discussion of the grounded categories, which are the themes that have emerged from the data. Chapter 7 is the Conclusions chapter and relates the research questions to the findings that have emerged from the data. This process will now be discussed in more detail. Overall, this process takes the data from its raw state to a point where specific findings can be clearly described.

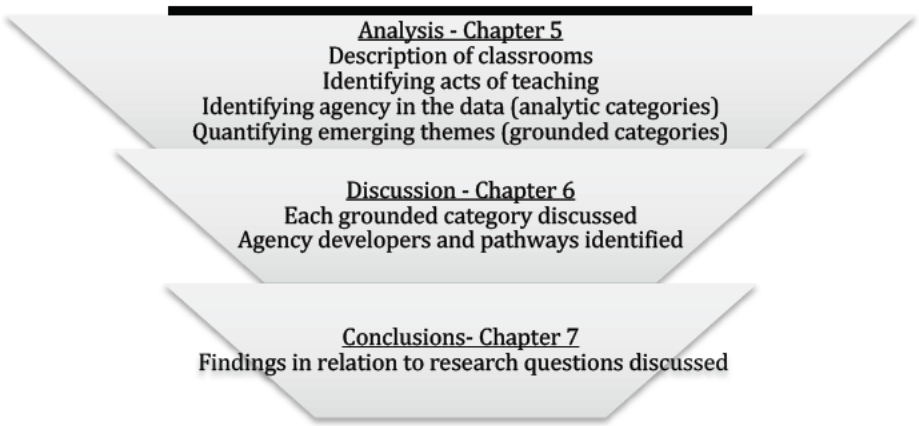

Figure 4.1 – Adaption of Berg's stage model

4.9.1 Initial data analysis

Initial data analysis consisted of four key steps. Firstly, the data were reviewed to consider what differences may have existed between classrooms. Of interest was the variation in the levels of structure across the three classrooms. Descriptions for each classroom were written and have been included at the beginning of Chapter 5. The purpose of this exercise was to set the scene for the analysis, rather than being part of the analysis itself. This process could be described as a pre-analysis.

Second, the observation data were coded to identify the acts of teaching used during this research across the classes. It was important to establish the prevalence of each act of teaching within the research, based on the premise that identifying the acts of teaching actually used by the teachers is necessary to answer the research question *What acts of teaching within the supervisory teaching environment promote student agency?*

Third, the data were coded for identification of the analytic categories – intentionality, forethought, self-reactiveness, and self-reflection. When evidence of one of these properties was seen in the data, it was given a corresponding code. When a comment from the interview or an action in the classroom had two properties or more, a multi-category code was used.

The fourth step was to go through the coded data and examine each instance of agency represented by the highlighting of the analytic categories. Emerging themes were recorded as each instance of agency was examined. The data were read and analysed multiple times until themes were clearly coded. They were then quantified and recorded by tallying and became the grounded categories. It was obvious at this stage that there

were a number of similar themes and that they could be grouped, so the initial list of themes was narrowed into a more refined set of themes.

4.9.2 Discussion

Having established grounded categories and refined them into a set of themes, I examined the themes more closely, utilising a narrative display as documented in Chapter 6 and relating what I discovered to relevant literature. At the conclusion of the discussion of each theme, specific factors that have emerged from the discussion have been explicitly stated. These factors that seem to improve agency are referred to as agency developers.

4.9.3 Conclusions

The overall analysis of the data concludes with conclusions being outlined in Chapter 7. The emerging discoveries from the data and discussion are summarised to show the relationship between agency developers, acts of teaching, supervisory teaching, and aspects of agency that are being developed. These dynamics have been referred to as agency pathways and represent the ways student agency developed. They shed light on my main research question: *In what ways is student agency, as indicated by intentionality, forethought, self-reactiveness, and self-reflection, perceived to be influenced by the construction and implementation of a supervisory teaching environment?*

4.10 Researcher Position

My position in the school where the research was conducted was as the principal. The research assistant and the participants were all teachers at the school. I had been working at the school for seven months before the research project started. During this time, I had been expounding on the value of supervisory teaching because I held the view that it was a potent tool for encouraging learning. I used staff meetings to run workshops on how supervisory teaching could be used in the classroom. I also modelled how to utilise supervisory teaching in several classrooms, including Classroom Z, in the months leading up to the research starting.

To my knowledge, in my role as principal I did not mention or have any direct discussion with staff around the notion of agency.

In the months leading up to this project I spent considerable time working with staff on implementing supervisory teaching, particularly in numeracy. All teachers included in the

study were involved in staff meetings where the notion of supervisory teaching was explained and exemplified. Teachers were also given support, including having lessons modelled in their classrooms. The only teacher participant who had lessons modelled was Libby in Classroom Z. Once the data collection began, I stopped coaching and mentoring the staff. Given the fact that I was collecting data from some of these classrooms I did not want to enter into coaching the teachers because I didn't want the teachers to feel under pressure to act in any particular way. The exception was the odd occasions where teachers approached me to clarify thinking about supervisory teaching.

4.11 Potential Issues in the Research

As the researcher I was the primary instrument, with the help of the research assistant, for data collection and analysis. It is vital that researchers consider their own bias and position in relation to the research topic. I needed to be very sure that I kept an open mind and that I was open to supervisory teaching being ineffective in certain situations. Mays and Pope (1995, p. 109) raise three concerns about qualitative research that can all be linked to my role as the researcher:

> The most commonly heard criticisms are, firstly, that qualitative research is merely an assembly of anecdote and personal impressions, strongly subject to researcher bias; secondly, it is argued that qualitative research lacks reproducibility – the research is so personal to the researcher that there is no guarantee that a different researcher would not come to radically different conclusions; and, finally, qualitative research is criticised for lacking generalisability. It is said that qualitative methods tend to generate large amounts of detailed information about a small number of settings.

Being intentional about how validity will be achieved in research is vital (Golafshani, 2003), and recognising criticisms such as those raised by Mays and Pope is an important step. I reflected on the process and considered the first two concerns were relevant to me as the researcher. They were issues of which I was certainly aware, as was the possibility of power issues arising in the research process. I therefore considered my position carefully in relation to these concerns. I will now explain the perspectives I adopted on each of these three issues.

4.11.1 Researcher bias

Qualitative research assumes that researchers' values and perspectives will influence the outcome of the research project (Merriam, 1998). This situation is not something that I shied away from. I took the view of Peshkin (1988) that it is the researcher's bias that gives life to a research project. I can see that the seminal ideas that I formulated over time set up a line of inquiry worth exploring that could yield a number of meaningful conclusions. Nevertheless, it was important that my interest in the way supervisory teaching might impact student agency did not give way to over-exuberance that in turn might lead to seeing things that were not actually there. I carried this awareness throughout the research process.

4.11.2 Research reproducibility

Mays and Pope (1995) rightly argue that because qualitative researchers are so closely involved in their research field, reproducing similar research projects becomes very difficult. For this reason, I took two measures to overcome this concern. Firstly, I have laid out clearly in this thesis the steps that I have taken in the research process. This clarity aims to help those interested in shaping a similar line of research inquiry. Secondly, I have accepted that precise reproducibility of this study in the future will not be entirely possible. This view is supported by Sandelowski (1993) who has raised concerns about the persistent quest for reliability in qualitative research. Sandelowski shows that absolute reproducibility is neither practical nor theoretically sound. Shields and Rangarajan (2013) argue that even the strongest quantitative research often has qualitative origins, giving qualitative research with its trappings a place in the overall research landscape and therefore also giving validity to projects that cannot be completely reproduced. In short, this case study is a qualitative research project that can in the future be closely followed; however, it should be understood that it can never be perfectly reproduced.

4.11.3 Power issues

The aforementioned issues of bias, based on my proximity to the research field, have been discussed and were at the forefront of my mind throughout the data collection and analysis. As well, there was a need to mitigate any power issues that may have emerged due to my position in the research. "In traditional research, the roles of researcher and subject are mutually exclusive: the researcher alone contributes the thinking that goes into the project, and the subjects contribute the action or contents to be studied" (Reason,

1994, p. 42). However, this research did not have a clear delineation of this type. Karnieli-Miller, Strier, and Pessach (2009) show that the relationship between researcher and participants can be framed in such a way that researchers and participants can work together, supporting each other's role. However, even though I was accepting of this overlap in roles I took some measures to ensure that the participants who were teachers in the school where I was the principal did not feel any unnecessary pressure.

The first measure was to not have professional learning around supervisory teaching for the duration of the research. Such professional learning had been taking place for several months in the lead-up to the research. Conveniently, stopping the professional learning around supervisory teaching coincided with our professional learning agenda that needed to focus on other areas at the time that the data were being collected. There was thus no disruption to either the research or the school's functioning. This step allowed the teachers to continue in their practice without there being any undue pressure to act in certain ways.

The second, and a very important, measure was to utilise the support of the research assistant, the rationale for which has been outlined above. Essentially this support ensured two key dynamics were in place: (1) the participants would not feel any pressure to participate, and (2) the participants would not feel any pressure to answer in certain ways during the interviews.

4.12 Summary

This research investigates the relationship between a pedagogy of supervisory teaching and student agency. This investigation has taken the form of case study in an international school where I was the principal in Hong Kong. An interpretive approach has been adopted in order to explore the dynamic between supervisory teaching and agency development. A qualitative approach has been selected because it is seen as having the potential to delve into areas that positivist research would struggle to access. A further reason for why an interpretive approach has been preferred over a positivist approach is that it allows the research to consider the personal perspectives and experiences of the participants. These personal perceptions and subjective views are important for learning how exactly participants respond to certain aspects of supervisory teaching.

5 Chapter Five – Initial Data Analysis

5.1 Introduction

This chapter presents an analysis of the data collected. The chapter comprises three separate sections. Initially, the activity within the classroom environment of the three classes in the case study is described anecdotally. Although this initial description is not a precise analysis of the structural levels in each class, it provides some context to inform the later discussion of the data. Following the discussion of the structure of the learning environments, the findings of the research are presented in two parts. Firstly, there is a brief analysis of the acts of teaching used by the three teachers. Then secondly, the main thematic analysis is presented. This thematic analysis is the key focus of the chapter where data are synthesised to a point where key themes are established as grounded categories that can be further unpacked during the discussion in Chapter 6.

5.2 Overview of Classroom Activity

All three classes implemented a supervisory approach as described in the STF. The key difference between each classroom was the level of structure. A description of each classroom is outlined below. At this point the STF Classification Matrix presented in Table 3.1 is utilised to support the classroom descriptions. For convenience, it has been reproduced as Table 5.1. The STF Classification Matrix is not a precise measurement tool but is used to make general delineations within the STF.

Table 5.1

The Supervisory Teaching Framework Matrix

Phase One – Tutorial Discussions			
	Type One Structured	Type Two Semi-structured	Type Three Unstructured
Discussion Structure	Dialogue follows set question-and-answer format.	Dialogue follows flexible guidelines.	Unstructured dialogue.
Discussion Focus	Focused on specific outcomes.	Focused on broad areas of learning.	No set focus.
Teacher Role	Teacher as guide toward specific knowledge set and outcomes.	Teacher as facilitator of exploration.	Teacher as co-learner and questioner.
Discussion Control	Dialogue driven by teacher-set agenda.	Dialogue guided by teacher and student questioning.	Dialogue driven by student perspectives.
Phase Two —Independent Learning			
	Type One Structured	Type Two Semi-structured	Type Three Unstructured
Task Specifications	Teacher-prescribed tasks and guidelines	Students choice within parameters set by teacher	Open-ended tasks with broad guidelines.
Learning Outcomes	Teacher sets criteria.	Teacher and students define success together.	Students define success and the direction learning takes formally and informally.
Assessment	Specific assessment tasks with clear outcomes.	Broad assessment criteria.	Collaborative assessment process between teacher and student.

5.2.1 Classroom X

Classroom X's teacher Gordon utilised a supervisory teaching approach within his daily timetabled slot titled Exploration Time. Exploration Time falls outside the usual curriculum subjects of reading, writing, maths, science, and social studies, although at various times might include aspects of all of them. Exploration Time in Classroom X was

a time in the day lasting around 35–45 minutes where students could choose between several centres where different projects could be conducted.

Classroom X's students when working in Phase Two mode were typically involved in activities that could be classified as Type Three. They had choice and influence over the direction of the learning. The class was typically arranged into five areas or centres. Students could choose the centre at which they would engage for the duration of the 40-minute block. When they entered the class at the beginning of the lesson students were given the choice of which centre they wanted to learn at. The class started on the mat area then filtered away to these centres three or four students at a time. The teacher ensured that there were not too many students at one centre and some students had to opt for their second choice.

Students were given autonomy over the task and the direction that the task took. They could also have a say about the direction that the learning would take once they had selected the centre. For example, a book-making centre was often one of the options. Students had choice once they arrived at the centre about what their book would be about and how they would go about developing it.

Another centre was a Lego centre where students could create structures in groups. In total there were seven centre options observed in this research; however, not all of them were used on the same day. These centres were Lego construction, book making, exploring the world using Google Earth, art (various media), card games, photography using the iPad, and card making.

Gordon followed a flexible approach to his tutorial discussions. Rather than calling students to a set teaching area, he circulated around the centres, sitting down and engaging in one-on-one conversations with students either as they were working independently, or within small groups with other students. These interactions were Type Three conversations because they were entirely student-directed. They often started with Gordon asking the simple question, "What are you working on?". Depending on the reply from these questions Gordon's response could follow a number of different directions. During these conversations the students' ideas were the dominant influence on the direction of the conversation. Gordon's contribution was generally asking questions. Some of these questions included: "What do you think your next step will be?" And,

"have you thought of any ways you might be able to make this better?" From time to time Gordon acted as a support to students who faced barriers in the task they were attempting to complete. Sometimes this support involved a type of direct instruction involving modelling how to use a technique or a specific tool, or providing a key source for locating information. One example was using the hot glue gun, which was introduced to one of the centres. Although students were shown how to use it safely, they still needed some support using it effectively. Gordon was able to assist the students who were having difficulty keeping two parts of a structure together with the glue by showing them where to put the glue and how to effectively make the join. Gordon would also sometimes challenge the students to be more ambitious in whatever project they were working on. He suggested possible next steps without being overly insistent that students should follow them.

In summary, according to the STF Classroom X was unstructured with most Phase One tutorial discussions being Type Three and the independent learning also being Type Three. Tutorial conversations were open-ended and based on the student's chosen focus. Occasionally, tutorial conversations led to the teacher intervening with prescriptive instructions or suggestions. Phase Two learning provided autonomy for the students to develop their own projects from an array of centres that were resourced by the teacher.

5.2.2 Classroom Y

Classroom Y's teacher Kristina facilitated a more structured learning environment when implementing the supervisory approach, which could be specifically seen in two areas. Firstly, Kristina was interested during the tutorial discussions in guiding students toward set outcomes, meaning these typically were Type One conversations. Secondly, Kristina would often, but not always, ask students to follow prescribed tasks during Phase Two learning.

Observations in Classroom Y were conducted during literacy time where students were usually writing or doing some type of writing-focused activity. The lessons followed the Writers' Workshop structure, though often without the freedom of choice advocated by the authors of this approach (Calkins, 2006; Calkins & Martinelli, 2006). The Writers' Workshop approach usually requires that learners make choices about the direction that the writing takes, giving them autonomy in the process. In Classroom Y Phase Two learning often included students having to complete simple writing tasks set by the

teacher and they were not permitted to have much choice regarding what they wanted to focus on as writers. Tasks were completed independently but the teacher prescribed them and had specific expectations of what should be achieved. While tasks were completed independently the student did not determine the direction of the task but followed the guidelines of the teacher on how to complete them. Phase Two learning was thus typically Type One with some semi-structured interludes at Type Two.

As briefly mentioned above, Phase One learning conversations in Classroom Y were mostly structured. However, they were at times welcoming of student input. Although they were often driven by the teacher's agenda and expectations for the lesson, sometimes the teacher would allow more control from the students, usually when conferencing with students at their desks. An often-heard starter to these conversations was, "What have you been working on as a writer?" This question is a Writers' Workshop discussion starter that gives students the chance to set the direction of the conversation by considering what their own goals for their writing development might be. However, there was not a lot of variation in the responses from the students owing to the fact that the writing under discussion was usually prescribed by the teacher. Therefore, I noted during the observations that without autonomy in Phase Two it seemed difficult to bring about student autonomy in Phase One because students were generally only working on a predetermined pathway. So, while there were aspects to the Phase One conversations that invited student voice, the conversation was often limited in scope because of the way that the learning conditions were structured in Phase Two. In summary, most Phase One tutorial discussions in Classroom Y were between a Type One and Type Two and the independent learning was mostly very structured at Type One.

5.2.3 Classroom Z

All observations in Classroom Z were done within the mathematics programme where a supervisory approach to teaching had been adopted. The school had an independently developed mathematics curriculum that was based on the Alberta Curriculum and the New South Wales Scope and Sequence of Outcomes. Each lesson, the classroom was arranged into 4 or 5 centres. These centres ran independently and did not require teacher support. They varied in their level of structure but were typically Type Two. The teacher designed the tasks and students were given flexibility within the tasks. An example of a task that made provision for student choice was a problem-solving centre where the students were encouraged to choose from an array of problem-solving tasks and explore

solutions in various ways. They were told that there was no fixed way of solving the problems. This ability to make choices within certain parameters meant that these tasks could be considered Type Two. There were some centres that focused on students' practising certain mathematical skills or reinforcing knowledge. Initially these types of learning experiences were very much classified as Type One and invited little student involvement. However, due to the fact that students did the activities without a teacher in close proximity meant students made some changes to the tasks. For example, on one occasion some students turned a basic facts activity into a game, competing against each other to see who could complete activities the fastest. So, even within what was a structured task, students did take the opportunity to exercise some agency.

The teacher Libby engaged in Phase One tutorial discussions in two ways. Firstly, she established a teaching centre where she would bring small groups to learn specific mathematical concepts. These times of learning had a clear purpose with a focus, for example, measuring the perimeter of a square or rectangle. Groups at these workshop lessons did not exceed five students. They would be asked to contribute to the learning through the teacher asking questions, initially to elicit prior knowledge and then to pose questions that helped the whole group make sense of the concept. These were Type Two learning discussions.

The second type of tutorial discussion seen in Classroom Z occurred once the teacher had completed a workshop. She would often set a related task for the small group to complete either collaboratively with the other group members or on an individual basis. She would then circulate amongst the other groups, stopping to conference with students. These conversations were usually with students who were engaged in activities at the problem-solving centre or the game centre. She would begin by asking students questions such as, "How are you going working on this activity?" And, "What are you focusing on here?" She would then move to asking them to talk about their strategies or approaches to solving problems or winning the game. This approach was similar to Gordon's Phase One conversations. In Libby's class this strategy really gave an opening for the students to speak and share their ideas, often giving descriptions of what they had been doing leading up to that point. Libby would often guide the student or students through questioning toward possible solutions, posing questions such as, "Can you think of a better way of doing that, maybe using one of the strategies that we talked about the other day?" These

conversations were sometimes Type Two and at other times Type Three tutorial discussions.

In summary, according to the STF Classroom Z was less structured than Classroom Y but more structured than Classroom X, placing it between the two other classes in terms of how the learning was defined within the STF. Phase One tutorial discussions were a balance between Type Two and Type Three. Phase Two learning was typically Type Two with some Type Three activities included throughout the learning.

5.2.4 Summary of Classroom Structure Levels

A summary of the typical ratings of each classroom is shown in Table 5.2, and the ratings are shown in relation to each other in Figure 5.1.

Table 5.2

Structural ratings of classrooms

	Classroom X	**Classroom Y**	**Classroom Z**
Phase One	Type 3	Type 1/2	Level 2/3
Phase Two	Type 3	Type 1	Level 1/2

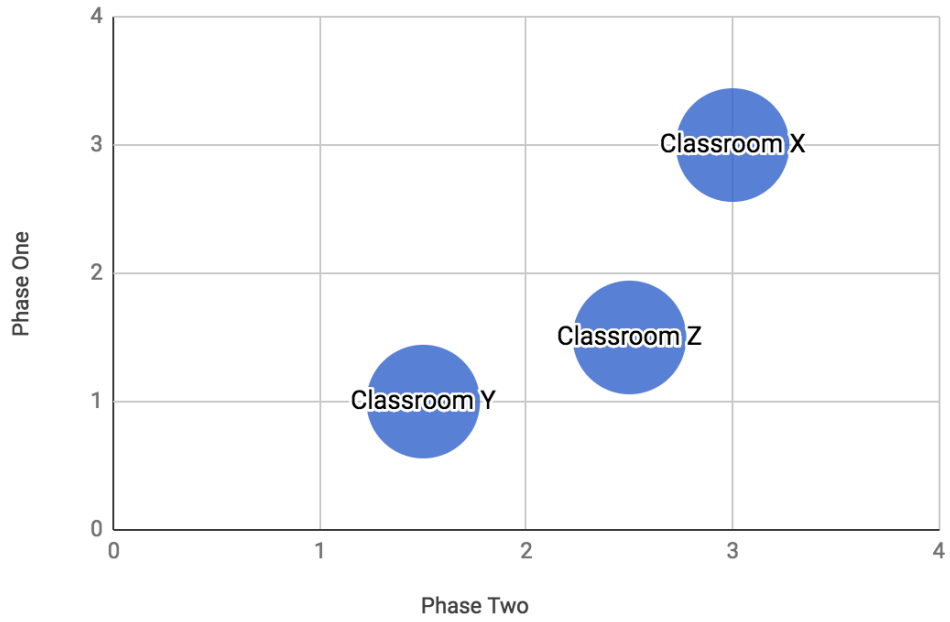

Figure 5.1 Structure ratings of classrooms

It can be seen that Classroom X and Classroom Z followed the STF with less structure, meaning students had the opportunity to participate in open dialogue with the teacher during tutorial discussions and they had more choice in their independent learning time. Classroom Y was slightly different. The teacher, for the most part, implemented a more structured approach. She was often quite prescriptive about what the students were expected to do during their independent learning time in Phase Two. Learning conversations were often focused on set outcomes and gave the students little scope to shape the direction of the learning.

The nature of the three different classrooms provided an unexpected dynamic to the research. The three classes gave three expressions of supervisory teaching with the structural levels spanning the three types within the Supervisory Teaching Matrix. The classrooms participating in the research could have potentially been very similar in structural types. The opportunity to see three environments that offered different levels of structure allowed for a deeper analysis, which can be seen in the discussion in Chapter 6. Readers are reminded that the way in which these judgments have been made is not overly scientific, but follows Stake's (2000) assertion that making sense of social phenomena needs to occur in ordinary ways. These are general descriptions that are a prelude to the main presentation of the findings to assist the reader to develop a greater understanding of the research context.

5.3 Acts of Teaching

Analysis of the data was conducted to examine the key acts of teaching evident across the three classes, in order to understand the intentional strategies teachers use in their practice while implementing a supervisory approach. This was a focus area of the research and specifically stated in the two research questions:

1. In what ways is student agency, as indicated by intentionality, forethought, self-reactiveness, and self-reflection, perceived to be influenced within a supervisory teaching environment?

2. What acts of teaching within the supervisory teaching environment are perceived to promote student agency?

The literature review outlined specific strategies, or acts of teaching, that can be used in primary teaching practice. The initial examination of the classroom observations showed that there was an additional intentional act of teaching employed to support learning outside those outlined in the literature review and discussed by the New Zealand Ministry of Education (2003). That act referred to the way teachers facilitated a learning environment that provided a scaffold for students to engage independently. This act or scaffold has been called *facilitating independent inquiry*. For the purposes of this study, it was included as a fourth act of teaching. The notion of facilitating independent inquiry is supported by Zion and Slezak (2005). Within the context of a secondary school biology curriculum they found that "The student's functioning corresponds closely to the teacher's efforts to facilitate the student's scientific literacy, initiative, responsibility, and motivation" (p. 845). The development of an environment conducive to independent learning is thus a deliberate act that teachers can and do use. This act was observed in this research. Facilitating independent inquiry speaks to the way that teachers can arrange the learning environment and learning experiences so that students are engaged in independent inquiry learning. Furtak, Seidel, Iverson, and Briggs (2012) make a distinction in inquiry learning between that which involves direct teacher intervention, and that which involves students leading the learning. In this research this act of teaching does not involve the teacher interacting directly with students, which is why it is important to include the word 'independent' in the description of this act of teaching.

Therefore, the four acts of teaching used in this research were questioning, direct instruction, modelling, and facilitating independent inquiry.

To understand the prevalence of the four acts in this research, observation notes were analysed. The frequency of each act was recorded to see how often it occurred in the particular supervisory teaching environment. The process involved reading through the observation notes and highlighting specific actions that the teacher was taking, then coding them based on whether the teacher was using questioning, direct instruction, modelling, or facilitating independent inquiry. For example, the following excerpt from the observation notes was highlighted and recorded as 'questioning':

> The child seemed to be stalled and was losing focus on his task. The teacher asked a question – "Where to next?". The child just stopped and thought, then proceeded to share about the type of building he would develop next. This isn't the first time that I've heard this question used to good effect. It seemed to focus the student.

As already stated the classrooms were not equal in their levels of structure. So it was decided that understanding which acts were being used in each classroom would be helpful. Therefore, the data were also explored to see how the use of the acts of teaching compared from classroom to classroom. The number of occurrences within each class has been recorded in Table 5.3.

Table 5.3
Acts of teaching utilised – by classroom (number of observations and percentage (rounded) of total number of acts

Act of Teaching	**Class X**		**Class Y**		**Class Z**		**Total acts**	
	No.	**%**	**No.**	**%**	**No.**	**%**	**No.**	**%**
Questioning	7	33	4	27	11	44	**22**	**36**
Direct Instruction	5	24	4	27	4	16	**13**	**21**
Facilitating independent inquiry	8	38	6	40	9	36	**23**	**38**
Modelling	1	5	1	7	1	4	**3**	**5**
Total acts of teaching per class	**21**	**100**	**15**	**100**	**25**	**100**	**61**	**100**

The proportional use of these acts by class is shown in Figures 5.2 to 5.4.

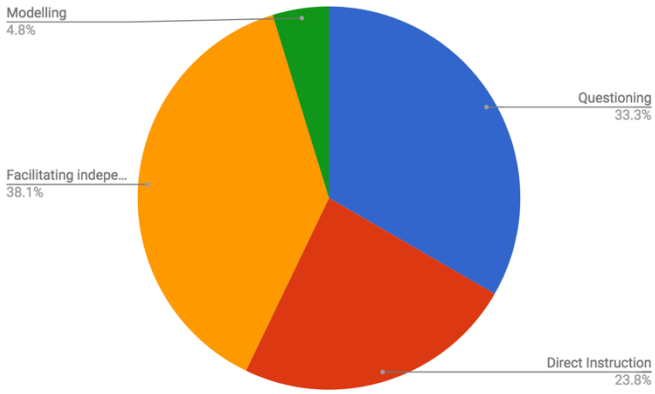

Figure 5.2 Proportional use of acts of teaching in Classroom X

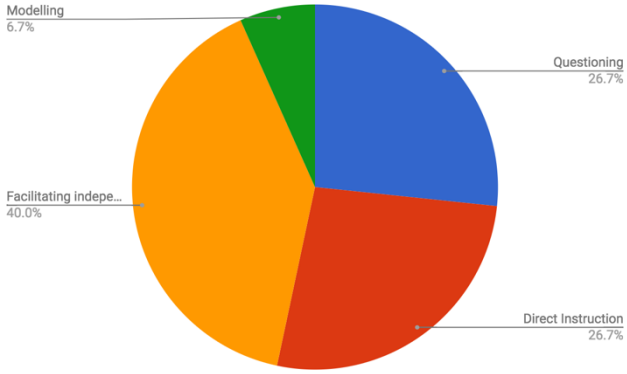

Figure 5.3 Proportional use of acts of teaching in Classroom Y

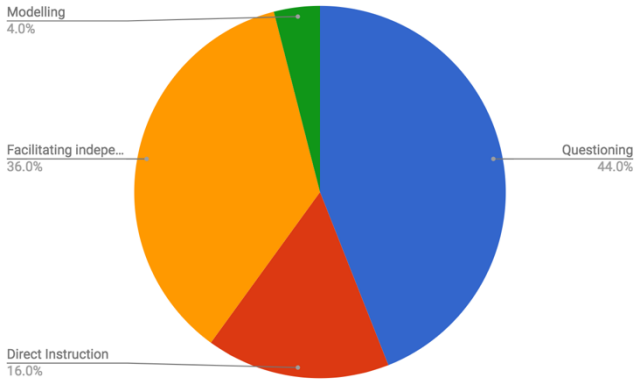

Figure 5.4 Proportional use of acts of teaching in Classroom Z

The use of these acts across all classes is shown proportionally in Figure 5.5. These graphs show all the acts of teaching used by teachers implementing a supervisory teaching approach during this research.

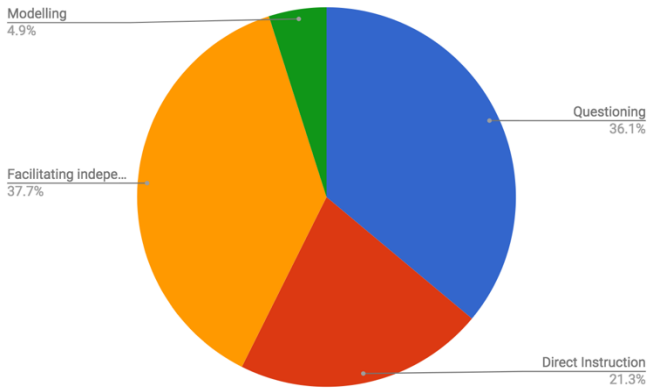

Figure 5.5 Proportional use of acts of teaching across the case study

Figure 5.5 shows the most common acts of teaching across the three classrooms were questioning and facilitating independent inquiry, both over one third of the occurrences. Direct instruction accounted for around a fifth of the occurrences (21.3%). Of less significance was teacher modelling, which accounted for around 5% of the acts of teaching observed.

This stage of the analysis helped to identify the acts of teaching most prevalent in supervisory teaching across the three classrooms. After this examination it can be seen that three acts of teaching were used regularly in the supervisory teaching environment at United International School: facilitating independent inquiry, questioning, and direct instruction.

5.4 Thematic Analysis

At the conclusion of the data collection the raw data included six teacher interview transcripts and three sets of classroom observation notes. The interview transcripts comprised two interviews with each teacher, one during the first two weeks of the research and one from the conclusion of the research period.

5.4.1 Analytic Categories

The four properties of agency, namely intentionality, forethought, self-reactiveness, and self-reflection (Bandura, 2006), were selected as the analytic categories because they were considered to be descriptors of agency and would allow for specific identification of instances of agency within the data. The interview transcripts and observation notes were examined and manually coded with each of the four properties of agency being highlighted with an allocated colour. A fifth colour was utilised for multi-category occurrences, that is, examples that included more than one of the analytic categories.

5.4.2 Grounded Categories

Grounded categories emerged as the instances of agency (analytic categories) were explored one by one within the interview transcripts and the field notes. Once the data had been examined multiple times individual instances of agency were examined further and emerging themes were recorded. Emerging themes were given names and codes and were tallied. The first group of themes were considered to be grounded categories. An example from the observation notes can be seen here:

Observation	**Notes**
Libby said, when sitting with one student, "Try number 3 again." And, "What makes it one hour?"	The first question was in reference to a question where the student had made a careless mistake from a textbook activity. The redoing of this question was most helpful and allowed the child to examine what she had done more carefully.

In this example, it is noted in the observation column that the student was prompted to redo a maths problem that she was assigned and had not completed correctly. Extra notes were added to give some context and give detail of what happened. The text was highlighted purple as this was the colour assigned to the analytic category of self-reflection, appropriate here because the student was prompted to reflect on what she had been doing.

This example is an individual instance of agency that was later examined to determine grounded categories, as explained above. In the case of this example it was determined

that the student and teacher were engaged in a dialogic experience that was giving rise to reflection, that is, the student's self-reflection was encouraged by dialogue with the teacher. The analysis of this example was noted as 'reflective dialogue' as an emerging grounded category.

This project has followed the guidance of Stake (2000) and attempted to make sense of data in 'ordinary' ways. Emerging grounded categories were my interpretations, as the researcher, of what was happening in areas of the data where analytic categories had identified agency occurring. In my first few times reading through the data in its entirety the process involved making notes of themes that were emerging. Following this first step, the frequencies of the themes were tallied. The process of quantifying the frequency of grounded categories was not an exercise in precision but rather an attempt to determine significance. On some occasions a single grounded theme was linked to an instance of agency, while in other instances of agency there were multiple dynamics that were counted as two or three different themes. An example of data that covered multiple grounded categories can be seen in the following excerpt from an interview transcript:

> *2. The theory of human agency refers to a person being able to influence their own circumstances in life, rather than being passive and having environmental influences dictate their personal circumstances. How do you see the context (math) in which you have been using supervisory teaching supporting higher levels of agency in the students?*
> Students have a greater freedom at working at their own pace. I always give them a choice. A centre or what task they are working at, whether it is a certain centre or problem solving or on IXL or computer tasks, they have different tasks or topics they can choose from. They are actually able to discern themselves where they are. And, most of the time I would say that students work at a level where they will actually challenge themselves.

This example is an excerpt from Libby in response to question two on the second interview. Her response has been coded twice, both red to indicate that these instances cover multiple analytic categories. Using the first example, "…working at their own pace…" was coded with the multi-category colour because it was determined that in this context her comment revealed the need for students to have both forethought and self-reactiveness in their learning. Two grounded categories were then later attributed to this

example (independence and individualised learning). This process was repeated for each analytic example, whereby each instance of agency was examined and grounded categories were attributed to that example. The collation of these results will now be presented.

5.5 Results of Grounded Analysis

The frequency of emerging themes was quantified to ascertain the prevalence of each one within and across the data sets.

An issue arose around the length of time spent in classrooms during observations. While the unequal time spent in each classroom could be viewed as a limitation of the research, it was embraced as an expected outcome of research in a school where timetable changes and lesson lengths can alter unexpectedly. The total minutes spent in each classroom were not recorded; however, the number of visits were. The numbers of classroom observations are recorded in Table 5.4. It should be noted that although Classroom X had more lessons observed, this does not mean that the total length of time spent observing was significantly more than the other two classes. Often the Exploration Time lessons in Classroom X were shorter than the lessons observed in the other two classes. Thus the length of time spent in each classroom was more equal than the number of observations suggests.

Table 5.4
Total number of classroom observations

Classroom X	10
Classroom Y	6
Classroom Z	8
Total classroom observations	24

The results of the quantification of grounded categories will now be presented.

5.5.1 Classroom X

Classroom X had the highest occurrences of analytic categories of agency (n=63), and of grounded categories (themes), across the case study. In total there were 14 different dynamics, or emerging themes, within the agency categories or the multi-property

category. High-occurring themes were independence (*n*=16), ownership (*n*=15), scaffolding (*n*=7), playful fun (*n*=5), students as teachers (*n*=5), and peer-to-peer learning (*n*=5). Lower-scoring themes included reflective dialogue (*n*=3) and student questioning (*n*=2). Other emerging themes (*n*=1) were positive feedback, control, problem solving, collaboration, and teacher agency. These themes are outlined in Table 5.5.

Table 5.5

Themes emerging from teacher interviews and observations in Classroom X

Themes	Interview One	Interview Two	Observations	Total
Positive Feedback	0	1	0	1
Ownership	6	3	6	15
Independence	6	3	7	16
Playful fun	2	2	1	5
Scaffolding	2	3	2	7
Reflective dialogue	3	0	0	3
Control	1	0	0	1
Problem Solving	1	0	0	1
Collaboration	1	0	0	1
Students as teachers	1	4	0	5
Peer-to-peer learning	0	2	3	5
Teacher agency	0	1	0	1
Student questioning	0	0	2	2
Totals	23	19	21	63

5.5.2 Classroom Y

Classroom Y had the lowest number of occurrences of analytic categories of agency (*n*=33), and of grounded categories (themes), across the case study but was also observed less frequently owing to cancellations of visits and other timetabling issues that arose throughout the course of the research. Despite fewer observations it was still possible to identify significant themes that emerged from the data. In total there were nine different categories, or emerging themes, within the agency categories or the multi-property category. High-occurring themes were reflective dialogue (*n*=10) and ownership (*n*=7). Lower-scoring themes (*n*=3) were playful fun, scaffolding, and peer-to-peer learning.

Other themes were independence (*n*=2), choice in learning (*n*=2), and reflection (*n*=2). The theme of students as teachers was minimal (*n*=1).

Table 5.6

Themes Emerging from teacher interviews and observations in Classroom Y

Themes	Interview One	Interview Two	Observations	Total
Ownership	4	3	0	7
Independence	0	1	1	2
Playful fun	0	2	1	3
Scaffolding	0	1	2	3
Reflective dialogue	2	2	6	10
Students as teachers	0	1	0	1
Peer-to-peer learning	2	0	1	3
Choice in learning	2	0	0	2
Reflection	0	2	0	2
Totals	10	12	11	33

5.5.3 Classroom Z

Classroom Z had the second highest number of occurrences of analytic categories of agency (*n*=49), and of grounded categories (themes), across the case study. In total there were nine different dynamics, or emerging themes, within the agency categories or the multi-property category. High-occurring themes were reflective dialogue (*n*=10), independence (*n*=9), playful fun (*n*=7), and students as teachers (*n*=5). Other themes were peer-to-peer learning and individualised learning (*n*=3), and ownership, scaffolding, and choice in learning (*n*=2). Themes where *n*=1 were positive feedback, problem solving, motivation, confidence, student questioning, and sharing experiences.

Table 5.7

Themes emerging from teacher interviews and observations in Classroom Z

Themes	Interview One	Interview Two	Observations	Total
Positive Feedback	0	1	0	1
Ownership	1	1	0	2
Independence	4	2	2	9
Playful fun	1	3	2	7
Scaffolding	0	1	1	2
Reflective dialogue	1	0	9	10
Problem Solving	1	0	0	1
Students as teachers	0	5	0	5
Peer-to-peer learning	1	0	2	3
Choice in learning	1	0	1	2
Motivation	1	0	0	1
Confidence	1	0	0	1
Individualised learning	0	3	0	3
Student questioning	0	0	1	1
Sharing experiences	0	0	1	1
Totals	12	16	21	49

5.5.4 Overall results

Overall across the three classes there were 18 themes identified, as summarised in Table 5.8.

Table 5.8

Themes emerging from teacher interviews and observations across classrooms

Themes	Classroom X	Classroom Y	Classroom Z	Total
Positive Feedback	1	0	1	2
Ownership	15	7	2	24
Independence	16	2	9	27
Playful fun	5	3	7	14
Scaffolding	7	3	2	12
Reflective dialogue	2	10	10	22
Control	1	0	0	1
Problem Solving	1	0	1	2
Collaboration	1	0	0	1
Students as teachers	5	1	5	11
Peer-to-peer learning	5	3	3	11
Choice in learning	0	2	2	4
Motivation	0	0	1	1
Confidence	0	0	1	1
Teacher agency	1	0	0	1
Individualised learning	0	0	3	3
Student questioning	2	0	1	3
Sharing experiences	0	0	1	1

5.5.5 Grouping of Themes

When looking at the themes it is evident that there is considerable similarity between some themes. For example, independence and ownership in learning have many similarities and in some places it was difficult to decide whether an incident was one or the other. Therefore, the Initial Grounded Themes were pooled and summarised into Key Grounded Themes, as shown in Table 5.9. Two of the initial grounded themes did not fit with other grounded themes. They were confidence and teacher agency. As they were both very low-occurring themes (n=1), they were excluded from the key grounded themes.

Table 5.9

Initial grounded themes and Key grounded themes

Initial Grounded Themes	Key Grounded Themes
Independence Ownership Choice in learning Control Problem solving	Independence and Ownership of Learning
Scaffolding Questioning	Scaffolding
Students as teachers Peer-to-peer learning Collaboration	Students as Teachers
Playful fun Motivation	Joyfulness
Reflective dialogue Student questioning Sharing experiences Individualised learning Positive feedback	Stimulated Reflection

5.6 Key Themes

Five key themes have emerged as key grounded categories after following the steps outlined above. These key themes and their posited relationship to agency are described below:

1. *Independence and ownership* – the exercising of agency occurs when there are expectations, opportunities and support for students to act independently and have ownership of their learning.
2. *Scaffolding* – student agency is enabled through a specific type of intervention that overcomes small hitches and prevents them from hindering the exercising of agency.
3. *Students as teachers* – agency develops as students assume the role of a teacher in learning experiences.

4. *Joyfulness* – exercising agency often occurs concurrently with overt signs of pleasure in the learning process.
5. *Stimulated reflection* – exercising the properties of agency can be enhanced by dialogue between teacher and students.

5.7 Summary

This chapter has outlined the steps taken to analyse the data collected for this research project. The structural levels of each classroom were discussed anecdotally using the Supervisory Teaching Framework Matrix. This exploration showed that each classroom implementing supervisory teaching had different levels of structure. Classroom X was the least structured and Classroom Y had the most structure. Following a discussion of the structure levels, an analysis was conducted to see which acts of teaching were significant in the implementation of a supervisory teaching environment during this research. It was found that three acts of teaching were used often in the implementation of supervisory teaching in this research, namely: questioning, facilitating independent inquiry, and direct instruction. A fourth act of teaching – modelling – was used rarely. Finally, the data were analysed to see what types of agency-related activity occurred within the supervisory teaching environment. Initially this process involved identifying instances of agency in the data. This process was followed by analysing occurrences of agency to see what grounded themes emerged. These initial grounded themes were then combined into five overarching themes. The next chapter will now complete the analysis process, as adapted from Berg's (2004) model, and discuss each of the five key themes that have emerged.

6 Discussion of Themes

6.1 Introduction

Having established that there are five key themes, or categories, that have arisen from the data, I embarked on a lengthy process to develop more clarity around what these themes actually mean. The process was one of folding backward and forward between various copies of data and relevant literature and unpacking the agentic nature of these themes as they occurred within the supervisory teaching environment. The discussion of this process is presented in this chapter.

Each section of this chapter is devoted to one of the five key themes. Sections begin with a description of what was happening in the research. Building on this description, the discussion then clarifies what is known about the emerging theme using examples from the research in unison with current and historical perspectives from literature. The specific acts of teaching that enable the expression of the key themes are referred to and then discussed in more detail later in the chapter. The narrative display adopted to achieve this goal is accompanied by diagrams which are used where appropriate to bring further clarity. Cooksey and McDonald (2011) support the use of both the discussion and diagrammatic representations as methods that are helpful in bringing clarity to emerging findings in qualitative research.

Each section in this chapter concludes with a summary of key findings that relate to agency development. This summary includes the identification of specific dynamics that are present in the supervisory teaching context that can lead to students acting with agency in their learning. These dynamics have been called *agency developers* and are specific features of this pedagogical approach that gave rise in this study to expressions of student agency. Included in this final section is reference to the the acts of teaching utilised in the process of agency development.

6.1.1 Independence and Ownership in Learning

There was a strong link between expectations in the learning environment and students acting with agency. These expectations were seen in both phases of the Supervisory Teaching Framework. This section will speak broadly of how the expectation of independence and ownership, which is implicit within supervisory teaching, led to student agency.

6.1.1.1 Phase Two expectations

Observations of classroom activity that took place during this research showed that there was a clear expectation that students would be actively involved in shaping their own intentions and plans within the classroom. This process was exemplified in Phase Two when there were extended times of working autonomously from the teacher. At this time there was an expectation for the students to take ownership of their learning. With the teacher spending his or her time focused on tutorial discussions, there is a need within supervisory teaching for students to be self-managing. This context provided an opportunity for students to bring forth their ideas and have a voice in the direction that the learning was taking.

During Phase Two students in all classes could be seen owning the direction of their learning in a variety of ways, including operating both individually and socially in conjunction with their peers. The challenge to take ownership took time as students adjusted their perceptions of what was acceptable in the learning process. As Libby highlighted:

> I tell them they can work together and they can teach each other. They're the teachers as well. So, when they understood that they were able to teach one another and be able to combine learning and co-operate and think more deeply about their learning, instead of just being fed something by the teacher and just writing down the answer and following a formula, yeah, so they are able to take ownership of their learning and help one another as well.

Students on numerous occasions could be seen to be exercising agency because they were expected to make decisions about the direction and nature of tasks they were completing, as well as how they completed them. Some of the time these decisions were made individually and at other times as they collaborated with each other. Libby gave an example of this during one of her interviews:

> In one of my centres I just printed off a chart, that you can actually see on my wall right now, and I had different lessons that they could choose and they could actually teach themselves and teach each other. So, they could go up and choose which lesson they would like to go through, and they could put a checkmark to show which one they had done. Most of the time they would just have a basic

> understanding already but they would just go to a page and work with a buddy and I would say, "When you are finished just pick another lesson and learn it." So, it was kind of like how adults learn using online modules – you know? They just choose what they want to learn, they go to that page, they learn it, they do the exercises and they talk about it. And I can hear them using the vocabulary and when I would walk up and ask them about it then I would joke, "Oh, you don't need me anymore. You can teach yourself maths."

When students are given ownership and teachers expect them to make choices in the learning process then students respond by being intentional in the way they conduct their learning. Libby explains in the above quote how she gives her students ownership, when she told her students they had a choice and that the direction of the learning was up to them. They were guided toward learning that required them to be intentional because they were being asked to choose the path that their learning should take. They had to decide what they wanted to learn and how they were going to go about learning it. Students holding intentions and then acting with control to bring them to pass (Bandura, 2008; Hewson, 2010) is very much the essence of agency.

Ownership of the learning seemed to lead students to choose pathways that reflected their own interests and passions. An example was in Classroom X where students were allowed to work during Exploration Time at a construction centre. This centre was set up with a number of recyclable items such as cereal boxes, scrap cardboard, bottle lids, and paper cups. Other materials were also available such as tape, glue and scissors. Students were free to create what they wanted. The whole premise was: design and make whatever you want. One student developed a model of a car. His focus and determination during this time was evident. He met the challenge of using the resources available to develop his intended outcome. Once he had finished he created a model (not real) remote controller for the car. He was extremely satisfied with the outcome. It was an accurate reflection of a racing car and the finished product was very detailed. When speaking with the boy once he had completed building the car and remote, it was clear that he had a definite interest in cars and being able to own this project and draw on this interest had enabled him to exercise agency throughout. His ownership over the initial intention led to a focused and clear plan and pathway forward. He was then very motivated to implement the design and spoke very thoughtfully as he later reflected with his teacher.

The emerging idea here is that placing students in a context where they are expected to own the learning is important because students respond by bringing their own intentions and acting on them. Kumpulainen and Lipponen (2010, p. 50) highlight the importance of this behaviour:

> The competence to function in multiple contexts is developed while students are posited in activity systems where they are framed as authors of their own learning. It is hypothesised that this strengthens students' agency; in other words, it gives them the possibility to learn to act authoritatively and accountably (problematising and solving issues), and to build a strong participatory identity and ownership of learning. Children do not merely react and repeat given practices, but intentionally transform and refine their social and material worlds as they confront particular challenges.

It can be seen from this quote from Kumpulainen and Lipponen that being the owner of one's circumstances is the essence of agency development. It was observed during the research that when teachers make room for the direction of learning to be owned and shaped by students, then students rise to the occasion and form intentions of their own. This result usually happened when the teachers were not overly prescriptive on how to complete a task, allowing students to develop plans and exercise forethought themselves. This process leads to students being self-reactive and acting of their own volition to create and move forward in their learning. These actions are essentially three of the four key characteristics of agency – intentionality, forethought, and self-reactiveness (Bandura, 2006). Libby referred to the way Phase Two of supervisory teaching facilitates students' functioning as owners of their learning:

> Most of the students have learned to be independent over the year ... [supervisory teaching] does teach independence. In terms of how once they know that...there is a classroom culture where they must challenge themselves and persevere and take up an ownership in learning, then I think this model really encourages them to do that... so they are able to take ownership of their learning.

Note that she mentions that this is something that the students had learned over time after functioning within a supervisory teaching environment, which indicates the significance of the environmental conditions. Allen and Fraser (2007) have shown that students

greatly prefer learning environments where they can make sense of concepts without the direct support of the teacher. That is, they like learning that has more independent investigation and less teacher involvement.

This finding was substantiated by observations of Libby's class. A student was observed who was being medicated for ADHD and known to be easily distracted. At the beginning of the year there were plenty of examples of his distractibility. However, on one day late in the data-collection phase he was very focused and concentrating on a problem-solving task he had chosen. I stopped and watched him from a distance. He arrived at a mathematics centre where he could choose between several different geometry-based activities that could be done independently. The student was expected to form, on his own, some basic intention of what he wanted to do, then decide how he wanted to complete the chosen activity. On this occasion he selected a tangram puzzle. He then formed an idea of how it could be solved, tested it, and discovered that his hypothesis did not work. When he learnt that his initial idea was not successful, he formulated a new idea. This process was repeated for around 15 minutes before the problem was solved. The student was in a constant process of exercising his intentions, developing ideas, implementing these ideas, and reflecting on where changes could be made to improve on previous ideas. The motivation and focus for this agentic action seemed to come from his own interest in the activity that he was able to initially choose and based on this level of interest he was motivated in his learning. While watching him I found myself thinking about how great it was to see this boy, who was someone known to be unfocused and difficult to motivate, engaged in learning. I also considered how unlikely it would be to see him like this if this was not a task that he had been able to choose and pursue, given what I had previously observed. It was obvious that the exercising of agency was linked to the extent to which the task demanded that students be agentic, that is, that the student be expected to have his own intentions as an integral aspect of what he was doing.

In the above example, the exercising of agency was based on the opportunity and expectation for ownership. It could be seen that the expectation of how a task should be completed is important. This notion is strongly supported by Stefanou, DiCinto, Perencevich and Turner (2010) who showed that teachers can provide opportunities for ownership in the way they shape classroom procedures and, when shaped to allow autonomy, there will be better initial engagement in learning. Teachers when curating the learning environment can 'set' all kinds of tasks. However, if they are to make provision

for students to exercise agency within these tasks, they need to look at the extent to which the task requires students to have their own intentions, develop strategies for completing the task, and whether implementation is in the hands of the learner.

In summary, these observations point toward thinking that the more restrictions placed on the learner the less likely student agency will be. Phase Two learning often showed that the lack of direct teacher involvement led to an expectation that students would act autonomously and take ownership of their learning.

Due to the fact that teachers are typically engaged with other students during the independent stage, it makes sense that they set less prescribed tasks with a degree of flexibility. If they do not do this it becomes difficult to establish and maintain the supervisory structure because the students need too much support, which pulls teachers away from learning conversations in Phase One. In established models of supervisory teaching students are expected to guide the direction that learning will take when working in the independent phase. For example, The Writers' Workshop advocates that students set their own goals for what they will work on as a writer (Calkins, 2006; Calkins, Hartman, & White, 2003). Palfreyman (2008, p. 17) supports this idea when referring to the independent phase of learning, saying it "encourages the student to take an active rather than passive role in learning and develops skills in self-directed study and working independently". If students are expected to think, plan, and act independently of the teacher, they need choice in what they do and how they achieve their intentions. When this was an expectation then the exercising of agency was seen to happen more readily. However, it should be noted that teachers still achieved the expectation that led to effective agentic learning by providing some structure and allowing for freedom within it in order to provide the chance for students' own intentions and plans to be exercised.

6.1.1.2 Phase One expectations

Until this point the focus in this section has been on learning in Phase Two and how it has drawn students into agentic activity because it demands certain levels of student ownership and independence. Control of the learning experiences in Phase Two is typically with the student due to the fact that the teacher is engaged in learning conversations with either an individual or small group in Phase One discussions. However, it was found that Phase One can also set in place an expectation for ownership and independence.

In Phase One, ownership of the learning was shared with students by giving them a chance to bring their own intentions and ideas to learning conversations. Firstly and most obviously, learning conversations were often shaped by the students' own ideas. Teachers adopted a questioning approach during learning conversations to achieve this goal. In Classroom X it was evident in the way that Gordon asked students simple conversation-starting questions such as, "What have you been working on today?" And then, "What are your next steps in this process?". In Classroom Y, where writing was the focus of the observations, Kristina began learning conversations with, "What have you been working on as a writer?" When teachers asked certain questions of students it opened the door to students actively participating with the teacher in the discussion. Students were encouraged to act with a greater sense of agency by being required to share their own thinking and intentions within a specified topic. All teachers were found to use questioning to achieve this goal in their learning discussions. Typically learning conversations were started with an initial question that drew the students into the learning from the outset of the conversation.

Although structural levels varied across the classrooms there was a common pattern to the way teachers provided the opportunity for student ownership. Teachers opened up the learning conversations to students by asking questions of their learning in Phase 2, which seemed to occur regardless of the structural levels in Phase 2. Kristina's Classroom Y was more structured than the other two classes. However, she did invoke student ownership of the learning conversation by allowing them to set the agenda for some of the Phase One learning. Often she began with a simple conversation starter such as, "What have you been working on as a writer lately?" This simple question immediately placed an expectation on the student that they would contribute their own ideas. This situation was often seen in Gordon's classroom where he would start his conversations with the question, "What have you been working on?" I observed Gordon asking such a question many times throughout the research with the result of students becoming active in owning and shaping the conversation. For example, on one occasion Gordon arrived at a centre and sat down next to three students and asked them about what they had been working on. The students had been building a house from Lego and were using a picture from a book that they had seen in the library. The students very quickly discussed what they were doing and where they had got the inspiration. They were describing, in detail, what they were doing and the process they had been through to arrive at their current situation. Their

ideas and plans were very evident as they spoke at length about the task in which they were involved.

The value of student–teacher discourse has been shown to be valuable in the teaching and learning process as it can promote higher-order thinking (Ritchhart, Church, & Morrison, 2011). Marshall and Smart (2013) showed that there is a correlation between teacher questioning and raised cognition in the classroom. This claim is backed up by findings of Redfield and Rousseau's (1981) extensive meta-analysis on teacher questioning. They found that the effects of questioning had a significant impact on student achievement. Teacher questioning has a strong empirical foundation for supporting students in their learning in various ways. This research extends this result to include the eliciting of agentic attributes by expecting young primary-school students to contribute their intentions to learning conversations. As outlined above, the process is not sophisticated. Often the questions that teachers posed to students were very straightforward. However, the type of cognitive response seen by the students still required the questions to be asked.

In addition to providing opportunities for teachers to utilise questioning for agency development, teachers also encouraged students to exercise agency by drawing on their agency from Phase Two. Often students entered tutorial discussions having recently had very purposeful experiences in Phase Two. Teachers were seen to encourage agency when asking the students to draw on previous agentic experiences during learning conversations. Libby discussed ways that she was able to do this when she said:

> One example is in my game centre. I had some tangram pieces out and they started to use them to make 3D objects and 3D is actually the next lesson that I was going to teach in my next mini-lesson. So they were able to extend the plain shapes and the tangrams and extend it to the next lesson. That was really cool because they were able to teach the class some of these things as well.

In another example, Gordon once asked a group of students, "What have you been developing while at the Lego centre?" In response, the students he was speaking with immediately launched into a description that not only exhibited the agency they had during Phase Two, but that was itself agentic in the context of the immediate discourse. Specifically, students reflected on what they had done and recounted their self-reactive behaviour step-by-step. Then Gordon's next question was, "What will you do next?" The

students launched into a host of suggestions that represented their intentions in the form of next steps. This interaction showed that questioning can guide students toward discussion around their agency from the Phase Two context and can encourage students to actively exercise three of Bandura's (2008) properties of agency, namely, intentionality, forethought, and reflection.

The importance of bringing experiences from one learning context to another is significant in agency development. Kumpulainen and Lipponen (2012, p. 112) state that "the funds of knowledge developed in one setting should become resources in the other. This is likely to increase learners' agency and active engagement in learning." Pugh and Bergin (2005) support the potential for cross-context support in developing agency but point out that there is still work to be done to better understand how learning in one context may impact on learning in another. Despite the need for better understanding, there is a correlation between this research and other literature that shows that agency can be enhanced during Phase One learning conversations by drawing on students' agency from their independent learning time in Phase Two. This outcome was seen as teachers adopted questioning in the tutorial experience.

6.1.1.3 Summarising the benefits of the expectation for ownership

Observations showed that the expectation for students to contribute their own ideas and set the direction of learning led to a natural exercising of agency. Phase Two enhanced agency by putting students in a position whereby they were expected to hold their own intentions about the direction of the learning. It can be said that if teachers are to develop agency they need to allow students to contribute their own ideas and play a part in shaping the direction of the learning during this independent phase. Phase One learning provided opportunities for agency by asking questions that invited student participation and encouraged the contribution of agentic experiences from Phase Two.

In both phases less structure appeared helpful in eliciting agentic responses from students. Barker (2005) shows that structure levels are significant in the development of agency and that the decreasing of structural levels helps to invite agency. The Supervisory Teaching Framework shows that learning within both phases will vary in structure. This research shows that when there is less structure, agency is more prevalent. This is shown by the fact that several of the grounded categories that emerged from the analysis were related to less structure in the learning environment. Ownership, independence, and choice in

learning were all examples of significant grounded categories that indicated that agency and low levels of structure in the learning environment were found together in this study. This relationship is shown in Figure 6.2.

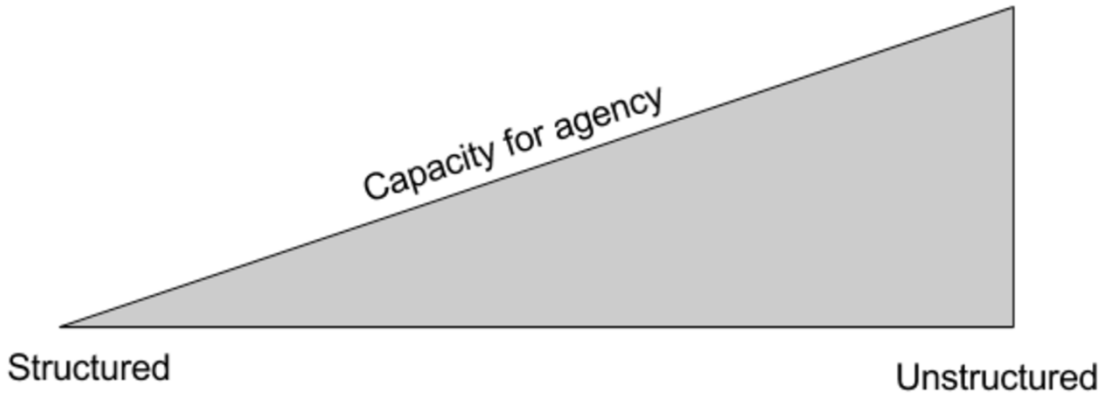

Figure 6.1 *Effect of structural levels on agency capacity*

Doubtless there is a place for structured learning environments. However, with regards to agency, highly structured tasks require little or no independently formed ideas or intentions leading to little of the student's own thinking. So, while structured teaching might be helpful to develop certain skills, unstructured learning is absolutely vital if agency is to be exercised. Agency by nature requires individuals to bring their own ideas, plans and perspectives (Bandura, 2006; Kumpulainen & Lipponen, 2010). Structured learning environments emphasise the ideas, plans, and perspectives of others – usually the classroom teacher. Unstructured environments provide opportunities for the ideas, plans, and perspectives of students to come to the fore.

6.1.1.4 Emerging agency developers

There are two key agency developers that have emerged from an analysis of this theme of student independence and ownership. The first is a learning environment with expectations that students will have control in their learning. The data gave a number of examples of students providing an agentic response to the lack of teacher direction when they were functioning in Phase Two. That is, when students were expected to have a voice in the direction of the learning and conversations about learning they developed intentions and associated plans, then acted on them. The act of teaching utilised to establish expectations of control was *facilitating independent inquiry*.

The second and related key agency developer is teacher–student learning conversations. Discussions between students and teachers have the potential to enable students to act with agency by opening a way for students to exercise their agency. Teacher questioning can invite students to discuss and reflect on agentic learning that has taken place in Phase Two. The above discussion shows how teachers achieved this situation through asking some very simple questions.

6.1.2 Scaffolding

One way that supervisory teaching was observed to support agency development was through a type of scaffolding, termed here as *unhitching.* This term has been used because of the way the teacher would often support the student toward greater agency by unhitching them from factors in their learning that were blocking agency. In this research students were at various times seen to lack small but vital skills or knowledge while involved in learning. At times it seemed that there were one or two functions within a sophisticated task that prevented students from moving forward with their intentions in a self-reactive way. Sometimes these hitches slowed down or brought to a halt the activity the students were involved in. Often the hitches were seemingly minor but curtailed the momentum of a task and therefore the ability of the student to exercise agency. Even as students were enthusiastically launching into their learning with clear intentions and a comprehensive plan to implement them they were, at times, blocked by one small problem. It might be a skill they did not have or a key piece of knowledge that was preventing them from using a vital tool. Often this missing piece caused considerable frustration. At times, a small well-timed intervention from the teacher during the Phase One tutorial discussions removed the problematic aspect and enabled the child to progress with agency in their learning. These interventions when made in a timely manner by teachers prevented a task from losing momentum.

The unhitching scaffold typically came out of the supervisory conversations between teacher and students. Gordon explained the simplicity of this dynamic at work when he said:

> I guess when some of the kids are trying to, say for example, build something from the Lego book, some things might be tricky and they might not be able to see how making a connection here or making a connection there might be able to stabilise

> the structure better. So perhaps giving them the hint means they can continue with what they are doing.

Providing the unhitching scaffold was often observed when the teacher conducted learning conversations at the students' tables. The approach of conferencing at a set place in the class such as a conferencing table, despite providing other valuable support, was less effective at seeing the teacher provide the unhitching scaffold and it is hypothesised that this is because teachers did not have a real problem to unhitch students from in this context. In order for it to occur more effectively in a space removed from the Phase Two activity, the student needed to effectively describe or reproduce the scenario from their Phase Two learning. Calkins, Hartman, and White (2003) advocate learning conversations occurring in the midst of ongoing learning tasks because it brings feedback to students as they are in the act of learning. Successful feedback occurring as learning was occurring was evident in this research because teachers could remove barriers to students' learning. Sometimes the unhitching could be seen in very practical ways. For example, in Gordon's Grade One class students were exploring an online virtual globe and map called Google Earth. One child was struggling to find the exact location he was looking for because zooming in and out was very cumbersome. Gordon noticed that the student would benefit from using the scrolling mechanism on the mouse. However, being a Grade 1 student, the child was not aware of this option. Gordon entered into a tutorial conversation with the boy, asking, "What are you working on?". The boy discussed what he had been doing. The conversation quickly moved to the issue of zooming accurately. Gordon gave a quick 15-second explanation to the student that enabled the child to continue the exploration without the frustration of having to locate the zoom keys to the side of the screen every 20–30 seconds. In this particular example the student was exploring the street where he lived. He had a clear intention of what he wanted to do and was being self-reactive by way of actually carrying out his intention. The function of zooming was an issue slowing down and frustrating the student's bigger plan. The teacher released the student from this issue that would have otherwise involved the student exercising agency more readily. When this hitch was addressed, he was enabled to keep pursuing his line of enquiry.

These types of interventions were regarded as scaffolding because they provided students with support to achieve intentions above what they can independently achieve. Providing support to learners to enable them to function above their independence capability, enables students to function at a higher cognitive level in the Zone of Proximal

Development (ZPD) (Vygotsky, 1978a). The specific approach of unhitching was not evident in early and key descriptions of types of scaffolding (Hammond, 2002). Hammond and Gibbons (2005) point out that teachers can be effective in freeing students to focus on the learning domain in which they are functioning by removing small but disruptive barriers. This dynamic is more than just supporting learners to do more. As Kozulin, Gindis, Ageyev and Miller (2003) point out, any learner can achieve more by receiving help from a more able other. This research suggests that rather than just adding to what students have done, scaffolding enables agency in students by removing small but significant barriers and allowing students to enter into agentic activity.

6.1.2.1 Facilitating the scaffold

Questions and direct prompts were two ways that the teachers were able to provide the unhitching scaffold in areas where the exercising of agency showed signs of being slowed down. The dialogical nature of the interactions between teacher and student led to the teacher being able to understand in what ways they could support the student and if there were any obvious hitches to the students' learning. This understanding was often the result of asking a basic question during a tutorial conversation. Teachers were then seen either using further questioning to lead the student to make a change that removed the hitch or telling them directly why their progress was being hindered.

The questioning was seen to help the students reflect and adjust their intentions and thoughts, liberating them to move forward in acting with agency. There were several examples of the teacher asking a question of the students that would cause them to reflect meaningfully on what they were doing and then make purposeful adjustments. One example was seen in Classroom Z. Libby was working with a group in Phase One. She had built into the learning conversation some problem-based tasks to support what the students were learning in mathematics. The students would complete the questions using solutions of their own design. As they were only Grade 3, often the students would make basic mathematical mistakes as they were engaged excitedly in a problem that had multiple parts to it. Libby would call their attention to the mistake by asking a question such as, "Are you sure you have your addition correct?" This question would cause the student to check their basic mathematical computation, which would easily have caused issues further along the problem-solving process. This simple intervention meant that the problem of sloppy computation did not get in the way of the more important aspect of learning to independently problem solve.

Although questioning was used effectively to unhitch students, explicitly telling students where they were hitched also supported the students' capacity to have agency in their learning. One example of this was seen in Kristina's class when she was conferencing during literacy time with a small group. The discussion was quite powerful and included students sharing their own perspectives and experiences on the topic. However, there was a confusing section in the book that relied on knowledge of an animal's teeth. The students' lack of this knowledge took the momentum out of the discussion. Kristina fixed the problem by providing some direct instruction on the issue that helped the students settle their confusion. They were then able to continue with their reading and discussion.

6.1.2.2 Summarising the dynamic

In summary, it was found that supervisory teaching gives rise to a type of scaffolding identified here as unhitching. This scaffolding provides students with the opportunity to operate more agentically by removing a barrier to learning that is blocking their acting with agency. The notion of the ZPD in both general development and the development of agency is not about enabling children to do more (Vygotsky, 1978b). Done correctly, the support a teacher provides within the ZPD enables a student to progress developmentally, which in this case involves increasing the capacity of the child to act with agency by eliminating small hitches. This scaffolding was seen as the teacher engaged in tutorial conversations with students and seen best when these conversations took place in close proximity to where Phase Two learning was taking place or with specific evidence from Phase Two present.

Figure 5.1 shows how the support of teachers to remove limiting factors in the learning can provide subtle yet significant help to the student. Unhitching was seen to occur through two types of teacher comments. The first was explicit suggestions where teachers put forth an idea to support the student. The second was through stimulating reflection by asking a question. The diagram represents the way a student's capacity to function with agency can be misaligned because of the hitch. Once the support is provided and the hitch is removed, the student can move with less inhibition into exercising agency.

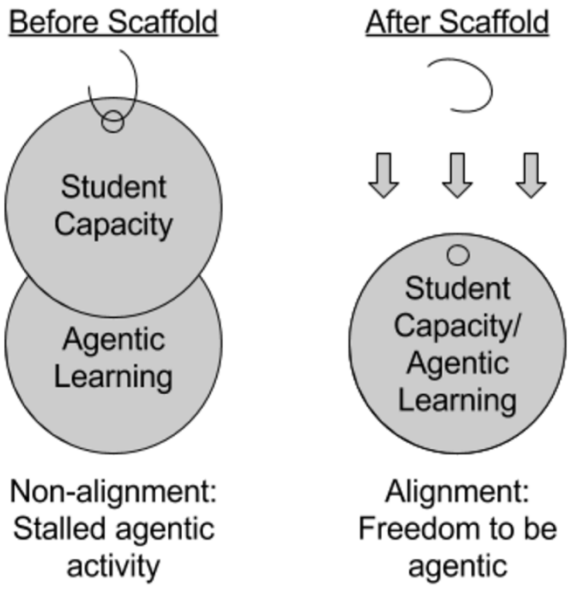

Figure 6.1 Unhitching learning through scaffolding

6.1.2.3 Emerging agency developers

One key agency developer emerged from an analysis of the scaffolding theme. It has been termed unhitching, a phenomenon whereby the teacher removes a barrier to students being able to exercise agency in their learning. Learning conversations in Phase One were the vehicle by which the teacher unhitched or removed barriers to learning. As can be seen from the examples of unhitching in the data, it was important that the Phase One learning conversations happened immediately after or as Phase Two learning was occurring for unhitching to be effectively implemented. The implementation of unhitching occurred using two acts of teaching. Sometimes teachers would provide *direct instruction* to students, at other times the students were guided by the asking of pointed teacher *questions*.

6.1.3 Students as Teachers

It was observed that during supervisory teaching students taught other students and that these encounters related to agency being exercised. During Phase Two when students were expected to work without the teacher for long intervals, students were seen providing support for each other by taking the role of the teacher. This peer-to-peer support involved students in exercising agency in collaboration with others, by instructing others, and by stimulating reflective thought through questioning.

Peer learning, or peer-to-peer learning, has an exhaustive base of empirical discussion (Boud, Cohen, & Sampson, 2001). Griffiths, Houston, and Lazenbatt (1995) identify at least 10 different models for peer learning, indicating that the notion of peer learning encompasses a variety of expressions. These categories are quite structured in their implementation and imply the need for teachers' support to become established. However, the peer learning observed in this research was often impromptu and occurred without specific teacher direction. Therefore, the context and scope of this analysis take a broader view based on Boud, Cohen, and Sampson's (2002) work. They assert that students can derive much learning from any context where they are free to explain their ideas to others during activities that involve their peers. So, peer learning in this instance is seen as "an educational practice in which students interact with other students to attain educational goals" (O'Donnell & King, 1999, p. 3).

There are two views on how peer learning can be facilitated. Boud, Cohen, and Sampson (2002) argue that it should take place within a structured environment where teachers make the nature of the learning explicit to students. They argue that the opportunity for learning is often lost because teachers do not bring clarity to how they expect peer-to-peer interactions to take shape. On the other hand, Mitra (2003) and Mitra and Rana (2001) found that when children were put into an unstructured situation, that is, without significant adult intervention, they were able to learn from each other rapidly. In this research little of the structured type of peer-to-peer teaching was evident; instead, the peer learning that led to the apparent rise of agency in the classrooms occurred within an unstructured environment, that is, an environment with less (but not no) teacher direction.

6.1.3.1 Social empowerment

Students corrected, made suggestions, supported, offered ideas and made evaluative comments on each other's work when functioning in Phase Two. The prevalence of these behaviours was very apparent to Gordon who said of the students:

> working independently [from the teachers] they learn how to learn in a more collaborative way. They learn from each other and that some people are good at certain things. To know that those are the people to go to for certain things, and to just be able to share that information … and for 6- and 7-year-old kids, they love to share what they know.

Gordon made his statement about "working independently" in reference to the students' learning independently from the teacher. He highlights that when the teacher supports this activity, students gravitate toward their peers during learning, and some take on instructional roles, such as the role of teachers within the classroom environment.

Students were seen to be continually learning from each other and being empowered by each other to develop and grow when learning independently. One way is through the refinement of ideas. Students seem to naturally critique each other's ideas and perspectives, as seen in Classroom Z at a table where students were asked to function as a group without the teacher's support when solving mathematical problems. Two students were seen working together discussing the validity of one of the student's answers. The more the students interacted and made conjectures about what they were doing, the more their ideas were refined. The conversation began with one boy telling the other that what he was doing was not the best way. The second boy in turn defended what he was doing. Although the task was in essence the solving of relatively simple mathematical equations, the fact that a peer was involved gave rise to quality dialogic inquiry and development of a greater understanding for the students. Significantly, during this research such behaviour occurred, at times, without any teacher intervention. Tharp and Gallimore's (1988) assertion that teachers are vital components in dialogic inquiry did not seem to apply if by 'vital component' they are referring to teachers being actively involved. Instead, Alexander's (2006) important components of quality dialogic interaction, such as collectiveness, reciprocity, and cumulative learning, occurred as students engaged with each other without the direct influence of the teacher. This is not to say that teachers are not important in this process. They need to be willing to let students have the freedom to work together independently, as was recognised by Gordon in the above quote.

Classroom Z's teacher Libby did not intentionally plan for this specific type of interaction. However, she was well aware that this type of learning takes place simply by situating students in a Phase Two context. When talking about her classroom in the interview Libby supported the scenario highlighted above:

> they understood that they were able to teach one another and be able to combine learning and co-operate and think more deeply about their learning, instead of just being fed something by the teacher and just write down the answer and follow a formula.

Gordon also saw the peer-to-peer learning naturally occurring, commenting:

> I see a lot of benefits in terms of the confidence in the way that they are able to tell each other things … They learn how to learn in a more collaborative way ... they love to be able to teach their friends.

Here it can be seen that when given the chance to function in less structured settings where they can make choices collectively with others, students can begin to find a type of group agency as they dialogically make sense of the phenomena they are exploring. Described by Bandura (2006) as social agency and by Edwards and D'Arcy (2004) as relational agency, students adjust what they do depending on the strengths of others in the community, as well as by new learning that individuals may stumble upon by chance. Peer learning and tutoring can provide key knowledge and strategies at the appropriate time and enable others to realise intentions and plans. An example was seen in Classroom Z when students were playing mathematics games. I noticed that a game I was watching had several "hacks" or "tricks" that students had discovered to improve their ability to play, which were not necessarily directly related to learning mathematics. For example, at one time the students figured out that angling the hourglass made it run faster, giving the opposition less time to complete the task.

The social dynamic that existed when peers interacted with each other differed from their interactions with the teacher. There were times during Phase Two when students were seen learning from each other in a very open and free way, without inhibitions. One example was the way that students analysed their work. In Classroom X one day, a group of boys worked on building a Lego structure. They reached a point in the project where a major decision had to be made. The interaction between two boys was intense as each boy spoke with the other vigorously about the direction the project should take. Within this conversation there was considerable reflection on what the students were doing as well as very productive presentations of possible plans to implement intentions. Another time I wrote in my observation notes, "One boy is questioning another while sitting on his desk. Telling him that he is right and his friend is wrong, he then starts explaining why and how. The boy who is learning then moves on with his task with more clarity and confidence." This type of conversation and the interaction that came about as the boys

built their Lego structure was commonplace in the research and led to students thinking more reflectively about what they were doing.

The freedom that the students had in Phase Two enabled the collective exercising of agency. Such passion and enthusiasm were not always present at the same level when students interacted with a teacher directly, where typically they were more subdued. Such lower-level enthusiasm is in line with Newstead's (1998) assertion that students' interaction with teachers can evoke feelings of anxiety, therefore making students less willing to fully engage. Although certainly not true of all teachers, this claim was supported by Jackson and Leffingwell (1999) who showed that students viewed teachers' actions in the classroom as more significant for promoting anxiety in students, as opposed to their peers who were not viewed as promoting stress or anxiety. Jackson and Leffingwell (1999) suggest that a greater level of anxiety when interacting with teachers is due to perceived rather than real threat. Nevertheless, this finding shows that students can operate less freely when faced with having to engage directly with teachers rather than their peers. An unstructured approach to learning that allows for collaboration between peers provides opportunity for more liberty in learning that leads in turn to greater reflection and the potential for self-reactive activity in collaboration with others.

6.1.3.2 Stimulating reflection through Phase Two learning

As students take on the role of teacher they also develop the agentic property of reflection. In the words of Bandura (2001, p. 10), "the metacognitive capability to reflect upon oneself and the adequacy of one's thoughts and actions" is a core feature of agency. The research demonstrated that an ongoing interaction between students promotes reflection on their actions. Whether through constructive criticism, feedback, a suggestion, or instruction, peer-to-peer teaching that occurs when students are free to dialogically engage can lead to deeper levels of self-reflective thought.

Students were seen establishing their own feedback loops in class whereby their remarks on each other's actions were taken seriously and caused greater reflective thought. One example was during a mathematics lesson in Classroom Z. A group of students had been allocated some problem-solving tasks as part of their Phase Two learning. These tasks were to be completed individually but there were no barriers to the students making sense of the problems collectively. One student was working very hard on trying to solve a problem. The student next to him provided commentary on his method. The second

student would make comments such as, “If you put that number there it unbalances the puzzle.” And, “Think about a number that isn’t too big and isn’t too small so the puzzle doesn’t lose its balance.” These comments led the child look more closely at what she was doing. The conversation was very much the type of conversation that you might hear between a teacher and student. The comments of one child prompted reflection on the part of the other. So, without actually solving the puzzle for the first student, the second one was stimulating reflective thought, which supported the first student to refine their approach.

In this example we see one student having their metacognitive capability to reflect being stimulated by the feedback received from a peer, in line with Bandura’s (2001) definition of self-reflection, that is, an evaluation and judgment of the outcome of one’s actions. Classmates were seen playing a pivotal role in this process because as in the example above, they prompt thoughtful consideration of each other’s actions.

There was little literature found in the realm of unstructured, peer-mediated self-reflection. Yet in the context of this research students were seen to stimulate reflection even when not planned for by the teacher as they exercised the opportunity to engage with each other. Peer-stimulated self-reflection mostly focuses on those advocating teacher-facilitated frameworks. Mitra (2003) did show that unstructured peer learning had the potential for rapid learning, and it could be assumed that agentic properties are vital given that students would need to be in control of the process. However, when it comes to peer learning most research literature focuses on approaches that are structured and enable students to move through a set process with their peers (Chi, De Leeuw, Chiu, & Lavancher, 1994).

It was apparent from reading and rereading through the data that Phase Two offered the conditions necessary for students to move into the role of the teacher. There was freedom for students to assume this role as their teachers were not particularly focused on governing the way students went about their learning. This laissez-faire attitude seemed to allow for a sense of comfort and confidence at taking on the role of the teacher. Classroom X’s teacher Gordon said:

> There is something innate in kids. They want to teach other kids things that they have learned. Most kids are very, very comfortable with showing others what they

> have learned and what they have discovered. I think that empowers them, to know that this works and that I know something, I show it to other people who learn from it as well and maybe next time they will teach me something different and I will learn from them.

In this statement, Gordon highlights the value of peer learning for agency development. Again, the word "comfortable" hints at a key reason for Phase Two learning being effective at promoting peer learning that leads to greater agency. When two students interact and one takes the role of the teacher, interactions are less threatening, and learning and growth are enhanced (Combs, Avila, & Purkey, 1978). When individuals perceive threat they react in two ways. Firstly, they adopt tunnel vision, focusing on the perceived threat, and secondly, they become concerned with protecting their position and take on a defensive disposition (Combs, 1975). These types of self-limiting responses are not conducive to acting with agency. Supervisory teaching is a potentially potent context for learning and acting with agency because it provides extended times of minimal teacher intervention. It should be noted that all theorists do not necessarily see this dynamic as a pathway to meaningful learning or agency development. For example, Kutnick (2017, p. 1) states, "Simply placing pupils in classroom groups and expecting that effective learning will take place has proved naïve – often to the frustration of teachers, pupils and parents". However, this research provides evidence to the contrary showing that giving students freedom to interact alongside peers will lead to meaningful learning provided the context is conducive, as it seems to be in an independent learning arrangement. This observation is supported by the research of Mitra (2000, p. 20) who found that when learning environments are minimally supervised by adults, students "pick up skills and tasks by constructing their own learning environment".

6.1.3.3 Summarising the significance of peer learning

In summary, students exercised agency as a social group, on behalf of each other, either by directly assisting a peer or by means of encouraging reflective thought through collaboration. It was seen that social construction through peer learning could be a powerful supporter of student agency. In an environment where independent learning is encouraged, students seem willing to engage in learning conversations with each other, freely sharing their intentions and ideas for the purpose of bringing them to fruition.

There are examples both anecdotal and empirical that support informal peer learning (Havnes, 2008; Mitra, 2003; Mitra & Rana, 2001). Although there is little specific research that examines the link between informal peer learning and agency development, this research points toward supervisory teaching as a mechanism for agency growth. Students can help one another to learn academic content (O'Donnell & King, 1999) through taking on the role of the teacher. Supervisory teaching can make provision for extended times of independent engagement and learning, and can thereby enhance student agency in the learning process.

6.1.3.4 Emerging agency developers

One key agency developer, namely, an unstructured learning environment, emerged from an analysis of the theme 'students as teachers'. Unstructured learning in Phase Two supported the development of an environment that supports students to work alongside each other, and to take on the role of the teacher in supporting others in the peer group. Providing less structure to the learning environment allowed students to conceptualise the learning environment as a place for their own ideas, allowing agentic learning through taking the role of the teacher and being taught by others. This result shows that the structuring of the learning environment can itself be a mechanism for changing perceptions of how learning can take place. Lorsbach and Jinks (1999, p. 158) support this claim: "Student perceptions of the learning environment influence learning behaviors and outcomes that, in turn, become part of the experienced learning environment of self and others". It is noted that *facilitating independent inquiry* was the act of teaching used to promote unstructured learning in the study.

6.1.4 Joyfulness

The data show that students showed overt signs of enjoyment while exercising agency. This exhibition of enjoyment while learning is referred to in this research as joyfulness. Teacher interviews and classroom observations aligned to show that enjoyment was present when agency was being exercised. An initial finding from the data was that joyfulness was a significant part of students' exercising agency.

After initially establishing that there is a link between agency and joyfulness, this section will further explore how agency and joyfulness relate to each other and which aspects of supervisory teaching promote this development. In order to discover more and as indicated at the beginning of the chapter, I re-examined the data to look more closely at

instances where agency and signs of joyful learning were concurrent. Three different themes could be seen in the data, namely, play, challenge, and relevant learning.

6.1.4.1 Joyfulness and play

Learning that was both joyful and agentic was promoted as students adopted a sense of playfulness in their learning. The students often had liberty during Phase Two to exert their own ideas in their learning, frequently giving rise to a type of play. This play was not free play where they were able to do anything they wanted; rather, it was a guided play where the students shaped the experience with their own ideas to establish a playful way of learning. I have termed this 'playful learning' where students have some freedom to shape and reshape significant aspects of the learning environment.

Libby commented that the open-ended opportunities within Phase Two make way for playful learning:

> I think that it is definitely important for kids this age. Because kids love to play... But in fact they are learning social skills and maths skills. I think it is important because they can learn a lot more when they think they are having fun, or when they are having fun. Because kids learn when playing and studies have shown that, and research has looked into this. It is important that kids find it fun. Even adults if we find things boring we just kind of filter it out.

In this comment Libby underlines the importance of play for learning and how the resulting engagement and joy make way for powerful learning. White (2012) affirms the relationships between these three aspects, showing that play and pleasure are two inextricably linked notions. Simply stated, when people play they are engaged and they enjoy the experience. Engagement and enjoyment in learning have several notable links to agency development.

6.1.4.1.1 Playfulness and control

Goodman (1994) and Johnson, Christie, and Wardle (2005) suggest that playful forms of learning, in particular hybrid forms of work and play, are generally good for learning. This view is supported by Fisher, Hirsh-Pasek, Golinkoff, Singer and Berk (2011) who show that a playful approach to learning leads to a greater understanding of content knowledge for students. During play children take more control of their learning leading

them to make greater sense of what they are doing. The promotion of control in learning was strongly supported by Piaget (1962), who believed that in play children would take the role of scientists, manipulating the learning conditions and making meaning through becoming an authority in the learning context.

It is in developing a sense of control over learning that students begin to act with agency. Hurwitz (2003) provides evidence to show that control promotes three key dispositions – desire, motivation, and mastery. All three of these dispositions link to agency. The notion of desire relates to intentionality and forethought, the first two properties of agency (Bandura, 1982; Bandura, 2008), and was something commented on during my classroom observations. It was noticeable one afternoon as I followed Classroom X up the stairs after lunchtime to observe them in their class. Two boys were speaking very excitedly about what they were going to do. The teacher had set up the Exploration Time rotations. The students were aware that one option was to develop their own structures using Lego. While walking to class one student asked the other, "What are you going to choose today for Exploration Time?" The second student replied, "Build a Lego house we found in a book in the library." As they continued to talk I noted the tone of the conversation was very excited and showed that both the students were anticipating the upcoming learning experience. As they entered the class the teacher called the roll and gave permission to move into Exploration Time. The boys quickly raced to the Lego area in a very excited way and began their project. This was one example of students' intentionality and forethought being expressed when they were afforded control in the learning.

The control afforded by playful learning allows for more than just intentionality and forethought to develop. It also supports students in realising these intentions and plans. This outcome involves motivation, which is the second of Hurwitz's (2003) key dispositions. Motivation is something White (2012) also showed was a natural part of playful learning because children learn partly through exercising their autonomous ideas. They find this process satisfying, leading to increased motivation. During the research it was observed that motivation levels were high and seemed to be related to the playful way students went about their learning. I commented one day during my observation of learning in Classroom Z: "It is hard to see or notice anyone in the class who is not engaged actively and excitedly in the learning process. This is a comment that I could write any time that I walk in to do these observations." It was apparent during the observations of supervisory teaching that students were motivated to act on their own

ideas when given control over their learning. Further, when given control students naturally make learning into a playful experience, because congruent with White's (2012) findings, children will gravitate toward playfulness when they are allowed to have autonomy.

The third and possibly greatest benefit of students having control is that it gives rise to mastery in the learning experience (Hurwitz, 2003). Mastery offers significant impetus for exercising agency. Experiencing success has been shown to be the most significant factor in self-efficacy development (Chowdhury, Endres, & Lanis, 2002). Self-efficacy in turn is a major factor in the exercising of agency (Bandura, 1977; Bandura, 1982). As with various forms of play students set their own goals and targets as part of Phase Two learning experiences. They then go about attempting to achieve them, and in so doing develop a greater sense of self-efficacy upon reaching their target. The playful element seen throughout many of the learning experiences seemed to give impetus to this process. A developing understanding is that playfulness can give the opportunity for mastery, mastery leads to greater personal efficacy, and personal efficacy supports the development of a heightened sense of agency. Thus the potential for students to achieve mastery in their learning through the opportunity afforded by playfulness leads to greater potential for exercising agency. This pathway to agency through supervisory teaching is represented in Figure 6.3.

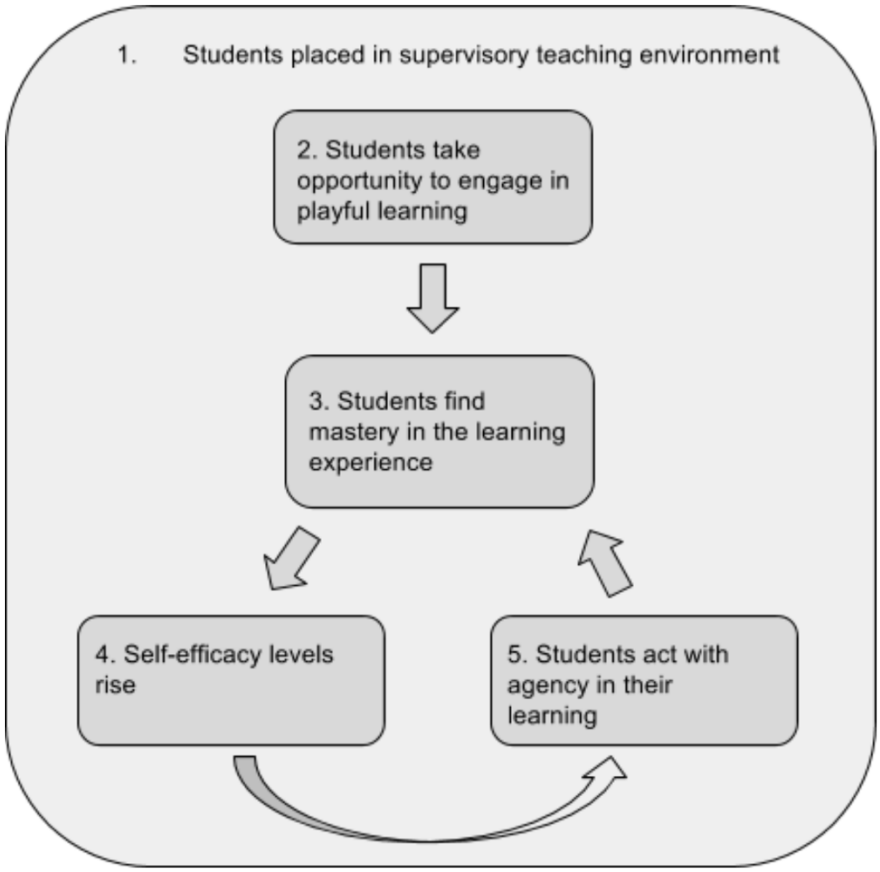

Figure 6.3 Agentic learning through play

This process was exemplified several times during the research. Two separate examples are outlined in Table 6.1.

Table 6.1

Exemplars of agentic learning through play

Steps from agentic learning through play pathways	Example A – Classroom X	Example B – Classroom Z
1. Students placed in supervisory teaching environment	A centre that was part of Classroom X's Exploration Time involved construction using a variety of 'junk' items, such as Coke bottles, toilet rolls, and Sellotape.	One centre within Classroom Z's mathematics Phase Two learning was a games centre. This centre included a variety of online and hands-on games.
2. Students take opportunity to engage in playful learning	A girl and boy worked together to create an animal that was sculpted out of paper and cardboard.	One way students added playfulness to this process was through competition with one another, seeing who could get the highest scores in the online games.
3. Students find mastery in the learning experience	They wanted to use a plastic Coke bottle as part of their sculpture. They struggled to prepare this item and join it to the main structure. They persevered together, motivated by the energy and enthusiasm from the playful activity.	The constant repetition led to improvements in mathematics knowledge. As Libby says, improvements came from students' "challenging themselves".
4. Self-efficacy increases	Once they had completed the preparation and connection of the Coke bottle, there was increased elevation in their confidence moving forward in the learning.	The general disposition of the students discussed in Chapter 5 was testament to students' growing enthusiasm and self-belief.
5. Students act with agency in their learning	Students had a product that was the result of their own intentionality, planning, and putting both of them into action.	The playful competition that arose and was sustained in this process was itself a factor in developing student agency.

6.1.4.2 Joyfulness and challenge

Learning opportunities that were problem-based often led to a joyful disposition in learning, evidence of high engagement and more agentic activity. As with the playful

element evident in the research and described above, more prescriptive problem-based tasks were also viewed by the students as enjoyable. The problems or challenges were varied and took on several forms. Essentially, challenging learning in this context refers to any time that learning involved a component of problem solving.

A previously mentioned example highlights the value of challenge to promote joyfulness in learning. A student who had a diagnosis of ADHD chose a tangram puzzle as part of his Phase Two learning centre. For 15 minutes this student remained intently focused on the task, trying and retrying different solutions. The student received no direct support from the teacher as she was engaged in Phase One learning with other students. Nevertheless, his excitement was evident as he was completely focused on the task at hand. Further, the challenge and resulting engagement and joyfulness were embedded in agentic activity. The student's self-reactiveness was evident. This attribute of agency involves the regulation and implementation of intentions and plans of action (Bandura, 2008). Bandura (2006) emphasised the need for individuals to move beyond the planning and thinking stage of human activity to acting in order to bring these ideas to fruition. Carlson (2002) also shows that acting to bring about ideas and intentions is a vital aspect of agency development, without which humans never become agents capable of shaping their own worlds. Challenges that have a fixed end-point require action and support the development of self-reactive behaviour.

The nature of problem-based challenges that have an end goal to focus on, gave impetus to the ADHD student exercising self-reactive behaviour. Other students appeared motivated by solving the problem and derived satisfaction from mastering a task. Judging by the ADHD student's enthusiasm that was evident at the conclusion of the activity, it was the enticement of the challenge to complete the task that appeared to provide the focus and enjoyment in the learning. This notion is supported by Paris and Paris (2010) who show that problem-based learning promotes greater self-regulation and results in more engagement and motivation in learning.

There were other instances of agentic activity resulting from students being asked to focus on a specific problem-orientated challenge. One such example came from Classroom Y. During Phase Two learning one type of task that the teacher assigned students was word puzzles that required students to group words as quickly as possible. Although there was little room for students to shape the learning experience and the puzzles appeared to be a

Type 1 or Type 2 activity, the students enjoyed the challenge of problem solving to complete the puzzle. The students were able to bring in their own agency by offering possible solutions and trying to put them into practice, which was seen to again be developing self-reactive behaviour.

Discovering that such a clearly defined task allowed for the development of this property of agency was an interesting result. Early in the research the assumption was that less structure in the learning led to greater agency. This assumption was based on Bourdieu's (1990) assertion that agency and structure are opposed. Although Bourdieu's notion is supported in several other places in this study it was also observed that agency was developing very effectively through semi-structured learning environments and that there can be considerable joyfulness in the learning experience even when the environment is structured.

6.1.4.3 Joyfulness and relevant learning

The investigation into joyfulness in learning has shown that students were more joyful when they were able to 1) engage playfully in their learning, and 2) be challenged by appropriate problem-based learning tasks. The joyfulness exhibited by students was interpreted as an indicator of engaging in the learning experience and exercising agency in the process.

Willis (2007) supported the view that students can achieve higher cognition when they are fuelled by the enjoyment that comes from a personally relevant learning experience. Engaging in higher-level thinking is an indication of motivation and engagement, which as discussed above can be indications of agentic behaviour. Fredricks, Blumenfeld, and Paris (2004) provide further backing to the value of learning experiences that are personally relevant by showing that if students do not see the learning as having meaning then they will disengage and be disinterested. Students find experiences personally relevant when the experience is either shaped by the student or challenges the student. The enjoyment found in personally meaningful activity helps to promote motivation that leads to exercising agency in learning. In other words, personally relevant experiences invite student agency. As Jackson (2003) points out, students are able to exercise agency in a variety of areas of their lives, such as the way they dress, their sporting endeavours, and social interaction with peers.

The key for educators is to find personal relevance for students in the classroom that ignites the joyfulness that comes with exercising agency. This notion is supported by Wray & Kumpulainen (2010) who state that students build agency in the classroom by drawing on agency from outside their educational context, that is, from parts of their lives that are personally relevant. One way of achieving this aim is to give students a voice in their learning so they can make learning experiences personally relevant. A key example was in Classroom X where students could come to the daily Exploration Time session and choose from several different options. As previously mentioned, some students were observed talking very excitedly as they journeyed from the playground to their daily Exploration Time session after lunch. Student conversations were often filled with reference to what they would be doing during Exploration Time. Further, many of their choices really were options that they wanted to do. For example, students were allowed to write books about whatever topics interested them. Or they were permitted to build structures from boxes to represent areas of personal importance, such as the boy who built a model car and remote from cereal boxes because he was interested in remote-controlled cars.

Other than designing challenging learning experiences, educators can also encourage greater joy in learning by verbally challenging students, such as by explaining expectations and encouraging students to follow them. When teachers verbally reinforce the need to face up to challenging learning situations, they support the responses of students to problem-based learning by reminding them to persist with the task. From the data Libby encapsulated this dual benefit best when she said:

> I had a few kids in the beginning, especially with problem solving, they were like, "I don't know!" Um, but once the rules were laid down and the culture got going they were able to learn what it means not to give up because they feel such a sense of joy when they get something hard for the first time and there is encouragement and we cheer them on. Now most of the class, I would say, whether the high kids or the low kids they all are able to keep on doing without being discouraged and without giving up.

Therefore, it can be seen that the dialogical aspects of supervisory teaching can work to enhance challenging learning and support students' adaptation to experiences they may otherwise wish to give up on.

6.1.4.4 Phase One – The joy of purposeful learning conversations

Playfulness and problem-based learning in Phase Two contexts have been discussed as key dynamics related to joyfulness and exercising agency. These approaches to learning were underpinned by the Phase One conversations related to these contexts. When students contribute to learning conversations ideas that are personally meaningful, it is seen by Kumpulainen & Lipponen (2012) to invite agency. Kumpulainen & Lipponen (2010) state that learning conversations that can validate previous experiences create a higher level of enthusiasm and engagement in learning. The culture and the tone of learning environments are embedded in dialogic learning. Therefore, dialogic interactions with the teacher that occur during Phase One are likely to be enjoyable for students when they validate personally meaningful learning from Phase Two.

A depth of thought was often visible as students engaged in conversations about learning that were related to relevant experiences from their learning in Phase Two. In one case in Classroom X, the teacher supported a group of students who had been very purposefully engaged in developing a Lego town. As they got closer to finishing the project, the teacher pulled the group together to discuss their learning. He started by asking about what they had already done. This question was followed by an animated description. The teacher was then able to build on an enthusiastic start to the conversation by posing simple questions that focused the students on their next steps. Gordon's simple question of, "Ok, where are you going next with this?" was met with several sentences of descriptive language outlining the future intentions and plans for the direction of the project. What was clearly seen was that having a personally relevant experience in Phase Two could be built upon during conversations with the teacher in Phase One. These conversations showed students being agentic as they refined their intentions and plans in the conversation. These conversations were often conducted joyfully.

6.1.4.5 Summarising the significance of joyful learning experiences

The process of joyful learning was enabled by both phases within the Supervisory Teaching Framework. Firstly, during Phase One students enjoyed their interaction with their teacher because they were asked to contribute their ideas that had come from experiences that were positive. During this time students' thoughts and perspectives were valued, particularly when drawing on their agency from Phase Two. The joyfulness came as they exercised their own voice sharing their intentions, plans, and what they had done.

It was clear from the data that students derived satisfaction from their time participating in Phase Two. The depth of choice in a task could be seen to affect the engagement and enjoyment significantly. It seemed that when students had more choice they would work more happily. There were a number examples of students engaging and thriving in their learning during Phase Two. Equally clear was the simple dynamic that led to this engagement. In the STF students are encouraged to bring their own intentions and ideas to both phases of the learning. In other words, they are invited to be agentic because their intentions and plans are a central part of the learning. Then the joy that arises from exercising agency seems to act as both an indicator of, and stimulator of more, agentic activity.

From the research data and analyses it was not possible to conclude whether agency causes joyfulness or vice versa. Sen (1985) showed that there is a correlation between agency and an individual's sense of well-being. Therefore, it might be possible to postulate that joyfulness comes from the ability to exercise agency. Nevertheless, this research only provides evidence that during supervisory teaching, agency often occurs concurrently with a joyful disposition in the learning process.

What this research has not done is widen the scope to consider the nature of the joyful and happy response of students. Eaude (2009) distinguishes between a short-term gratification and a long-term flourishing. Due to the focus and scope of this research it is difficult to determine the type of joyful response that students are having. Is their overt happiness and sense of fun an indication of temporal gratification? Or, is it an indication of a deeper sense of meaning being derived from what they are doing? This question is possibly an avenue for future consideration.

6.1.4.6 Emerging agency developers

There are three key agency developers that have emerged from an analysis of the theme of joyfulness. The first is playful learning. Playfulness was seen to occur as students engaged in their learning, particularly in Phase Two. The form of play seen in this research that linked to agency development was a type of structured play, where students engaged in learning experiences that allowed them to shape aspects of the learning in a fun way. A key aspect was giving students control in their learning. Giving control to students was necessary to achieve a playful state. This first agency developer was achieved through the act of *facilitating independent inquiry*.

The second agency developer linked to the joyfulness theme surrounded the development of challenging learning experiences. When challenges arose that students found personally meaningful students exercised agency by making plans and implementing them. They then self-reflected to check the effectiveness of their solutions. Both the first and the second agency developers are characterised by the fact that they provide a personally relevant context for learning. This agency developer was also achieved by facilitating independent inquiry.

The third agency developer found in the analysis of this theme was teacher–student learning conversations. When engaged with the teacher in tutorial conversations students showed joyfulness. There was evidence that students enjoyed sharing their own ideas and letting them shape the direction of conversations. The key teaching act utilised to achieve this third agency developer was questioning.

6.1.5 Reflection

Reflection emerged from the data as a theme that gave rise to agency. Self-reflection is critical in learning and growing because it is vital that an individual can think in self-improving ways about how they can act more purposefully in the future (Bandura, 2006). Di Stefano, Gino, Pisano, and Staats (2016) highlight the fact that without reflective thought, humans will find it difficult to make meaning of their experiences. When students reflect on what they have done it builds confidence and self-efficacy levels as they consider what they might do better in the future. Being personally reflective is not just one property of agency, it serves as a type of executive property to build the other three agentic properties. In the study personal reflection was achieved in several different ways, which will now be discussed in relation to each of the two phases.

6.1.5.1 Reflection in Phase One

The most immediately obvious way that reflection was promoted was through teacher questioning in Phase One learning conversations. Questioning was used like a mirror causing students to look critically and evaluatively at what they were thinking and doing. All three teachers could be seen to elicit reflective thought from their students by asking well timed questions that prompted students to think and respond to what they were doing or had done.

As a result of prompting questions it was noticeable that students were able to act quickly to improve the quality of their task. Reflective thought, when stimulated by teacher questioning, led to students exhibiting other agentic properties such as intentionality and forethought. Sometimes these questions prompted students to probe deeper in a particular area. An example was shown by Gordon when he was circulating and conferring with students. He would draw on several standard questions that would encourage the students to take a closer look at the process they were involved in. One of these questions was, "How could you improve what you have done?" This question was used very effectively on several occasions that I observed. One time when a boy had completed a model car made from paper, Gordon started a conversation about the project. The thinking behind what had been done was evidently creative and the child was carrying out his intentions in this learning process. However, there was clearly some improvement that could be made to the quality of the construction, namely the addition of colour and the strengthening of some of the joins. By hearing the question "How could you improve what you have done?", the child was prompted to reflect and consider the various improvements that could be made. The boy stopped and offered several possibilities and then confidently pursued these ideas.

Lee and Barnett (1994) aptly refer to questions that promote reflection as "reflective questioning". They found that quality reflective questions create opportunities for individuals to reflect aloud and to be prompted to expand and extend their thinking. It seems that the learning conversations that characterise Phase One of the STF are perfect opportunities to promote this type of reflection as the teacher and students engage in dialogic interaction as part of the learning conversations. Another example from the observation notes that highlighted this scenario occurred in Classroom Z. Libby was working with a group of students who were solving a problem that involved their setting analogue clocks from the digital equivalent or the written format. For several of the students in Classroom Z the notion of analogue time was new, so they found it a struggle to accurately represent time in this way. Rather than again showing the students how to do it, Libby used reflective questioning as part of this Phase One learning time. She leaned toward a boy who was finding the experience of representing "ten past three" difficult and asked, "What makes it three o'clock?" The boy stopped and thought about this and then changed the clock to three o'clock, from where he was able to make the small adjustment to 10 past three. By asking a question Libby had stopped the student and caused him to think reflectively about what he knew about analogue time and from there was able to

build on this knowledge to complete this aspect of the task. The student was excited to solve the problem.

There were signs that challenging the students to evaluate and reflect on their learning stimulates the agentic property of self-reflection. Ritchhart, Church and Morrison (2011) support this view by maintaining that our thinking is enhanced when brought into scrutiny by others. The approach illustrated by Gordon above, where the student was working on a model car, proved powerful because the result of the prompt was that the student progressed with his own intentions. Students emerge from the dialogic moment, such as the one described, with a sense of self-efficacy because the teacher had made the experience meaningful for the student by including his or her own thinking, as seen in the clock example above. In Libby's class, the responses of the students to completing a task with teacher support through reflective questioning were no different from their responses if they might have completed it entirely individually. Essentially the student owned the evaluation of what they were doing, rather than being involved in a teacher-centred experience. The Center for Public Education (2008) proposes that individualised support encourages students to be owners of their own learning, showing that the more individualised learning becomes, the more the teacher is able to move the control of the learning experience to the student. This movement makes the students more aware and in control of their own thinking processes. Again, this situation captures the essence of agency because as students gain awareness and take control of their learning they become more autonomous in their actions.

6.1.5.2 Reflection in Phase Two

Phase Two learning also provided an opportunity for students to be self-reflective. The opportunity to be reflective, without an outside stimulus, is significant. It is important that agency becomes embedded in the independent behaviour patterns of the individual or it cannot be considered true agency. Part of being agentic includes, by definition, the ability to independently reflect on one's circumstances. As Bandura (1989, p. 1175) puts it, agency is "the capacity to exercise control over one's own thought processes, motivation, and action". Therefore, while teacher questioning in supervisory discussions might stimulate the core property of self-reflection, for a student to truly exercise control in a situation they need to respond to the prompting mechanism that comes from questioning and internalise it. The two phases of the STF offer complementary opportunities for the development of reflection. Phase One offers an environment that stimulates and

encourages reflective thought, and Phase Two offers an environment that allows for reflective thought to be exercised independently. This relationship can be seen in Figure 6.2.

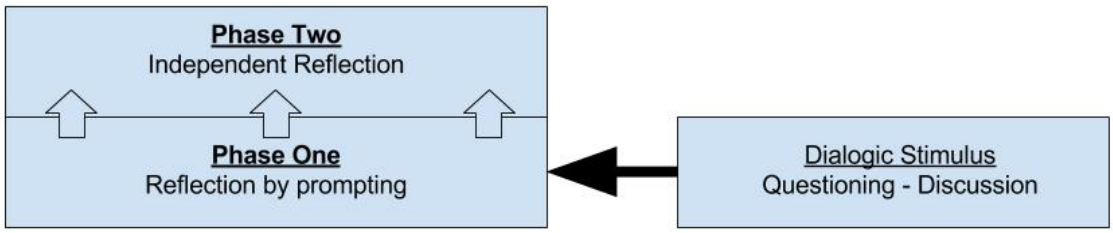

Figure 6.4 Self-reflective development through Supervisory Teaching

It is difficult to conclude from this research whether the stimulated reflection in Phase One led to independent self-reflection in Phase Two. However, it is clear that the opportunity is there to progress from supported agentic thought to independent agentic thinking.

When working in Phase Two in Classroom X students self-reflected independently. It seemed that enabling students' own intentions to drive the learning helped in this respect. The development of these intentions came as students were allowed to make choices about the nature of their projects. Students naturally turned intentions into criteria that they continually referred back to. An example was seen at the construction centre where one student was making an animal using an old Coke bottle as the body. Several attempts at developing acceptable legs occurred as the student developed one iteration after another. It was visible that the student was engaged in a self-reflective process during this time as he attempted to complete his task, before redoing it to try and more closely match his intended idea with his actual creation. Although it was impossible to determine by just observing this student what his criteria were, defined criteria were clearly there because he was not content with several of the early iterations of his animal.

Another example was found in Classroom Z at the problem-solving centre. Students could choose from an array of mathematical problem-solving activities that were generally in the form of puzzles. These puzzles or tasks were multifaceted in that they required students to complete different levels of problems. Students usually had some type of feedback loop to indicate whether they were completing or had completed the puzzle correctly, such as an example of a correctly completed task or another way of checking

their progress. They were seen constantly reflecting and modifying their work as they worked independently, examining areas of possible improvement.

Opportunities for self-reflection were evident during Phase Two and students took these opportunities. However, as mentioned the depth of this research project was not sufficient to provide a definitive answer as to whether self-reflection was stimulated by simply providing an environment where it might possibly occur, and then assuming that if it did occur it was a flow-on from Phase One discussion. While it was clear that the teacher encouraged reflective thought in Phase One, it was difficult to see any ways in which the teacher stimulated self-reflection in Phase Two. There is little in the way of research about stimulating self-reflection in primary-school students. Sitzmann and Ely (2010) confirm the lack of evidence in this area. Their research suggests that independent self-regulatory behaviour, which is closely related to self-reflective behaviour (Bandura, 2006; Paris & Paris 2001), could be promoted through previous teacher-mediated varieties of this behaviour.

Although it is uncertain what caused self-reflective thought to occur, students were self-reflective while learning independently. This was most often evident in the way that students could be seen self-moderating during Phase Two. Examples could be found throughout the data showing that when students were functioning within structured or semi-structured activities, they would analyse what they were doing and make changes.

It is possible that the self-reflection was promoted by the flexibility of the learning environment. That is, the students engaged more freely in self-reflective activity because they had the freedom to do so. The flexibility in the learning environment supporting agency was a recurring pattern throughout the research. One of the main themes already discussed in this chapter is the expectation of ownership and independence. In the section dedicated to ownership and independence, it was mentioned several times that expecting students to have independence in their learning led to them holding their own intentions and making plans. Therefore, as the attributes of intentionality and forethought were apparent in Phase Two because of the opportunity to act with independence, so it could be that self-reflection could come as a response to this flexibility. However, given the internalised nature of self-reflective thought, determining the specific mechanisms for what made this possible would require some other targeted research.

6.1.5.3 Summary on reflection

Reflective thought is stimulated in several ways through the implementation of a supervisory teaching environment. Firstly, teacher–student dialogue in Phase One encouraged students to reflect on their learning experience, usually through the asking of key questions. Secondly, the Phase Two environment made provision for students to reflect, that is, there was freedom for them to think about what they were doing. Both types of learning led to other attributes of agency being exhibited.

6.1.5.4 Emerging agency developers

There are two key agency developers that have emerged from an analysis of the theme of reflection. The first is questioning within the teacher–student learning conversations that occurred during Phase One and involved teachers and students engaging in dialogue about the student's learning.

The second agency developer evident from examining this theme has been titled 'space for thinking'. This developer refers to the way students reflected when having the time and space to do so. Simply stated, when students have time to consider their work without pressures to complete tasks within strict parameters, there is the potential to enter into self-reflective thought. Teachers determined whether space for thinking was possible during the planning and design of learning, making *facilitating independent inquiry* the key act of teaching utilised in this instance.

6.2 Collation of Discussion

The focus of this research is the exploration of any link between supervisory teaching and the enhancement of agency in the classroom. Five key themes have been identified and examined: student independence and ownership, scaffolding, students as teachers, joyfulness, and reflection. Specific stimulants of agency have been drawn out and stated in the discussion of these themes above. This section will now describe the stimulants of agency that have emerged from the data and have been called agency developers in this research. They are environmental factors or, as discussed in Chapter Two by Klemencic (2015), "enabling conditions" within supervisory teaching that promote or allow the exercising of agency that leads students to "intentional action and interaction with their environment" (p. 11). The agency developers put forward at the conclusion of the discussion of each theme are:

1. learning environment with expectations that learners will have control of their learning (student independence and ownership)
2. teacher–student learning conversations (student independence and ownership)
3. unhitching (scaffolding)
4. unstructured learning (students as teachers)
5. playful learning (joyfulness)
6. challenging learning experiences (joyfulness)
7. teacher–student learning conversations (joyfulness)
8. questioning within the teacher–student learning conversations (reflection)
9. space for thinking (reflection)

Teacher–student learning conversations emerged from the discussion of two themes (student independence and ownership, and joyfulness). Questioning within the teacher–student learning conversation also emerged as an agency developer from within another theme (reflection). As questioning is an implicit part of teacher–student learning conversations, these three have been collapsed into one agency developer – teacher–student learning conversations. Unstructured peer learning and control of learning direction are similar. However, these two agency developers were kept separate because one refers specifically to Phase Two (unstructured peer learning), while control of learning direction occurs within both phases. Therefore, seven agency developers remain and are outlined in Table 6.2.

Table 6.2

Agency developers within a Supervisory Teaching environment

Agency Developer	Related Themes	Associated Act of Teaching
Teacher–student learning conversations	Scaffolding, independence and ownership	Questioning, direct instruction
Control of learning direction	Students as teachers, independence and ownership, joyfulness, stimulated reflection	Facilitating independent inquiry, questioning
Unhitching	Scaffolding	Questioning, direct instruction
Challenging learning experiences	Joyfulness	Facilitating independent inquiry, questioning
Unstructured peer-learning	Students as teachers, independence and ownership	Facilitating independent inquiry
Playful learning	Joyfulness	Facilitating independent inquiry, questioning
Space for thinking	Reflection	Facilitating independent inquiry

6.2.1 Teacher–student learning conversations

Learning conversations between the teacher and students were observed to be significant stimulants of student agency, or agency developers. Student–teacher learning conversations are regarded here as the first of two executive agency developers. Learning conversations are considered an executive agency developer because they are an implicit part of the supervisory teaching approach.

The key acts of teaching utilised during learning conversations were questioning and direct instruction. Through questioning teachers were able to encourage students to think independently, refining their intentions and plans for implementing them. Essentially this behaviour followed Cosgrove's (2009) assertion that a tutorial approach to teaching promotes intellectual independence. Often teachers would move the locus of control to the student by asking simple questions such as, "How do you think you could improve that?". At other times teachers utilised direct instruction as a means for encouraging agency. In this research the direct instruction was linked to the use of another agency developer – unhitching. Further discussion on unhitching is presented below.

6.2.2 Control of learning direction

The second executive agency developer is *control of learning direction.* As with teacher–student learning conversations this function is an implicit aspect of the supervisory approach.

When teachers gave students control in the learning the students were empowered to exercise agency, which occurred as teachers allowed students to take ownership of aspects of the learning experience. Ownership allows for students to have independence in their learning, which places an expectation that they will hold intentions and plan to bring these intentions to fruition within the learning context.

6.2.3 Unhitching

A unique type of scaffold was seen supporting agency development. The details of how this occurred have been laid out in the Thematic Analysis section. In Phase One it was observed that teachers dialogically explored learning with students and this learning often related to work that students were doing in Phase Two. Teachers were able to support the learning in Phase Two by unhitching students from issues that were preventing them from moving forward with their learning and exercising agency.

6.2.4 Challenging learning experiences

When students found themselves in situations where they were somehow faced with a challenge, then their sense of enjoyment in the learning was elevated. This situation appeared to give rise to agency as students were motivated to act on their own intentions more enthusiastically. The enjoyment they derived from working to overcome the particular challenge was a significant part of increased agency. The challenges linked to this motivation often involved an aspect of self-design or choice on the part of the student in regard to the challenge that they were attempting to overcome. That is, they were choosing from an array of challenges given as options or they had, through their own choice, constructed a challenging experience.

6.2.5 Unstructured peer learning

Agency growth occurred in the research as teachers gave freedom to students in Phase Two to collaborate and dialogically make sense of their own learning. Students were not under any directive to engage in a certain way. Agency was evident when students learnt from each other and supported each other to exercise agency. When Phase Two learning was seen to be without structure students took the opportunity to engage with each other

to exercise agency collectively and on behalf of others. This environment is contrary to the structured frameworks some theorists have advocated as being valuable in peer learning. Boud, Cohen, and Sampson's (2002) assertion that peer learning needs to be carefully structured was not obvious in this research. Instead the form of effective peer learning observed in this case study followed Mitra's (2003) observations that when students interact in unstructured ways, the support they provide for each other can be extremely effective at promoting self-directed learning.

6.2.6 Playful learning

Allowing a playful element to learning was seen to support students to exercise agency. This type of play was not free unstructured play. It was a type of play where students would exercise autonomy to act playfully within learning activities. Play affords students the opportunity to exert their own intentions and take greater control over their learning, leading to their being able to make more sense of what they are doing (White, 2012). As students engaged in a more playful form of learning they entered into a happier state, which acted as a further stimulus to exercising agency.

6.2.7 Space for thinking

Students were observed to act with more agency when they had time to think and explore their own ideas. Often the absence of the teacher in Phase Two learning and the freedom to negotiate activities with a high level of self-direction led to the students taking their time to think about what they were doing. This agency developer has been referred to as space for thinking because it explains the circumstance that seems to support students, that is, a low-pressure learning environment where speed of response is not critical.

6.2.8 Agency Pathways

Agency pathways are descriptions of how agency was seen developing using a supervisory teaching approach. These pathways include combinations of the Phase of the STF where an agency developer was seen to be implemented, a specific agency developer, acts of teaching involved in the process of promoting agency, and the properties of agency that were developed. Therefore, pathways are descriptions of how agency was developed within supervisory teaching in this research.

Each pathway has been allocated a letter but they are in no particular sequence. Table 6.3 shows each of the pathways, which are dynamics that have been seen to develop certain properties of agency. They are delineated to show the relationship between the Phase of

the STF, the agency developer, the act of teaching, and the agentic attributes developed. Each pathway is delineated for clarity but on its own, each pathway may not necessarily produce the results indicated. Table 6.3 is a further explanation of how supervisory teaching gives rise to agency and relates to the first research question, "In what ways is student agency, as indicated by intentionality, forethought, self-reactiveness, and self-reflection, influenced by the construction and implementation of a supervisory teaching environment?". The agency pathways also point toward how the specific acts of teaching useful in agency development are helpful.

Table 6.3

Agency Pathways

Pathway	STF Phase	Agency Developer	Act of Teaching	Agency Attributes Developed
A	One	Student–teacher learning conversations	Questioning	Intentionality, Forethought, Self-reactiveness Self-reflection
B	One	Student-–teacher learning conversations	Direct instruction	Self-reactiveness
C	One	Unhitching	Direct Instruction	Self-reactiveness
D	One	Unhitching	Questioning	Self-reactiveness, Self-reflection
E	One	Control of learning direction	Questioning	Intentionality, Forethought, Self-reflection
F	Two	Control of learning direction	Teacher Facilitated Inquiry	Intentionality, Forethought, Self-reactiveness
G	Two	Challenging learning experiences	Teacher Facilitated Inquiry	Intentionality, Forethought, Self-reactiveness Self-reflection
H	Two	Unstructured peer-learning	Teacher Facilitated Inquiry	Intentionality, Forethought, Self-reactiveness Self-reflection
I	Two	Unstructured peer-learning	Teacher Facilitated Inquiry	Self-reactiveness, Self-reflection
J	Two	Playful learning	Teacher Facilitated Inquiry	All properties
K	Two	Space for thinking	Teacher Facilitated Inquiry	Intentionality, forethought, self-reflection

6.3 Summary

This chapter has discussed the five key themes of student independence and ownership, scaffolding, students as teachers, joyfulness, and reflection that have emerged from the data. Themes were determined in the previous chapter by utilising Bandura's (2006) characteristics of agency – intentionality, forethought, self-reactiveness, and self-reflection. Using the data sources and relevant literature a thematic analysis was conducted and presented using a narrative display. At the end of each section of the thematic analysis, a brief description was presented of the key dynamics that have emerged that led to agency development. These specific dynamics have been referred to as agency developers. Seven key agency developers emerged from the discussion: student–teacher learning conversations, unhitching, control of learning direction, challenging learning experiences, unstructured peer-learning, playful learning, and space for thinking. The agency developers have been situated alongside the specific acts of teaching (questioning, direct instruction, and teacher-facilitated inquiry) used to facilitate each agency developer, as well as the phase of the STF in which they occur. Organising outcomes from the discussion with acts of teaching has produced 11 agency pathways. Agency pathways sit alongside agency developers as answers to both research questions, which are:

Main question:
In what ways is student agency, as indicated by intentionality, forethought, self-reactiveness, and self-reflection, perceived to be influenced within a supervisory teaching environment?

Sub-question:
What acts of teaching within the supervisory teaching environment are perceived to promote student agency?

Further conclusions about agency developers, agency pathways and their overall meaning in this research project will be conducted in the final chapter.

7 Chapter Seven – Conclusions and Recommendations

7.1 Introduction

There are a number of conclusions that have arisen from this research. This chapter focuses on framing the conclusions around the research questions:

> Main question:
> In what ways is student agency, as indicated by intentionality, forethought, self-reactiveness, and self-reflection, perceived to be influenced within a supervisory teaching environment?
>
> Sub-question:
> What acts of teaching within the supervisory teaching environment are perceived to promote student agency?

The following conclusions arising from this study are relevant to anyone who wishes to implement teaching practices that seem to promote student agency. It is fully recognised that not all who seek to educate do so for the purpose of building student agency. A variety of outcomes are valued by stakeholders in education, and seeing agentic students is not always considered an important by-product by all who have an interest in primary-school education.

7.2 Conclusions

There are several key conclusions that can be drawn in response to the research questions that underpin this project. As mentioned earlier, due to the scope and qualitative nature of the research, these conclusions are not necessarily definitive and certainly open to further scrutiny. Therefore, conclusions in this section should be thought of as areas for consideration and further exploration rather than absolute facts about supervisory teaching and its impact on agency development.

The key focus of this project was to see what influence supervisory teaching has over agency development in primary-school classrooms. Building on the agency pathways, this chapter outlines key findings from the research, concluding with recommendations for educators at all levels.

In summary, the main finding from this research is that supervisory teaching as outlined in the Supervisory Teaching Framework has specific mechanisms that were seen to promote agency in this research context. The mechanisms for agency development work in a way that is similar to the way a gymnasium builds physical fitness for those who engage with the various apparatuses in that environment. Just as a person can train in a gym to develop their strength, flexibility, and aerobic fitness, so a person can develop the agentic attributes of intentionality, forethought, self-reactiveness, and self-reflection through routines, including those put in place within the supervisory teaching context. The agency pathways describe these routines or dynamics and how they specifically impact on agency. As mentioned in the previous chapter, each pathway is unlikely on its own to lead to student agency, just as one apparatus in a gym is unlikely to lead to complete physical fitness.

The qualitative data analysis in this study showed that supervisory teaching provides certain routine environmental conditions that come with expectations of how students will act. In different ways these conditions and expectations draw students into exercising their agency. In the gymnasium, individuals partake in activities that develop specific types of fitness. One example is the treadmill, which when used regularly develops a person's cardiovascular strength. Another example is bench-pressing, where repeated sets lead to the development of upper body strength. Similarly, there are certain dynamics within the supervisory teaching environment that promote the exercising of one or more of the attributes of agency. Supervisory teaching provides a set of pathways that each develop aspects of agency in a unique way.

7.2.1 Key Findings

There are several key findings that have emerged in response to the main question: In what ways is student agency, as indicated by intentionality, forethought, self-reactiveness, and self-reflection, perceived to be influenced by the construction and implementation of a supervisory teaching environment? These findings have largely been laid out in the Agency Developers section in the previous chapter and are described again below with specific reference to the properties of agency that are encouraged through different aspects of the STF.

7.2.1.1 Student-orientated learning conversations invite agency

Supervisory teaching has the potential to provide support to agency development through the teacher–student interaction in Phase One. Phase One involves short episodes of intense dialogical exploration between teacher and student. During these times students are encouraged to contribute their own ideas to learning conversations. As they express these ideas they not only self-reflect on what they are discussing but are permitted to share their own ideas and plans about the direction that the learning is taking. As the students contributed their own intentions and thoughts about learning they were seen to exhibit the properties of agency. A key act of teaching that was seen to support student agency was questioning. Through teacher questioning students were invited to contribute their own intentions and ideas about what they were learning and to shape conversations, which allowed for student intentionality. Both Bandura (2006) and Hewson (2010) include intentionality as a key feature of agency. Hewson also goes on to emphasise the importance of power as an agentic property. When teachers used questioning as a tool it enabled students to exert power over the direction that the learning was taking as they were invited to bring their own intentions to the learning conversation.

Through the reciprocal relationship between dialogic exploration with the teacher and independent learning (otherwise known as Phase One and Phase Two learning), students have the opportunity and expectation to develop all Bandura's (2006) properties of agency.

7.2.1.2 Independent learning is a significant factor for developing agency

At the outset of this research there was an assumption that the influence of supervisory teaching on expressions of agency would relate more to the central feature of teacher–student dialogue, as the one-to-one tutorial aspect is the feature that characterises the supervisory approach. While the dialogic component of supervisory teaching still appears to offer much to students in the way of agency development, it is the time when the teacher and student are not interacting that appears to have the most potential for agency development.

While learning conversations empower students to contribute their own intentions to a learning context and the direction that learning might take, it is the independent learning time that allows students to self-reactively bring their intentions and plans to life. During Phase Two when students are required to act independently of the teacher they are

encouraged to move beyond just thinking about topics and issues and be self-reactive. At this stage of learning students are often expected to not only hold their own ideas about the direction that their learning will take, but they must follow through and put them into practice.

The value of the independent learning component was underestimated in the early work in this project. The value of learning that occurs away from the face-to-face interaction with the teacher, even with very young students, is a key discovery from this research. The learning that takes place outside tutorial discussions is a factor that should be considered as vital in agency development and in the value of supervisory teaching as a pedagogical approach. With five of the seven agency pathways originating in Phase Two learning, this research offers support to the implementation of an independent component to learning for agency development in the primary classroom. Although this research does not diminish the value of the dialogic encounter, it does point toward the independent learning component of supervisory teaching as playing a far more vital role. It is possible that the value of the independent learning component has been uncovered in the higher educational circles where this model is relied upon. Students at Oxford University reported spending an average of 13 hours per week learning independently of their tutor or other teaching staff (Commission of Inquiry, 1997). Similarly, in the primary-school context during the Reading and Writing Workshop approach, students spend sustained periods reading, writing and thinking independently, which is viewed as integral to this pedagogical approach (Calkins, 2006). Boushey and Moser (2014) also, within the Daily Five approach, advocate sustained independent learning. Both the Daily Five and the Readers' and Writers' Workshop models promote lengthy periods of reading and writing, where students work separately from the teacher. This research suggests that the independent learning in Phase Two is more than just preparation for tutorial discussions. Rather, it stands alone to provide value for agency development.

Enhancing independent learning during Phase Two was achieved through one key act of teaching, namely, facilitating independent inquiry. Situating students in a setting that allows students to learn more autonomously requires intentional action on the teacher's part but was linked in this study to more agentic learning. The next section will give one illustration of how facilitating independent inquiry to enhance agency occurred in this research.

7.2.1.3 Independence combined with ownership is a powerful force for inviting agency

A theme strongly associated with agency development was ownership and independence. The previous section outlines that when students work independently there is opportunity for agency in the learning. Furthermore, this research suggests that it is not just learning independently from the teacher that influences the development of agency. When learning takes place independently with the element of student ownership added, then agency develops. It was clear from the data analysis that agency and ownership of learning go hand-in-hand and that there is no agency without an element of ownership for students. Therefore, it can be said that agency development is maximised in Phase Two type learning when the student owns what the learning looks like in this context. Providing this ownership is a function of the teacher utilising the act of facilitating independent inquiry.

On occasions, the fact that students were working independently away from the teacher's direct supervision was enough to encourage ownership and independence in the learning, even when students were working on quite closely prescribed activities. In Classroom Z, students were set a variety of mathematics tasks as part of their independent learning time. These learning activities were quite prescriptive. For example, students were given a games box to work from where they could play one of several games. However, students took the opportunity afforded by working independently to assert their own ideas on the process. One of the ways they did so was by modifying the rules of one of the games. It is possible, probably likely, that this modification would not have happened had they been functioning under the direct supervision of the teacher. Although there were other examples like the one above, there was more evidence to suggest that intentionally giving students flexibility to shape the learning experience is more effective in encouraging students to have agency in their learning. That is, if student agency is the goal, then it is important for teachers to shape the learning environment in a way that actively encourages students to have ownership. In this research, this shaping involved students either choosing what types of tasks they wanted to complete or, if tasks were more prescriptive, being allowed to make choices and have ownership within tasks.

This research has shown that the ownership that leads to students being agentic involved students making choices about what they wanted to do and being allowed to actually carry out these intentions. This situation was seen very obviously when students were able to shape learning tasks.

The process of students taking control of their learning was developed when the teacher spent time dialoguing with the students during the Phase One conversations. At this stage students were able to refine their intentions as they reflected on the way they were going about their learning. Often this refining was seen to occur through simple questioning routines. In other words, student agency was promoted by the 'questioning' act of teaching. Therefore, a key component in the process of giving students ownership in the learning involves careful design of the learning experiences. There are several examples in this research of what this might look like. Classroom X was a Type 3 learning environment that provided little structure. The low levels of structure did not mean that the environment was not carefully designed. Gordon set up five centres each lesson that were prepared with resources such as Lego, paper, tape, and various other materials. Even though the environment led to unstructured learning, the teacher carefully curated it.

7.2.1.4 Enjoyment plays a role in developing student agency

This research indicates that enjoyment in the learning experience seems to be closely linked to student agency. Students were seen joyfully engaged in their learning while at the same time exhibiting agentic properties. It should be noted here, as it has been in the previous chapter, that it is not clear if enjoyment in learning itself promotes student agency, or whether enjoyment is a by-product of agency. What is clear is that when students are enjoying their learning they often show signs of agency, making enjoyment an indicator of whether students are likely to achieve a sense of agency in their learning.

Students were seen during this research responding joyfully with agency as teachers adopted two key teaching acts. The first act was facilitating independent inquiry. The curation of a learning environment that allowed students to follow their own intentions and plans and put them into practice led to students showing a joy in learning. When the teachers designed an environment that allowed the students to pursue their own areas of interest, two key dynamics emerged:

1. Control – students enjoyed taking control of the direction of the learning and acting on their own intentions and plans, and
2. Challenge – student choice led to their finding challenges that they enjoyed and pursued in a state of joyfulness.

When teachers facilitate independent inquiry so that students have both challenge and control in their independent learning, then agency is invited. What was observed during this research was that when students achieved a sense of control and challenge in learning, then the experience took on a playful tone, not necessarily in a way that reflected a free play scenario, but in a way where students adopted a playful approach to learning.

The second act of teaching closely related to promoting enjoyment in learning was questioning. During Phase One teachers validated students' own learning experience by asking questions that allowed them to elaborate on their agency from Phase Two. When teachers referred to learning that was underpinned by students' own intentions and self-reactive behaviour, students showed overt signs of enjoyment. Teachers asked students to recall, explain, or elaborate on aspects of their learning. The questions teachers asked were often simple. One example was the way that Gordon often asked, "What are you working on?" or the way Kristina asked, "What are you working on as a writer?". These straightforward questions were often met with overt signs of enjoyment as students gladly recalled their learning. Other straightforward questions such as, "What are you going to do next?" produced similar results. Students were not just happy to talk of their learning as prompted by their teacher, they enjoyed engaging in dialogue with their teacher about what they were doing. This dialogue often resulted in self-reflecting meaningfully on the direction that their learning was taking, which refined and improved students' intentions when they returned to working in Phase Two.

7.3 Suggestions for future research

Further to the conclusions outlined above, there are a number of associated conclusions in relation to possible future research projects. This section builds on the findings from this research. The following suggestions for future research can be viewed in two ways. Firstly, they point toward how this research has found agency can be fostered by adhering to supervisory teaching principles and where researchers might go next with these findings. Secondly, these recommendations could be considered signposts for practising professionals. As stated at several points in this research, this project is very much an initial exploration into the relationship between agency and supervisory teaching. Given the size and scope of the research there is little to ensure significant external validity. Conclusions cannot be considered definitive but launching points for future exploration, both for researchers and practising primary educators. Therefore, it is hoped that the

recommendations will support researchers, school leaders, and classroom teachers to explore further the potentialities within supervisory teaching for agency development.

7.3.1 Suggestion one: Studies of individualised dialogue between teacher and student

Studies investigating the intentional inclusion of tutorial discussions in classrooms would enhance understanding of the role of such dialogue in promoting agency. The power of dialogue between teachers and students is evident in this research and well substantiated in research by other theorists (Black & Wiliam, 1998a; Black & Wiliam, 1998b; Kumpulainen, 2012). In this research dialogic learning was seen as powerful for several reasons. Firstly, as teachers asked questions of students it encouraged them to refine their thinking in a reflective way. Therefore, the agentic property of self-reflection was encouraged when discussion took place between the teacher and student. Further empirical investigation of this link between teacher–student dialogue and self-reflection would expand our understanding of ways to promote agency through dialogue.

If teachers want students to act with agency then the contribution of the student's thinking is important. When teachers ask questions of students, the students are asked to think and when those questions are directed at eliciting students' own ideas and actions they naturally reflect on them. The resulting conclusions that students arrive at often lead to a fresh perspective on their own behaviour and to refined thinking about what they are learning. Therefore, classroom teachers should also note that when using a range of pedagogical approaches, questioning is a powerful tool for eliciting agentic participation. Questioning was not only helpful in encouraging self-reflection, it also allowed students to consolidate other agentic properties. For example, the question "What are you planning on doing next?" allowed the student to verbalise ideas about next steps (intentions) and the details of plans to make them happen (forethought).

Second, questioning helped with malformed ideas that might have otherwise proved frustrating for the students if they pursued their own intentions. At times the teacher did less questioning and more telling, by directly instructing the students about what they were doing and why certain aspects of the task were not working. This intervention allowed students to agentically pursue their line of inquiry without inhibition. Understanding more clearly the impact of specific questioning approaches for student agency development would be helpful.

7.3.2 Suggestion two: Exploration of structural levels in promoting agency

This research indicates that the variance of structure is relevant in terms of impact on agency-related outcomes. During this research three classrooms were observed. These classroom environments provided a variety of structural levels with regards to the STF. During the coding process the frequency of agentic properties was greater in the classrooms where the structural levels were less. However, drawing conclusions in this research purely by quantifying behavioural incidences is difficult because there were variations in the amount of time each classroom was observed. Nevertheless, there is enough evidence throughout this research to suggest that de-structuring classrooms might be helpful for agency growth.

Further research should consider how teachers might effectively de-structure the learning environment for agency development, while at the same time guide learning within curricular expectations. Of the three classrooms participating in this research Classroom X had the least structure and this is probably due to the fact that the teacher did not have specific tasks set for the students.

One complexity in developing less structured learning environments is the expectation to cover increases in curriculum content. More exploration is needed into how practising teachers can overcome this challenge and implement low-structure supervisory teaching models that still support the need to cover the curriculum.

7.3.3 Suggestion three: Researching the development of a culture of collaboration within the Supervisory Teaching Framework

The ability to collaborate is seen as a valuable skill for learners across Western pedagogical contexts. Curricula in Australia and New Zealand as well as the International Baccalaureate all advocate collaborative learning as a vital aspect of learning for students. The Australian Curriculum describes the scope of the skills developed by working with others to include:

> recognising and regulating emotions, developing empathy for others and understanding relationships, establishing and building positive relationships, making responsible decisions, working effectively in teams, handling challenging situations constructively and developing leadership skills (Australian Curriculum Assessment and Reporting Authority, 2014).

The benefits of developing such skills and relationships are further outlined as:

> easier to manage themselves, relate to others, develop resilience and a sense of self-worth, resolve conflict, engage in teamwork and feel positive about themselves and the world around them (Australian Curriculum Assessment and Reporting Authority, 2014.

The New Zealand Curriculum also alludes to the value of collaborative learning, even suggesting it is valuable in the development of student agency. Collaborative learning is seen to enable students to "establish personal goals, make plans, manage projects, and set high standards" (NZ Ministry of Education, 2003, p. 12). Such attributes are agentic in nature.

In this study, collaboration seemed to promote agency development. It was clear that students learnt from each other and were supported by their peers in the learning process, as they exercised agency together and on behalf of one another. Owing to the teacher's role in the classroom facilitating tutorial discussions, students were required to be independent. They were therefore without the support of the teacher for some aspects of their learning, which guided the students to work together. Gordon could see this, commenting:

> There is something innate in kids, they want to teach other kids things that they have learned. Most kids are very very comfortable at showing kids what they have learned and what they have discovered. I think that empowers them to know what works and that "I know something". I show it to other people who learn from it as well and maybe next time they will teach me something different and I will learn from them.

While cooperative or collaborative learning has been researched in many different contexts, an investigation of the role of collaboration between peers in student agency development would be a useful addition to the literature.

7.3.4 Suggestion four: Student enjoyment levels and agency

Given the focus many schools have on achievement in summative assessments, it is a fair generalisation that monitoring student enjoyment of learning holds a much lower priority. Yet, this study showed a definite link between joyfulness and higher cognition and agency. This research suggests that enjoyment is a natural by-product of exercising agency. The presence of a joyful disposition is by no means an indication of agency but the lack of it could be viewed as a possible symptom of low agency in learning. Greater exploration into the impact of enjoyment in the process of being agentic would be of relevance. The following questions are proposed as guides to shape further research:

- How does agency lead to joyfulness in learning? and,
- How do joyfulness and a happier disposition support the development of agency?

7.3.5 Suggestion five: Unstructured learning and agency

Agency can be seen to develop when students are given freedom to exercise the agentic attributes of intentionality, forethought, self-reactiveness, and self-reflection. These properties developed less readily in this study when the learning environment was more structured. Students need the chance to function in unstructured settings so that they can hold their own intentions, plan to implement them and actually bring them to pass.

However, the implementation of an unstructured learning environment rests largely on the teacher's expectations and routines within the class. Kumpulainen and Lipponen (2010) speak about an "implementation challenge" when it comes to developing agency and teachers would face such a challenge when unstructuring the learning environment in their classroom. Gordon noted that planning for effective supervisory teaching is "something that takes time as a teacher to think through". Case studies of teachers' experiences in implementing unstructured learning environments would result in valuable advice on developing agency in students and would potentially corroborate the unexpected finding in this study that Phase Two learning was a more powerful stimulus to developing agency than Phase One tutorial discussions.

7.3.6 Suggestion six: Compare the two Phases of the STF for promoting agency

An examination into each of the two Phases of the STF to explore the extent to which each can separately support agency development would yield important insights. Although agency was seen in this study developing in each of the phases, establishing the extent to which each phase contributes to the process is important so that it is known

which phase ‘packs the greatest punch’. Individualised learning conversations have been shown in this research to add value to agency development by encouraging reflective thought and clarifying student thinking. However, developing further understanding around the extent to which this component encourages agency in learning is needed. Individualised learning conversations are very labour-intensive and while they are undoubtedly of some value, it is important to assess their value compared to the amount of effort that goes into facilitating them.

Similarly, independent learning makes provision for improved agency. However, for the same reasons that are present for the value of learning conversations it would be difficult to assess the extent to which independent unstructured learning as a standalone pedagogical approach increases agency. Although studies have been done on independent learning, there are few that relate to agency development. Therefore, further research that compartmentalises these two aspects of supervisory teaching and explores the individual capacity of each for agency development would be helpful. It would provide insight into where to put the greatest focus in terms of time and professional development, or perhaps confirm whether it is only the interaction between the two Phases that encourages agency rather than any results being seen from a forced separation of the Phases.

The following are a list of questions that could provide the beginning of future research projects:

- What is the value of individualised dialogic inquiry to agency development?
- What is the value of independent learning for primary-school students with regard to agency development?
- What levels of structure are important in the development of agency in primary-school students?
- What types of questions are most effective in developing student agency?

7.4 Limitations

Qualitative research is an approach to academic inquiry valued by many. However, for all its benefits there are, as noted in Chapter Four, some drawbacks. Specific limitations to this research project will now be discussed.

7.4.1 Researcher

Chapter Four discusses the way in which I was the primary instrument, with the help of the research assistant, for data collection and analysis. The discussion in Chapter Four highlights how vital it is that researchers consider their own bias and position in relation to the research topic. I needed to be very sure that I kept an open mind and that I was open to supervisory teaching being ineffective in certain situations. However, the nature of bias is such that it is not always easy to recognise one's own partiality. For this reason, it could be said that my role as principal in the school and primary researcher is a potential limitation of this study. Of course, there are benefits to participant research, which are noted in Chapter Four too. However, future attempts to research the ideas in this project could remove suggestions of subjectivity by ensuring researchers are more completely removed from the research context.

7.4.2 Size

The research project was designed to support requirements toward a doctorate related to my profession. As such, it was decided that collecting data from three classrooms in one international school in Hong Kong would be a suitable size for the project. Three classrooms is clearly not a big sample group and to add further validity to these findings the research could be reproduced and scaled to a larger group of participants.

7.4.3 Variable student ages

There are potential issues related to the differences in age of the students in the three classrooms. This research covered three grade levels in a primary school. It is possible the potential for agency either increases or decreases as students get older, meaning that some factors attributing to certain environmental components in classrooms may actually be the result of the age and developmental level of the students in the classroom.

7.4.4 Data verification

During the data analysis I was the sole researcher responsible for coding the data. Having another person independently code data would have added rigour to this study. It is expected that subsequent studies surrounding this topic would be larger and non-exploratory and that, therefore, independent verification would be required.

7.5 Concluding comment

This research project has been an exploration into the development of student agency within a supervisory teaching framework implemented in a primary school. Supervisory

teaching is the name given in this research to a pedagogical approach that has existed in various forms for a long time. Different versions of this approach occur within international schools and across other Western educational contexts.

When this thesis was started agency was a concept far from the vernacular of most practising educational professionals. However, almost serendipitously it is now at the forefront of educational discussion in a variety of contexts. Despite the growing interest there is still a lack of clarity about how to teach for student agency. This research provides direction in this regard, showing ways that agency was developed through supervisory teaching in three classrooms. Specifically, student–teacher learning conversations and independent learning, when both structured and unstructured, offer a range of opportunities for agency development.

Given its narrow scope, and the intention to explore rather than definitively measure, this research could only claim to have started a learning journey, not be the provider of all the answers on this topic. Nevertheless, this beginning has provided some clear direction around what might specifically support agency development in primary-school students within a supervisory teaching framework. These findings can provide direction to educators looking to better understand agency development both within a supervisory teaching pedagogy and beyond.

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APPENDIX ONE:
ETHICS APPROVAL FORM, INFORMATION FOR TEACHERS, AND CONSENT FORM

Ethics Office
Research Development & Integrity
Research Division
Armidale NSW 2351
Australia
Phone *02 6773 3449*
Fax *02 6773 3543*
jo-ann.sozou@une.edu.au
www.une.edu.au/research-services

HUMAN RESEARCH ETHICS COMMITTEE

MEMORANDUM TO: Dr Linley Cornish, Mrs Susen Smith & Mr Paul Crowhurst

School of Education

This is to advise you that the Human Research Ethics Committee has approved the following:

PROJECT TITLE:	Back to the Future: Supervisory Teaching and its perceived impact on student agency in primary classrooms
APPROVAL No.:	HE13-265
COMMENCEMENT DATE:	20 December, 2013
APPROVAL VALID TO:	20 December, 2014
COMMENTS:	Nil. Conditions met in full

The Human Research Ethics Committee may grant approval for up to a maximum of three years. For approval periods greater than 12 months researchers are required to submit an application for renewal at each twelve-month period. All researchers are required to submit a Final Report at the completion of their project. The Progress/Final Report Form is available at the following web address:
http://www.une.edu.au/research-services/researchdevelopmentintegrity/ethics/human-ethics/hrecforms.php

The NHMRC National Statement on Ethical Conduct in Research Involving Humans requires that researchers must report immediately to the Human Research Ethics Committee anything that might affect ethical acceptance of the protocol. This includes adverse reactions of participants proposed changes in the protocol and any other unforeseen events that might affect the continued ethical acceptability of the project.

In issuing this approval number it is required that all data and consent forms are stored in a secure location for a minimum period of five years. These documents may be required for compliance audit processes during that time. If the location at which data and documentation are retained is changed within that five year period the Research Ethics Officer should be advised of the new location.

Jo-Ann Sozou
Secretary/Research Ethics Officer

20/12/2013 A13/2291

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INFORMATION SHEET for TEACHERS

I wish to invite you to participate in my research project, described below.

My name is Paul Crowhurst and I am conducting this research as part of my Doctor of Education in the School of Education at the University of New England. My supervisors are Associate Professor Linley Cornish and Dr Susen Smith.

Research Project	**Back to the Future: Supervisory Teaching and its perceived impact on student agency in primary classrooms**
Aim of the research	The research aims to explore the effect that supervisory teaching has on the agency of learners.
Interview and Focus Group	I would like you to participate in a face-to-face interview with Mrs Brooks who is acting as a research assistant at [insert time] in the school office at CAIS. The interview will take approximately 45 minutes. With your permission, I will make an audio recording of the interview to ensure that I accurately recall the information you provide. Following the interview, a transcript will be provided to you if you wish to see one. I would also like to interview you with the other teachers participating in the study, i.e., in a focus group, where you can share your experiences together.
Confidentiality	Any information or personal details gathered in the course of the study will remain confidential. No individual will be identified by name in any publication of the results. All names will be replaced by pseudonyms; this will ensure that you are not identifiable.
Participation is Voluntary	Please understand that your involvement in this study is voluntary and I respect your right to withdraw from the study at any time. You may discontinue the process at any time without consequence and you do not need to provide any explanation if you decide not to participate or to withdraw at any time.
Questions	The interview questions will not be of a sensitive nature: rather they are general, aiming to enable you to enhance my knowledge of the challenges and opportunities for better supervisory teaching in its various different forms.
Use of information	I will use information from the interview as part of my doctoral thesis, which I expect to complete in September 2015. Information from the interview may also be used in journal articles and conference presentations before and after this date. At all times, I will safeguard your identity by presenting the information in a way that will not allow you to be identified.
Upsetting issues	It is unlikely that this research will raise any personal or upsetting issues but if it does you may wish to contact St Johns Counselling Service, Hong Kong on (+852) 2525 7207.

Storage of information	All hardcopies will be kept in a locked filing cabinet and scanned as a backup. I will keep scanned copies of all written and transcribed information on my password-protected laptop or in a locked filing cabinet in my office. Other electronic data will also be kept on my password-protected computer. Only the research team will have access to the data.
Disposal of information	All the data collected in this research will be kept for a minimum of five years after successful submission of my thesis, after which it will be disposed of by deleting relevant computer files and shredding all hard copies.
Approval	This project has been approved by the Human Research Ethics Committee of the University of New England (Approval No. HE 13-265 Valid to 20/12/2014).
Contact details	Feel free to contact me with any questions about this research by email at pcrowhur@myune.edu.au or by phone on +852 93841755. Also, you may like to contact Mrs Jenn Brooks who is acting as a research assistant on this project by email jennting@cais.edu.hk or by phoning +852 2778 3370 You may also contact my supervisors. My Principal supervisor's name is Associate Professor Linley Cornish and she can be contacted at lcornis2@une.edu.au or +612 6773 3458 and my Co-supervisor's name is Dr Susen Smith and she can be reached at susen.smith@unsw.edu.au or +612 9385 1037.
Complaints	Should you have any complaints concerning the manner in which this research is conducted, please contact: *Locally:* Ms Evelyn Guttinger C/O – CAIS Lai Yiu Campus Lai Yiu Estate Wah Yiu Rd Lai King Hong Kong SAR Email: evelynguttinger@cais.edu.hk Ph: +852 2778 3370 *In Australia:* The Research Ethics Officer Research Services University of New England Armidale, NSW 2351 Tel: (02) 6773 3449 Fax: (02) 6773 3543 Email: ethics@une.edu.au Thank you for considering this request and I look forward to further contact with you. Regards, Paul Crowhurst

CONSENT FORM
for
PARTICIPANTS

Research Project: Back to the Future: Supervisory Teaching and its perceived impact on student agency in primary classrooms

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I, ……., have read the information contained in the Information Sheet for Participants and any questions I have asked have been answered to my satisfaction. Yes/No

I agree to participate in this activity, realising that I may withdraw at any time. Yes/No

I agree that research data gathered for the study may be quoted and published using a pseudonym. Yes/No

I agree to be identified in this research. Yes/No

I agree to having my interview audio recorded and transcribed. Yes/No

I would like to receive a copy of the transcription of the interview. Yes/No

I am older than18 years of age. Yes/No

…….. ……
Participant Date

…….. ……
Researcher Date

APPENDIX TWO: INTERVIEW QUESTIONS

Interview One - Teacher Interview Questions

TEACHER NAME

Introduction

Confidential interviews with the researcher will be 20 to 45 minutes in length. The interviews will be held in a mutually convenient location that has no distractions and is private. The interview will be introduced with:

Researcher says:
I would like to ask you some questions about instructional techniques you use during Exploration Time/math/reading (choose appropriate subjects). During these times you employ an approach that could be defined as Supervisory Teaching. This involves students spending a majority of their time learning independently while the teacher focuses on dialogue within small groups or with individuals.

To make sure I write down exactly what you say, I would like to record your responses. After the interview is over, your answers will be transcribed verbatim and the recording destroyed. Only the researchers will hear the recording. You are very welcome to read the transcribed copy if you wish to see it and make any final amendments to your responses before they are analysed. Results will be grouped, collated and recorded with pseudonyms being used and no individuals will identified.

As I ask each question please feel free to share your thoughts, feelings and general perceptions about the topic.

Questions:

1. What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?

2. Think back to other approaches to curriculum delivery, e.g., whole-class teaching. How do you see an approach that makes room for continual conferring being superior/inferior?

3. How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?

4. Can you give me examples of your students being self-directed and taking personal responsibility?

5. When students are learning in this way they need to spend long periods of time working without direct teacher guidance. What are the positives and drawbacks to this?

5a. Do you feel that the longer periods of time are typically well used?

6. Can you comment on the attitude of students when they are learning using this framework?

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?

Interview Two - Teacher Interview Questions
TEACHER NAME

Introduction

Confidential interviews with the researcher will be 20 to 45 minutes in length. The interviews will be held in a mutually convenient location that has no distractions and is private. The interview will be introduced with:

Researcher says:
Thank you for coming and participating in this second interview at the conclusion of the data collection phase of this research project. The focus again during this interview will be how students learn under a supervisory teaching approach. There are no right or wrong answers, and responses can be as short or long as you like.

I would like to ask you some questions about instructional techniques you use during Exploration Time/math/reading (choose appropriate subjects). During these times you employ an approach that could be defined as Supervisory Teaching. This involves students spending a majority of their time learning independently while the teacher focuses on dialogue within small groups or with individuals.

To make sure I write down exactly what you say, I would like to record your responses. After the interview is over, your answers will be transcribed verbatim and the recording destroyed. Only the researchers will hear the recording. You are very welcome to read the transcribed copy if you wish to see it and make any final amendments to your responses before they are analysed. Results will be grouped, collated and recorded with pseudonyms being used and no individuals will identified.

Set Questions:
1. What types of support do you see yourself being able to offer when you are conferring/dialoging with students?

2. The theory of human agency refers to a person being able to influence their own circumstances in life, rather than being passive and having environmental influences dictate their personal circumstances. How do you see the context (math centers, Exploration Time) in which you have been using supervisory teaching supporting higher levels of agency in the students?

3. How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?

4. Can you give me examples of your students being self-directed and taking personal responsibility?

5. When working independently, (i.e. when the teacher is not working with them) what skills and learning dispositions have you seen students develop?

6. Students have commented on how 'fun' it is learning using the supervisory teaching approach. Is this important? Why? Why not?

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?

APPENDIX THREE: INTERVIEW TRANSCRIPTS

Teacher Interview Questions – Interview One (Feb 2014)
"Gordon"

Introduction

Confidential interviews with the researcher will be 20 to 45 minutes in length. The interviews will be held in a mutually convenient location that has no distractions and is private. The interview will be introduced with:

Researcher says:
I would like to ask you some questions about instructional techniques you use during Exploration Time, math and reading . During these times you employ an approach that could be defined as Supervisory Teaching. This involves students spending a majority of their time learning independently while the teacher focuses on dialogue within small groups or with individuals.

To make sure I write down exactly what you say, I would like to record your responses. After the interview is over, your answers will be transcribed verbatim and the recording destroyed. Only the researchers will hear the recording. You are very welcome to read the transcribed copy if you wish to see it and make any final amendments to your responses before they are analysed. Results will be grouped, collated and recorded with pseudonyms being used and no individuals will be identified.

As I ask each question please feel free to share your thoughts, feelings and general perceptions about the topic.

Questions:

1. What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?
I think when you confer with students you are able to scaffold and give them just a little bit of information each time. A bit of information each time in order for them to grow. Um and um I usually don't give them all of the answers. I try to get them to find out things on their own, so I will give them some clues and hints to guide them more as they go.

2. Think back to other approaches to curriculum delivery, e.g., whole-class teaching. How do you see an approach that makes room for continual conferring being superior/ inferior?
Um I just remember when I teach as a whole class you lose some of the kids as you go along the way. Some of the kids are participating or they just don't seem very interested. I think that when you work with students in a smaller group you are able to touch base with um most if not all of the students. Very quickly you are able to understand if they understand something and you are able to adjust what you need to do quite quickly. um I think that there are times when you need to do things as a whole class. I think that engagement is very important, if it is an activity that all the students can get their hands on and work on together as a group. I would think that in a smaller group setting you are able to understand the students' needs a little bit more.

3. How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?
A lot of times I go and tell them to find information on their own. I give them ideas and clues on where they can get information. So, definitely it is a model of teaching that encourages them to find information on their own. I think that I often tell them that if I tell you the answer you won't remember, but if you found the answer yourself you would remember it for the rest of your life. It definitely encourages independent learning. Um examples in the classroom? There is a boy in the classroom is quite interested in all sorts of different things that is not in our curriculum. Actually, he has lots of different interests. And oftentimes I would see him go to the class library or the school library and borrow books. During exploration time he would just go get a book out and start reading, and start writing and making his own booklet about the specific topic. And when you give students the chance to do that, and I think oftentimes the problem is that we pack our days so full that we don't give kids the chance to explore and do things on their own. If you give them a chance to do this you out find out more about them and find out what they can do. This is actually quite an ESL student and he actually has made a lot of gains by finding things out on his own. He is actually a very quiet kid too and usually would not speak out in class, but during this time he would come and ask questions on an individual basis. I think that this is one example of him learning independently, more or less by himself and he is comfortable about how and where he can find information.

4. Can you give me examples of your students being self-directed and taking personal responsibility?
I think now that we have added an extra element to the exploration time where students at the end will be asked to present what they have made. And there is some accountability in that sense in that they have to finish a product. Sometimes they might not finish right away. They might tell me that I will finish on Wednesday or Friday and that is when I can present. The presentation part even though it isn't very long it gives them a chance to show their friends what they have made. It keeps them a little bit more accountable now they have to show what they have made, and stand in front of the class and tell what they made and answer some questions afterwards. Yeah.

5. When students are learning in this way they need to spend long periods of time working without direct teacher guidance. What are the positives and drawbacks to this?
I think it teaches them to be more independent. Hopefully moves them toward being a lifelong learner because a lot of times now we learn things on our own as well. Especially with the internet, you go online, you check out things. There is some collaboration in that sense because you are learning information from different people. But a lot of times you are just sitting there trying to get information that way. So, I think students are able to um able to work without teacher guidance. It kind of forces them to go out on their own, which helps them to understand how the world works not, we've kinda got to go out and try and find information and be independent. The drawback is it can kinda go all sorts of different directions and without too much guidance um and with so much information out there sometimes you do worry that you don't know how to assess the information that they are reading is correct or reliable. So um I think the younger the kids are, the more guidance we need to give them. But once they are comfortable with this kind of model then as they get older they will hopefully be comfortable to come to you for guidance when they are unsure of something.

5a. Do you feel that the longer periods of time are typically well used? (extra question)

Um I think so. I think when you see the kids, their attitudes like how they feel about learning. It is well used. It does. It is in some ways unsettling for some teachers because you are losing a lot of control and if 20 kids are possibly going in all sorts of different directions and you've got to try and keep them going all in the right type of direction. I guess that can be part of the drawback as well. Um it's something that takes time as a teacher to think through.

6. Can you comment on the attitude of students when they are learning using this framework?

I guess as I've said before they think of themselves as learners. They are able to solve problems on their own. There is something innate in kids. They want to teacher other kids things that they have learnt. Um most kids are very very comfortable showing kids what they have learnt and what they have discovered. I think that empowers them, to know that this works and that I know something, I show it to other people who learn from it as well and maybe next time they will teach me something different and I will learn from them. So definitely having kids in these types of groups promotes more collaboration and um again it seems more authentic to what it is like now. We are not um being trained as factory workers where everyone knows the same math skills and literacy skills and then just being about to get a job. That is not how it works anymore. We need to be able to collaborate and learn. Every single day.

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?

One of the biggest obstacles or one of the biggest challenges with this type of teaching is control. It is letting go and letting kids decide what they want to learn and how they want to learn it. I guess teaching from a textbook or teacher resource book and just trying to cover everything. And I can understand as well that teachers want to be accountable to the students, administrators and parents to let them know that they have covered the whole curriculum. And that they have done everything that they need to do, but I think that something we need to think about too is that just because we have covered it doesn't mean that you have actually learned it. And so, there needs to be a balance. I think that the curriculum serves a purpose but it should not be the thing that dictates the things that we do every day and the decisions that we make in the classroom. Again, I see a lot of benefits in term of how the kids, in terms of the confidence, in the way that they are able to tell each other things and just the way they are able to grow.

Teacher Interview Questions – Interview One (Feb 2014)
"Kristina"

Introduction

Confidential interviews with the researcher will be 20 to 45 minutes in length. The interviews will be held in a mutually convenient location that has no distractions and is private. The interview will be introduced with:

Researcher says:
I would like to ask you some questions about instructional techniques you use during reading and writing time. During these times you employ an approach that could be defined as Supervisory Teaching. This involves students spending a majority of their time learning independently while the teacher focuses on dialogue within small groups and with individuals.

To make sure I write down exactly what you say, I would like to record your responses. After the interview is over, your answers will be transcribed verbatim and the recording destroyed. Only the researchers will hear the recording. You are very welcome to read the transcribed copy if you wish to see it and make any final amendments to your responses before they are analysed. Results will be grouped, collated and recorded with pseudonyms being used and no individuals will be identified.

As I ask each question please feel free to share your thoughts, feelings and general perceptions about the topic.

Questions:

1. What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?
I see it as one-on-one help. I come from a background of private lessons. Giving students private lessons. So I see that when you can work one to one with a student, you can meet their needs better. You can see where they are. Where their weakness is, you know you can help them with what they need to work on. And you can individualise the teaching for that student in a smaller group rather than in a large group. So I see that the support is, it can be a better support for them because you are giving them the one-on-one support and direction.

2. Think back to other approaches to curriculum delivery, e.g., whole-class teaching. How do you see an approach that makes room for continual conferring being superior/ inferior?
Well I do think that it has to do with the subject that you are teaching and the needs of the student. Because sometimes you can get stuff done quicker if you say it once to everybody. Rather than repeat the same thing over and over to five groups of students. I think that for conferring individually there are some subjects that lend themselves a little bit better for small-group discussions rather than whole-class discussions. Like sometimes the science experiments. Like sometimes the best way to teach the science experiments is a whole-class instruction. Like if it is reading then each student is going to be reading different books so you can individualise it to that group or that student's need. I guess I don't think that there is a superior or inferior way but it has to do with the subject that you are teaching and the timeframe that you have to teach something in. What is going to best help the students within the time that you have to teach a concept.

3. How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?

I think that it gives students choice and when students have choice it helps them make decisions for themselves. This is basically a culture here where students are told what to do all the time, and (laughs) sometimes their entire day is scheduled out so if you can have some opportunity where when they are finished something you don't tell them what to do you give them some options of, you could do this or this or this. It can help them to think of what would they like to continue to pursue or study on their own. Like I used to have a thing called smart choice and it helps them, I give them five different choices of things to do when they have finished something. So, the smart choice is something that helps to create choice for students.

Researcher: So what does that look like?

It looks like, right now on the board I have that they can do IXL, they could be working on the computer if they like to. They could be doing a math rap, which is working on their math facts, like fluency with adding and subtracting. Listening to an MP3 player, I will also have choices of things they can complete so then they can be, "Oh, what would I like to do?" And sometimes I will say, "You haven't finished this and this is something that you should finish first." Because this age they don't always know how to prioritise. They just think, what is the funnest thing? Um, let's see. Independent learning and thinking. For reading I use something called talk back to book. And it is basically a series of sentence starters to help students to think about their reading and respond to their reading, and its scaffolded to help students who need that scaffold to respond to reading. But independence-wise they can choose which sentence starter they can use when they are talking back to their book.

4. Can you give me examples of your students being self-directed and taking personal responsibility?
Yeah during reading stations they have listen to reading time and they use the tumble books and they can choose what stories they want to read on tumble books. So that is basically self-directed, they can listen to any story. Now sometimes in giving them that free choice they discover there are some games they can play on tumble books. And I have to say that, "I did say that you can choose which story you want, not that games was an option." So there is always, when you give some type of option, students will see how far that freedom will go and can they play games. Let's see. When that happens I just have to hold them accountable and ask them, "Did I tell you you can do that?" And they say, like, no. So you have to give them freedom within some boundaries. And I guess the talking back to books is an example too because they have to talk back to a choice of sentence starters.

Researcher: And that time usually looks like they're working independently and you are working with other kids during that time?

Yeah, ah huh. They are definitely by themselves working independently and I am with another group.

5. When students are learning in this way they need to spend long periods of time working without direct teacher guidance. What are the positives and drawbacks to this?
Well I sometimes, when I am trying to work with a group there are all sorts of problems that can be happening. Either somebody is being too loud and I have the rule – inside voices. They get excited if they are playing a word game. Sometimes there will be extra noise in the classroom that can be distracting to students who are trying to work. Sometimes students just don't want to talk back to books or they don't want to read to themselves. They will, you know? They will go and bother other people sometimes and

interrupt their learning. Then sometimes I have to step away from that group that I am working with to go and put out the fires if they get too big (laughs). So I think that is probably one of the drawbacks. I think the thing that would be best is if you could have another supervisory teacher, like working with some of the other groups in that time, that could help with some of the groups who are having problems. Or settle groups if they are getting too loud playing the game. Or if they are losing focus reading to themselves.

Researcher: What would you say are the positives?
The positives?

Researcher: When they have a longer period of time to work with you…
Oh. They have independence and freedom and I know for myself I learn better if it is something that I really want to learn and I am choosing what I am learning and I am more self-motivated. Um, so one student during her talk back to book time she actually went above and beyond. She didn't actually use one of my sentence starters and she wrote a great response to the story she was reading. She was reading *Flat Stanley* again and... "...when Flat Stanley saved (sounded like saved but not sure) Emma in the ribs. When they got out of the broken-down market building. Then Emma kissed Stanley. I think that is crazy that Emma kissed Stanley." (laughs) You know the whole idea that I have in that scaffold of talking back to books is to help to engage them and focus them. And here that student didn't use that scaffold but she was able to write a great response. Um, so I think the positive is that students can kind of explore on their own. You know you are just giving that scaffold. You are just giving them that scaffold and that support. So that they can experiment and try things so that they can see what fun they can have. They can actually have more fun when it is their own independent learning versus someone saying this is how you do something.

6. Can you comment on the attitude of students when they are learning using this framework?
Oh it is very positive, most of the time. Usually when they know that they are having reading stations they get excited about it because they know they will have the freedom, and the movement and the rotation. And, sometimes if I haven't done reading stations, if I miss it in a week some students will say, "When are we going to do it?" They expect that it will happen. The writing workshop they don't always. But I think that I can develop the writing workshop so that students will have a positive attitude, like they do with reading stations. Because right now they are like – oh no.

Researcher: What would you say the difference is?

I think that with my reading centres I actually have set up centres that are always the same, well they actually change depending on the work game or the book. But they are kind of pre-set, so there is a framework. Writers' Workshop right now is a little bit more fluid and more teacher-directed. Usually I will have three concept that I will try to work through um, and then, well I try to touch on grammar in Writing Workshop. I touch on traits of writing. Then they will have a little bit of time for free writing. I don't always have the same type of movement that I have in my reading stations.

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?
One thing about Supervisory Teaching is um I guess I see students stepping up more. Sometimes there are certain leaders who kind of come up at the end of the class and if they see students off task they will be, like, "you need to do this". So the students become more peer-based. And peers

try to hold each other more accountable to what they should be doing or shouldn't be doing. And if they can't get their peers to be doing what they should be doing then they come to me. So that is an interesting thing to see how the individual students, their personalities take over a little bit. So there can be a little power struggle within the class.

Researcher: Would you say they have more ownership in their class?

Yeah. I think they have more ownership. It is really funny sometimes to just listen to the kids trying to control the other kids (laughs). Kids love to be bossy sometimes, you know (laughs).

Researcher: Anything else?
Um, I think probably freedom. Because when they become an adult they will have to decide what they would like to learn on their own. So if you can start now that independence of learning, then that is going to help.

Teacher Interview Questions – Interview One (Feb 2014)
"Libby"

Introduction

Confidential interviews with the researcher will be 20 to 45 minutes in length. The interviews will be held in a mutually convenient location that has no distractions and is private. The interview will be introduced with:

Researcher says:
I would like to ask you some questions about instructional techniques you use for math. Sometimes during these lessons you employ an approach that could be defined as Supervisory Teaching. This involves students spending a majority of their time learning independently while the teacher focuses on dialogue within small groups and with individuals.

To make sure I write down exactly what you say, I would like to tape-record your responses. After the interview is over, your answers will be transcribed verbatim and the recording destroyed. Only the researchers will hear the recording. You are very welcome to read the transcribed copy if you wish to see it and make any final amendments to your responses before they are analysed. Results will be grouped, collated and recorded with pseudonyms being used and no individuals will be identified.

As I ask each question please feel free to share your thoughts, feelings and general perceptions about the topic.

Questions:

1. What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?
When I do math centres it is useful in that I usually am helping out a small group at a time. I have arranged my groups in ability groups. So when I am working with a group they are more or less at the same ability. I can help them with the same concept while the other kids are engaged with their own thing. So they are not just waiting for me to dismiss them to do something that would help them learn. So I think that I am able to cater to the individual needs of each student by doing math centres.

2. Think back to other approaches to curriculum delivery, e.g., whole-class teaching. How do you see an approach that makes room for continual conferring being superior/ inferior?
Actually I find that when I do whole-class teaching it is harder to do formative assessment because it is more teacher instruction and kids working. And, I don't have enough time to check the whole class's work to see where they are before I give them another instruction. So when I do small-group [work], I already know more or less what they know or don't know or what they are struggling with and what they need help with so in that sense I can give a lot more feedback to our kids, or my kids. So, in that sense it is better than whole-class teaching. I mean I still do whole-class teaching. So before I send the kids off to centres I give them a lesson about one small concept before I send them off. Yeah, but I can see where my kids are more in their learning in the small groups rather than just talking to a whole class.

3. How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?
I think it has to do with how I direct the students as well, and how flexible I am when I ask or do a lesson and kids give their answer and I say, "oh that way works, that way is a

different way of solving it. Well done". Or if I am saying, "yes that works but you have to do it my way". Because that discourages the kids from being creative in finding the different methods that solve a problem. So I think, it's how I approach or how I direct them to solve problems and how much freedom I am encouraging them to solve problems. And then in their centres, if I am giving them that freedom then they can, you know, use whatever tools I leave at the table. Sometimes I'll leave counters or scrap paper there and they can solve it in whatever way they want. You know, they can share in ways to solve the same problem. So I think that it has a lot to do with me more than the model. Because I mean even if I teach the traditional way with just a whole-class instruction and every kid just sits there and does questions they can still be independent learners by being creative in the ways they solve their problems. So anyway that is what I think, it has more to do with freedom I give them and what I am allowing my kids to do, and I think so.

4. Can you give me examples of your students being self-directed and taking personal responsibility?
I don't know if behaviour counts but when I think of taking responsibility, I think of them taking responsibility of their own behaviour. And, classroom management is something I take consideration of a lot with my kids. I don't know if it is just my batch of kids but they have to work hard to be responsible for themselves. They are working within my supervision, but when I'm working with a small group they think I'm not watching them. So I think that it's important that they understand that what they are doing, that they are able to engage and do it themselves. And also, being able to stay in their seats instead of rushing up. This is something that I have to remind them of occasionally. When I think responsibility I think behaviour. I think in responsibility and their learning. As long as they are given work that they know how to do. Also, having a positive attitude in learning because some of them lack confidence in doing math. Probably because they are so used to teacher instruction and they just, you know, do some questions in a cycle like that. They don't do enough word problems or problem solving. They only do the math problems that are simple like "what's 1 + 1?", like, you know, addition and subtraction questions and they don't know how to use different methods to answer questions. So I think giving them confidence to be creative and giving different methods to answer questions um, I think giving them confidence would help them to take responsibility over their learning. And, enabling to do things, that they can do it. Something that Paul told my class, "you can't say you can't do it, and you can't ask for the answer but you can ask a question about the question". They are really good with that so whenever they have something they can't do they say, "you can't say you can't do that". So that is a good thing that they have learned. Then they can persevere and press on and keep trying. Rather than just giving up.

5. When students are in this way they need to spend long periods of time working without direct teacher guidance. What are the positives and drawbacks to this?
Actually, most of my days they only get through one of the rotations in my math centres. Then every three days they have a double block and they do three or four rotations. That is just the way my schedule works out this year. Um I do find that the kids work better when I do rotate them. Kids do like rotating and they like um like to know what they are doing next. They like to see where they are going next and they like to read the schedule. Um and they working for a longer period of time when they rotate but they are working on slightly different tasks. That way they can still focus again when they are doing something like practising a skill quickly or applying a skill they know. Um, they are able to work independently and longer period of time without getting bored or getting off track. Those are the positives. And drawbacks, sometimes I neglect the higher kids in my class because I am always following the lower group around and trying to help them to

catch up. And trying to give them more help. So sometimes for the higher group I will just give them 'mad minute' or the timer station, I'll just give them a harder worksheet to take a bit longer because sometimes it will take just one minute to do 30 questions or something. It is more work to do math centres because I have to give more thought to creating different activities to cater for different ability groups and then being able to spend the right amount of time with each group. And, also when I give the mini-lesson I'm not sure who my audience are. Should I just do it quickly so my top kids would get it and just send them off so that I can do it again with my lower kids?

6. Can you comment on the attitude of students when they are learning using this framework?
I think overall they have positive attitudes in doing this. I think that it is more interesting especially everybody waits till they get to the game station. So they love that. Even though I have to take away some of the games that are easier, because they just, like Pick Up 16 it is pretty much a no brainer. There are strategies to it but there isn't a lot of math that they have to do for that game. The kids like play so I think when um some of the stations have an element of play then they love it. Ah even the workbook it motivates them when I say "finish all your questions then you can go and play". Even though sometimes they rush over it which is bad. But I think that in terms of attitude I think that the process of changing, I'm not sure that is the right word, but changing the attitudes toward math that is good as well. They are taught to do math a certain way their whole lives, or the last few years. And some have a bad attitude toward math, like "oh it's math again" and so I think yeah it is a process definitely for the kids to have a more positive attitude toward math in general.

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?
I think some of the things I have mentioned in the other question, like self-directed learning and having an impact on student attitude in math or other subjects and independence, yeah I already said that independence, motivation, confidence all those things and play, it is using different um motivators to help kids learn math in this context. I think I would like to learn more about different strategies in this type of learning. I think that when kids come up with different kinds of answers I don't know when to say "yes that is a good way to figure that question out". But sometimes in the end there is still assessment and I want every kid to be able to do a division question in one or two specific ways so that I can assess them so they can figure out in those two specific methods. But I don't know when to say "ok that is fine you have your own way to do it and you will get perfect marks on the final test even if you don't use the two methods that I taught in class". I don't know how to balance that and say, "that is a good way and you can use it". And when to say "that is a good way and you have to use my way". Because math should be more flexible I think. Because when we are grown-ups we just do whatever works, right. You don't have to get a piece of paper out and show how it works. I myself like to see a kid and how they are thinking, I like to have them write out a number sentence from the information given from a word problem. I have them solve it and explain it and have them write a sentence answering the question, you know. But I don't know if that is necessary or not or if it is helpful to them or not. Or if just learning how to balance um what my expectations are with what is beneficial to their learning.

Anything else?
I'd just like to learn more about it.

Teacher Interview Questions – Interview Two (June 2014)
"Gordon"

Thank you for coming and participating in this second interview at the conclusion of the data-collection phase of this research project. The focus again during this interview will be how students learn under a supervisory teaching approach. There are no right or wrong answers, and responses can be as short or long as you like.

1. What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?
Um the first thing is encouragement. I think that you are able to encourage kids to persevere. Sometimes they want to start something but they give up. Just having the person there that can tell them they are on the right track and they can keep going is important. Second, is being able to scaffold kids. Sometimes they get a little bit stuck, so being able to tell them or give them some suggestions to how they can move forward or how they can improve their projects is another thing you are able to teach them. And third, is just more individualised teaching. I'm thinking this is more for writers' conference or guided reading. More specific instructions that are tailor-made for that child. To see where they are struggling in certain places and to help them along. Um finally I guess for myself is being able to reflect and see what the kids are able to not do so well. Or perhaps things they already know. So if there are things they do not do well in perhaps I need to reteach to the whole class and if there are things they already know then perhaps we can just move ahead.

Researcher: Still on that idea, can you give an example of what scaffolding might look like without giving too much away to the student?

Um I guess when some of the kids are trying to, say for example build something from the Lego book, some things might be tricky and they might not be able to see how making a connection here or making a connection there might be able to stabilise the structure better. So perhaps giving them the hint to do that means they can continue with what they are doing.

2. The theory of human agency refers to a person being able to influence their own circumstances in life, rather than being passive and having environmental influences dictate their personal circumstances. How do you see the context (math centres, Exploration Time) in which you have been using supervisory teaching supporting higher levels of agency in the students?
I think always letting students know or have a choice to use what they know and do things that interest them, I think that allows them to go further. And it lets the children know that the choices they make have a direct impact on the learning experiences they have. I guess an example would be a spelling list. Students are able to choose a couple words that they are interested in spelling. Just giving them the choice opens things up for them.

3. How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?
I think one thing for sure is that students are able to learn to solve problems on their own. Um rather than getting direct intervention from teachers all the time. I guess one example is, when they are in small groups and I am teaching another small group, if they need to solve a problem they know that they need to solve it themselves. Because if they come and ask me a question then they know I will just send them away because I am working with someone else. So, sometimes you will see them resolve something by doing rock–

paper–scissors. And if both parties are happy with that arrangement then it teaches them to solve problems on their own.

Researcher: Would you say that goes for academic as well as behavioural problems? Like if they are getting stuck on something academic then they would know how to overcome that?

Definitely, if they know that I am not going to be helping them. Then they would go and ask their friends and see how they can help each other. They would be more willing to do that I think.

4. Can you give me examples of your students being self-directed and taking personal responsibility?
I think sometimes towards the end of the year, after we have done a lot of different centres. Ah literacy centres, numeracy centres and Exploration Time as well. Sometimes they organise themselves and will come in in the morning and say, "This is what I am going to do today" and say to a friend, "Why don't you join me?" So they are figuring things out. And, I think sometimes they end up going to a centre where there's nobody there, and they know they can't change during that 35–40 minutes. So they learn from that. So, next time they choose they want to make sure that they have someone with them.

In terms of taking personal responsibility they all know that once you have chosen a centre, or once you have started in a centre you have to stay there. You can't wander off, you can't change and so I think understanding your choice, that you can't just change. Hopefully this is teaching them to take more responsibility for their actions.

5. When working independently, (i.e., when the teacher is not working with them) what skills and learning dispositions have you seen students develop?
Couple of things. One, and we sort-of talked about this earlier, being able to solve problems on their own. And, knowing that the teacher is not always going to be around to help them. And, to know when it is a problem that they can solve themselves. Second thing is that they learn to communicate with each other, how to use words to resolve problems, and how to make their friends listen to them. Third, working independently they learn how to, um, learn in a more collaborative way. To learn from each other. To know that some people are good at certain things. To know that those are the people to go to for certain things. And to just be able to share that information. And for 6/7-year-old kids, they love to share what they know. They love to be able to teach their friends. You know sometimes they might be too enthusiastic and might take over someone's computer and start typing in things for them. I think to know that this is something they can do, and they need to teach and learn from each other. And fourth, I think when they are working independently they can learn some patience. Again, if I am engaged with a small group they know that they need to wait if there are problems, and they need to wait till I am finished if they want to interact with me.

Researcher: You have mentioned that you have a rule that children should stay in one centre. How would you say that their dedication has changed over the year?

Um, honestly, from Day 1 they have been pretty good. Once the rule is made clear to them at the beginning and everyone understood that that was the rule then they would not um, they really didn't have a problem with it. Even if they might get a bit bored with their choice and look over their shoulders to see what their friends are doing they know that it is their choice.

6. Students have commented on how 'fun' it is learning using the supervisory teaching approach. Is this important? Why? Why not?
I think, um, to a lot of students the engagement is a big thing. If it is not fun and it is not engaging then I think it doesn't matter how long and how much time you spend on certain skills or topics it really wouldn't stick. I think that it is really important for whatever activities that we plan for the kids, it needs to be engaging to them. Even if it is not engaging to us as teachers. If it is engaging to them they will persevere if there are problems or times that they are stuck. So making it fun is really important.

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?
I think social learning is something that is going to move forward. Even for us as adults if we don't know something we go to the Internet to find information. Sometimes we don't even know where that information comes from. We need the ability to assess if this is reliable. But ultimately we are learning from each other and collaborating on a lot of things – consciously and unconsciously. And this is a model that is moving forward. For them to be able to learn from other people, to share what they learn from other people. Whatever platform that may be, it may be something that is going to move forward. They have to be comfortable using it, that mode of learning.

Teacher Interview Questions – Interview Two (June 2014)
"Kristina"

Thank you for coming and participating in this second interview at the conclusion of the data collection phase of this research project. The focus again during this interview will be how students learn under a supervisory teaching approach. There are no right or wrong answers, and responses can be as short or long as you like.

1. What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?
I guess I see myself as a type of problem solver for them. To help identify some of their problems or weaknesses and be able to help give them some tools and strategies to solve that problem or whatever they are struggling with. Um, I guess I also see the support is, well students do better one-on-one anyway. Students do better when learning is more personal. So, it can be more personal, and in a way it's a more natural setting for children to be in a setting that is a more smaller group.

2. The theory of human agency refers to a person being able to influence their own circumstances in life, rather than being passive and having environmental influences dictate their personal circumstances. How do you see the context (literacy centres and writing) in which you have been using supervisory teaching supporting higher levels of agency in the students?
Well it definitely gives students freedom within a guided framework. Students will definitely explore and sometimes test those boundaries. There was an example in one centre and we were doing a game. And, I had taught the students how to play it and they were doing it on their own and I was walking around seeing what everyone was doing and seeing if they needed any help. I came back to this one group that was playing this game. It actually had to do with big numbers. I had actually just given them the goal of 100 as the big number to reach. And then on their own they were trying to do bigger numbers like 1000 and 10000 and they were just going off. It was really cute to see how they just wanted to make it their own thing and stretch themselves and push themselves to be more challenging, or to do something that would be more challenging for them.

3. How do you see this model of teaching encouraging independent learning and thinking?
Well I think that I gave a little example of students that went beyond the framework that I had given. To challenge themselves. It was supposed to be a dice game and there were supposed to roll the dice 7 times to get up to 100. It was teaching place value. They could either choose to have the number go in either the ones column or the 10s column or the 100s or the 1000s column. So, they built their own thing and they built their own thing and that was really neat to see how they could improve it in their own way

4. Can you give me examples of your students being self-directed and taking personal responsibility?
Yes! So, when I go through the stations and explain what they need to do, then they are responsible to go to that station and do what I have told them to work on. A majority of students are very excited and they get to work straight away and stay focused. But some do get distracted (chuckle) like people in normal life they get distracted about other things whether they are thinking of Batman or Star Wars. But they are self-directing themselves.

Maybe they really like Star Wars and want to have a conversation about that so that is really self-directed.

5. When working independently, (i.e. when the teacher is not working with them) what skills and learning dispositions have you seen students develop?
Hmmm. I've seen students become more accountable, I think, for their own learning. So if I have given them at the station something to do then they are like - ok I've got to do that. They try to do it. Sometimes they can't do it and other times they can finish it really fast and they have to challenge themselves and find another way of doing it to continue their learning. I think it has helped them to develop independence and accountability. Yeah.

6. Students have commented on how 'fun' it is learning using the supervisory teaching approach. Is this important? Why? Why not?
Well I think that fun is important. I know for myself that if I am not having fun teaching something I don't want to be there - you know? And, I know for the kids that if they are not having fun learning something then they are not going to want to be there they are going to be thinking about other things other than what the learning goal is at that time. I think having fun is important because it can keep them engaged in that learning goal.

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?
Well I'm going to tell you my personal story. I was home-schooled. And, I think that home-school is a good example of supervisory teaching. My mother would spend a whole summer getting my schedule for the year set. Then on Monday I knew I would have to do this, and this, and this and this. And, I would go and I would do my own learning and I would teach myself and if I had a question I would go and ask my mum. I think that home-schooling is a really good example of independent supervisory teaching. And, students can then learn at their own pace. They can go really fast and do a lot of stuff or they can go slower if they need to and deeper of they need to. So I think that having a programme where having a programme where there is a goal where you say this is what I am trying to do and then the student sits down and works on that goal, but they can enhance it more and say, "Oh, I really want to learn about this more." Or "This is really interesting! I'm going to spend 10 minutes just thinking about this." Or "Wow, this is really neat. I'm just going to draw a picture about it." I think that is really going to help to make connections in students brains and it is going to help develop the habits of learning. And, learning is a habit. Students are not going to always have teachers to guide them. They need to be their own teacher and if we can teach them to teach themselves. They're going to learn their entire life that way.

Teacher Interview Questions – Interview Two (June 2014)
"Libby"

Thank you for coming and participating in this second interview at the conclusion of the data collection phase of this research project. The focus again during this interview will be how students learn under a supervisory teaching approach. There are no right or wrong answers, and responses can be as short or long as you like.

1. What types of support do you see yourself being able to offer when you are conferring/dialoguing with students?
Um. The support that I am able to give is definitely more individualised than I can give as a whole class because I get to work with students individually. So, um, yeah in that sense I can see where the students are and give direct and specific feedback to them work with them and help them and even it takes less time to help individual students because I know exactly what they need help with, I'm not going over the whole lesson with the class again.

2. The theory of human agency refers to a person being able to influence their own circumstances in life, rather than being passive and having environmental influences dictate their personal circumstances. How do you see the context (math) in which you have been using supervisory teaching supporting higher levels of agency in the students?
Students have a greater freedom at working at their own pace. I always give them a choice. Ah, centre or what task they are working at, whether it is a certain centre or problem solving or on IXL or computer tasks, they have different tasks or topics they can choose from. They are actually able to discern themselves where they are. And, most of the time I would say that students work at a level where they will actually challenge themselves. Even though you will always have one or two that will work on the one timetable or two timetables because they know that it is easy. But most of the time they would want to work on something that they like and are interested in. Some will even go above and beyond and surprise me sometimes as well. One example is in my game centre I had some tangram pieces back and they started to use them to make 3D objects and 3D is actually the next lesson that I was going to teach, in my next mini-lesson so they were able to extend the plain shapes and the tangrams and extend it to the next lesson. That was really cool because they were able to teach the class some of these things as well, just by um them influencing their own learning.

3. How do you see this model of teaching encouraging independent learning and thinking? What examples can you give me from your classroom?
Um, again most of the students have learned to be independent over the year. It definitely took time to learn how to do that without me breathing down their neck the whole time. I still have to walk around the classroom to make sure they are working - sometimes. Yeah, it does teach independence. In terms of how, um, once they know that they know that there is a classroom culture where they know that they must challenge themselves and persevere and take up an ownership in learning then I think this model really encourages them to do that. Also, I don't know if it is the culture here in Hong Kong but kids seem to be surprised when I tell them they can work together. They always think that they are being assessed for everything, but they are not. And, it won't reflect on their report card (laughs) you know. Not everything they do will be recorded. So, I tell them they can work together and they can teach each other. They're the teachers as well. So, when they understood that they were able to teach one another and um be able to combined learning

and co-operate and think more deeply about their learning. Instead of just being feed something by the teacher and just write down the answer and follow a formula. Yeah, so they are able to take ownership of their learning and help one another as well.

Researcher: You gave one example of them in your classroom working together. Any other examples you can give me of them in your classroom about how this model is teaching independence?

Mmm. The kids are pretty prone to coming to me right away. Or if they finish something they want me to check it. Especially my problem solving, doing kids sudoku and puzzles. Ah, they check each other's answer, without giving each other the answer. So, over time they with practice and encouragement they are able to help each other in a sense to buddy check and help each other by giving each other clues, which is actually quite good because it's like studying the question for themselves.

4. Can you give me examples of your students being self-directed and taking personal responsibility?
Actually in the end of the year. Let me start with an example. In the last unit, they I had to cover was on shapes, 3D shapes, lines and angle and stuff. I actually learned over the year they had a lot of knowledge in this area, especially when I was doing other activities I felt like most of the class had a pretty good understanding of what I was going to teach. So, in one of my centres I just printed off a chart, that you can actually see on my wall right now, and I had different lessons that they could choose teach themselves that they could actually teach themselves and teach each other. So, they could go up and choose which lesson they would like to go through, and they could put a check mark to show which one they had done. Most of the time they would just have a basic understanding already but they would just go to a page and work with a buddy and I would say, "When you are finished just pick another lesson and learn it." So, it was kind of like how adults learn using online modules - you know? They just choose what they want to learn they go to that page, they learn it, they do the exercises and they talk about it and I can hear them using the vocabulary and when I would walk up and ask them about it then I would joke, oh you don't need me anymore you can teach yourself math. And when they are given the, I think, scaffold and support they can take the responsibility and direct themselves because they know what they are interested in and they know what they want to learn. Um, so yeah even with something like a textbook they are able to direct himself in their learning.

5. When working independently, (i.e. when the teacher is not working with them) what skills and learning dispositions have you seen students develop?
Ah, like we said - responsibility. Ah, honesty. For not copying which happened a lot in the beginning but it has become a lot better. Um, perseverance. And, I had a few kids in the beginning, especially with problem solving were like, "I don't know!" Um but once the rules were laid down and the culture got going they were able to um learn what it means not to give up because the feel such a sense of joy when they get something hard for the first time and there is encouragement and we cheer them on. Now most of the class, I would say, whether the high kids or the low kids they all are able to keep on doing something without being discouraged and without giving up. I think these were a few main skills that they students were able to pick up.

6. Students have commented on how 'fun' it is learning using the supervisory teaching approach. Is this important? Why? Why not?
Ah, I think that it is definitely important for kids this age. Because kids love to play. They especially think that in math centres they are not learning! Sometimes. Because they are having so much fun. But in fact they are learning, social skills and math skills. I think it is important because they can learn a lot more when they think they are having fun. Or when they are having fun. Because kids learn to play and studies have shown that and research has looked into that. It is important that kids find that fun. Even adults if we find things boring we just kind of filter it out right?

7. Can you provide any other comments about how you see Supervisory Teaching having an impact on learning?
I think at this grade level a lot of the learning is social skills. I think this kind of learning gives kids a lot more opportunity to learn that, and learn how to interact, learn what is appropriate and learn to take responsibility. And learn to be independent and take initiative. And this way, ah kids learn how to learn rather than just learning math. Just as a lot of the things that we have talked about you know kids learn in a self-directed way and take responsibility. Especially the kids that have pretty good math skills at this level. They tend to take things above and beyond, thinking outside of the box and they, um, they make learning fun for themselves. And, now they actually find things fun and they play the teacher sometimes with students that need more support. Even when I'm not there. So I think kids really enjoy this learning style and yeah I think this is great.

APPENDIX FOUR: CLASSROOM OBSERVATION DATA

Date/Location	Note	Expanded Note
27.01.14 [redacted] Exploration	[redacted] sat with a child NC and discussed a science activity.	[redacted] used the time after he had set the class in motion with Exploration time to work with a student one-on-one on some work that he needed support with because he was away the previous week for a couple of days. There was dialogue between the teacher and student about a booklet activity.
	The classroom environment was extremely vibrant as kids started working on activities of their own choice.	During exploration time the classroom is a very vibrant place. Students are extremely engaged and excited about what the are doing. Two students that are noted as being particularly distractible were fully engaged in an activity on the computer. It will be interesting to see how they go when computer time is not an option for them.
	Occasionally [redacted] would stand up and move around to ensure that students' were on task and learning meaningfully.	[redacted] takes the time to offer himself as a resource to students when they are at the book center or the craft center if they need anything. **Q: What are all the centers that are used**
14/02/2014 [redacted] Mathematics Centers	Started with mini-lesson on division. Clarified division terms (quotient, divisor etc) - 7 mins	During the mini-lesson the class's attention was held by a quick and to the point discussion about the different components of a division equation. Toward the end students started to lose a little focus as [redacted] started to lose her assurance when explaining what happens when a number is divided by zero.
	Class sent to centers: - IXL on computer - Division game - Problem Solving - Textbook work	The four centers were set up. IXL and the game centre ran very smoothly. As did the textbook work. V introduced a new activity for problem solving

	[redacted] spent some time at the problem solving activity to get it up and running.	the students seemed to like it. It did take some instructional time to get this up and going.
	Tasks were running smoothly and students worked effectively independently with plenty of dialogue with peers.	All the centers seemed to run well as they had students engaged, they were open-ended activities and they teacher was freed up to provide support around the room. Curating an environment that engages students in sustained thinking is vital to the effective functioning of this model.
	[redacted] asked, “How many numbers are you allowed to make 7 in this area.”	Rather than explaining what the students needed to do, [redacted] asked questions to direct them as they struggled to come to terms with the idea behind the Ken Ken activity. This prompted them to think about it more a solve at least part of it.
	Final Comments	[redacted] is just getting started with her supervisory style teaching in mathematics. She seems to have some work to do before she is running discussions with teachers that precipitate deep thinking and meaningful learning. There are signs of quality formative assessment starting to occur. There is still a little way to go so that this could be described as rich dialogue or interaction.
14/02/2014 [redacted]	[redacted] leading a group for guided reading. Asking questions and eliciting responses. Text was NF and about dolphins.	This was a powerful time as students were supported through the examination of a text about dolphins. [redacted] asked question about the text that caused students to explore different aspects. For example, pointing out the heading and asking students to predict what the next section might be about.
	At the same time centers were set up for students to work and explore independently.	The centers used during this time were: - Tumble books on the netbook. - Silent reading

		- Talking back to books - some sort of vocab game Students seemed to be thoroughly engaged with texts in a variety of ways. The environment seemed to be well curated for independent open ended learning.
		It seems at this time that for this model to be implemented well teachers must work hard to curate a learning environment where expectations for continuous independent learning are established
	Students with the teachers were stopped midway through the book and ask about the content of the book. A time of learning about dolphins followed.	An interesting aspect to guided reading that can only enhance the learning of the topic. This would no doubt enthuse the students more as they are removed from the incessent of summarising - predicting - clarifying. At this point the students were asked about their favourite part. This seemed to facilitate an increase in engagement. Teachers active roll in these situations are able to lift enthusiasm for a text by doing this.
17/02/2014 3N	Whole class problem solving before moving into centres. Obvious signs of disengagement.	Once the students had tried the problem and had drawn a diagram on how they solved it they watch as a class several people share through the visualiser. The excitement for several was obviously lost.
	[redacted] "We are moving to centres" - cheers from a number.	Seems that the class is appreciating this form of learning. Although it should be mentioned that a few did sigh.
	Everyone move promptly to their centers and got stuck in.	What a huge difference it makes once a class is used to a certain approach. When I was in the class a few months back as they were setting up for centres the transitions were often full of uncertainty. Now this flows nicely.

	[redacted] engaged with students in a small group.	Great to see them all participating because there was nowhere to hide.
	A thought	*A crucial component is an open ended experience where kids keep exploring and never really finish. This reminded me of a Lucy Calkins quote: "When you think that you're done, you've only just begun."*
17/02/2014 1C - Exploration time	[redacted] seemed to spend a bit of time sorthing out logistical issues today.	
	He then began zooming in on kids and discussing their work. One example, "So this is the house you stayed in when you were in Vancouver?"	Every child is doing something unique, so it is an oportunity for [redacted] just to stop, see what they are doing and ask a question or make a point that might enhance their learning.
	Some of the time is spend resolving/teaching about quite practical issues.	One example on the computer he showed one girl how she had too many applications open and taught that this might be slowing things down. Another time he showed a girl how to zoom properly with the mouse. Acutally ended up doing this with two kids.
	One boy named [redacted] ([redacted] has definite attention and behaviour problems, but so far I haven't seen him anything other than focused and enthused during Exploration time, and usually not on the computer.	He was creating a project making a robot by joining boxes together.
3N - 27/02/2014	As usual students engage. Seems to be getting more like this everytime I visit the class	There definitely seems to be a trend where the enthusiasm and energy of the students is increasing as this model becomes more-and-more familiar.
	Game center is going well with plenty of mathematical discussion.	Students were even improvising and changing the games slightly. Interesting to see that they are constantly calculating and working mathematically at this center.

	Teacher engaged with the small group doing the world problems. This helped them to stay focused toward completing the task.	
	[redacted] had a cold and wasn't much interested in engaging with students. The class still ran really well and the kids seemed to be learning and collaborating in their learning	Interesting to note the sustainability of the learning environment even without an 'ever-present teachers'.
2R - 28/02/2014	Working in literacy centers: - Reading w/ teacher - Word play - DEAR time - Listen to reading - Respond to reading	
	Word play center was tense as students tried to agree on a way forward.	Students at 'Word Play' Center were putting together a puzzle where they were matching pictures and words. The exercise involved lots of dialogue and working together collaboratively. Kids showed that they were developing collabotive skills by resolving the difference of opinions that they had and completing the puzzle.
	Teacher provided ongoing feedback at literacy center	The pattern for this time was read a little - discuss (via teacher questions).
	Engagement was high	Almost every child was engaged with the activity they were involved in.
	There was choice at most centers	Most children had some degree of choice in each of the centers. Eg the book that they were reading, or the Tumblebook activity.
	Teacher taking the opportunity to teach the students based on their questions or uncertainties	During the lesson the students were a little unclear about something to do with the animal's teeth. The teacher took the chance to explain what they had just read and teach them about some animal's teeth. This was probably a good scaffold for reading too and helped with fluency.

Reflection	How does the supervisory teaching environment promote the characteristics of **intentionality**, **forethought,** self-reactiveness, and self-reflectiveness?	During the next few weeks I will examine the way that the agentic qualities of intentionality and forethought are promoted through the STF. Bandura (2006) defined intentionality as *a person's ability to have have action plans and ideas of strategies to realize them*. He defined forethought as the ability of a person to take the intended intentions for the future and *make decisions and allow for direction to ones life in the present*. In other words the ability to *think about desired goals as they relate to their present situation*.
18.03.2014 1C - Danny	Writing time wasn't in the usual writers' workshop format. Students shared writing on the document viewer.	In all that we are saying about individualised learning and the value of conferencing it should be noted that the whole class experiences where the teacher facilitates the exploration of certain ideas is necessary. This is particularly helpful when it comes to thinking about current goals and how they relate to what students have been doing on their own work - forethought.
	Asking students to share in this way allows the whole class to examine the strengths and drawbacks of a piece of work.	In this example the teacher was asking students to give feedback on the work that was displayed for the class to see. Students were asked to comment on things they liked and things that could be improved. The exhibitor was also asked to share what they were doing and what they thought were strengths of their writing. This type of activity sets students up for their independent writing time in several way, 1. Allows them to see ideas and techniques that others are using. They can then consider whether they could be applied to their own writing. 2. They are able think critically about another writing piece.

		Although not every person is expected to provide feedback in this setting, all students are expected to think of some constructive feedback for the writer. Thinking in this way is helpful and hopefully will be applied to their own work.
Reflection	The current focus on formative assessment in teaching and learning is well served by a supervisory teaching environment.	As I observe the classrooms regularly I have found myself connecting with the learning I am observing and the emphasis on formative assessment. This was a focus of some of my school based professional development from 2007-2010 and my study toward my master degree. Teachers in the supervisory teaching and learning environment have the opportunity to converse with students and provide individualised feedback that fits that child. This will be worth exploring in relation to sub-question 3.
18.03.2014 Vinci	Started with a whole class activity using the doc sharer and small docs.	AGain I am seeing the value of this type of activity in focusing everyone on what is required.
18.03.2014	[redacted] commented on the upbeat attitude that students have toward exploration time. Chatting about it as the moved up the stairs, saying things like, “What are you doing today? I am going to the ‘Cards’ center.	This relates to the comment that [redacted] made when she stated that kids are so into the learning during math in her class that they don’t see what they are doing math.
	Moved to centers: - IXL - Problem Solving (KEN KEN) - Game center - Teacher	During this time it was evident that the class has developed a far greater sense of purpose and focus to their learning. One of the reasons is the way that the activities have been curated to enhance more student interest and engagement. The games are specific and engaging for the students. While they are doing these there is plenty of rich dialogue. The other reason that there seems to be a high level of

		purpose in the class is the way that [redacted] the teacher has developed the quality of her dialogue. She is now very comfortable sitting and working with students and this is where she is found during lessons. I think this is one of the big shifts that teachers need to make in their progress at delivering a supervisory learning environment.
18.03.2014 3N	[redacted] said (when sitting with one student, “Try number 3 again.” And, “What makes it one hour.”	The first question was in reference to a question where a student had made a careless mistaken from a textbook activity. The redoing of this question was most helpful and allowed the child to examine what she had done more carefully. The second was a prompt as a student was struggling to remember how to represent an hour on an analogue clock. Both comments allowed the student to reflect and solve a smaller problem this ultimately led to a bigger problem being solved.
28. 03.2014 [redacted] - Discovery Time	One child was building a lego city that was a of paper and lego.	The child seemed to be stalled and was losing focus on his task. The teacher asked a great question - Where to next? The child just stopped and thought, then proceeded to share about the type of building he would develop next. This isn’t the first time I have heard this very simple question asked to good effect. It seems to focus the student.
	Again in the Exploration time there is a busyness and enthusiasm everytime.	This is incredible. Students are continually focused and excited about what they are doing. This is largely (I think) because they have choice.
	One child approached me to	Allowing children to accesses

	show me what he was doing and I said, “What do you like about discovery time?” He replied straight back and said, “I get to create things that are in my imagination.”	their own thoughts and ideas seems to give the teacher a tremendous amount to leverage in the learning process because the students are fully present and interested in what they are doing. When students are present in the situation they are responsive when the teacher comes and talks with them because they are inherently interested in what they are learning.
30.03.2014 Reflective Thought	When students spend long periods of time working independently of their teacher then there has to be an expectation that their is a degree of student direction and therefore a variation that individuals might take.	This idea differs from the way that may teachers teach when they give students an exemplar and ask them to follow this, then follow up with careful observations that result in corrections if too much deviation is made. The expectation that students will have be independent leads to an expectation that they will think for themselves. I can see how this would give rise to all four to the agentic qualities that Bandura outlined.
08.04.2014 Elaine: Mini-lesson - *“A Bouquet of Voices*”	While watching this I thought about how vital these times are.	A short mini-lesson sets the direction that the students are to go. The advice, tips and instructions can be recalled as students enter into the activities where they work independently. Mini-lessons give students something to focus on.
	While watching this part of the lesson I thought about the question that gets used so often in Writers’ Workshop - “What are you working on as a Writer?”	This question is a starting point for one-on-one dialogue between the teacher and student. Oftentimes this means they are asking the student to recall ideas about that the teacher has taught them about - What writers do. These are learned in the mini-lesson.
	During this lesson there was lots of discussion on what needs to be done.	This was more teacher centered than I have otherwise observed in [redacted] lessons. She was essentially showing the students how to do something then

		sending them off to do it. Unfortunately this is not the essence of the STF. This did get me thinking though (see next note)...
Reflective Thought	The organization of the classroom set up can reflect Supervisory Teaching but supervisory teaching is more than just a structural organisation in the classroom. It involves the expectations and beliefs of the teacher and students.	This has come to the forefront of my thinking after watching the last lesson. I certainly have seen others like it in my time observing the three classes. The essence of my idea is that although teachers may ask students to act independently they may in fact not want the children to think independently. Thus their learning conversations will be based around the child needing to follow a given direction (from the teacher). As opposed to the conversation being lead by the child. Thus, the expectations and beliefs of the teacher will drive the learning. I'd like to follow this idea up with an examination of Supervisory Teaching in other contexts… TBC
10/04/2014 [redacted] Exploration Time	Large group working on the lego centre	This center was a hive of activity as students discussed the various ideas that they had and planned to add to the already extensive array of buildings that they had developed.
	One boy developed a cardboard cut out and a remote to go with it.	I thought this quite interesting, especially in that the teacher was moving around the classroom talking with different students about their project. He was asking questions like - where to next with this? and How could you improve what you have done? This boy with his simple cut out car and remote is made to think reflectively and to plan a possible improvement.
	Teacher continued moving around and would often begin with - "What are you doing	Starting the conversation like this causes the child to examine what they have been doing. This

	today?"	examination is helpful in regards to developing student's ability to reflect.
Reflection	In regards to sub-question 3, the aspect of the STF that makes room for students working individually and independently relates to a lot of what has been advocated in constructivist learning.	Constructivism has strongly influenced thinking about teaching and learning in the last century. Exploring this will be a worthwhile endevour in the analyis stage.
22.04.2014 [redacted]	Not doing centres	It was still a worthwhile visit as I was able to see her kids all working on group tasks (same one) and her circulating having learning conversations with her students.
	Student: Look what I did. V: OK, why did you do it that way?	Vinci seems to ask lots of questions that get the students to reflect on what they have been doing.
23.04.204 [redacted] - Centres	Teacher was engaged with students that were in a center completing their textbook page. She spent lots of time asking questions.	It seems to me that even when classrooms are set up structurally to facilitate Supervisory Teaching the prevailing attitude that exists needs to call for deeper thought and critical and creative thinking. This can be lost even when teachers have set up a Writers' Workshop or math centers. Not in this case. Most of the learning conversations between teacher and students involved them calling on their own understanding (through questioning) rather than explicitly stating what they were doing right or wrong.
	One group was working on a puzzle and timing each other using an hour glass. When the hourglass had run out then it was the next person's turn.	It is this sort of collaborative task that, although it has a purpose and end goal, lends itself to so much learning from one another.
	Another group was focused on a problem solving activity that involved a kidoku and a maze.	Watching the class work in such a focused way it was apparent how vital it is to curate an engaging learning environment.

	Going back to the hourglass group. It struck me that they were getting the chance to developed social skills as the attempted the puzzle.	This type of incidental learning is significant because as with most incidental learning it is student driven. One girl discovered that if she leaned the hourglass on the side it emptied the top chamber quicker. Watching this I recalled a time when I was watching [redacted] class during Writing Workshop. One table of writers were all developing their stories with regular breaks for discussion. One of the topics of discussion that they stopped for on several occasions was - multiplication. During writing time one boy was schooling the other G1 students in what multiplication was. This had a big impact on at least one of the children because it was my son. Who then had several questions at the dinner table that evening about multiplication. It seems the mear opportunity to function socially without many externally imposed inhibitions opens up learning opportunities. **After this session I would very much like to explore more the agency vs structure contrast as outlined in sociology. This might be something for the lit review.**
29.04.2014 [redacted] - Literacy Centres	[redacted] running a guided reading group with 6 students. Some of them were able to 'hide' - that is not participate much in the discussion about the text.	My observation is that if learning conversations are going to engage students then they have to be with fewer than 5. If the group has more than five the teacher can just address 1 or 2 kids while the others work independently. Otherwise if the teacher wants engagement from the whole group then it needs to be kept to 4 or less.
	Other centers were well participated in especially Tumblebooks. [redacted] lets students talk and chat while they	Letting kids talk and make noise and go about their learning independently seems to open up the demeanour to the students

	work.	and as mentioned a few entries above allows for all sorts of incidental learning.
	[redacted] used the GR time not just to develop reading skills but to facilitate learning around the topic of the text.	He entered into dialogue about the topic that the students were reading, as though it was the focal point rather than the reading skills.
05.05.2014 [redacted] Writers' Workshop	Class working on quatrains	
	Teacher conferencing with individuals as they finish	Stopped at one stage and shared a student's work wit the whole class.
	Teacher focusing on the rhyming aspect of the type of poem they were reading.	
	The organisation of the class allowed meant that students were lining up to conference with the teacher.	These students were standing and chatting.
	Teacher was supporting students by asking lots of questions when conferencing. She saying things like, *"Listen to this sound - pain. What is a word that rhymes with pain."*	Questioning seems to place the control of learning with the students! This seems to make the students more active in the learning process. They were obviously more animated.
	The personal interaction is something the students seem to enjoy and this is something that I would like to investigate further.	
07.05.2014 Danny - Exploration Time	Two boys are playing cards - 21. [redacted] is watching and giving advice as they learn the different ways to use an Ace (either an 11 or 1).	The boys discuss with the teacher the strategic ways that it can be used. One boy thinks that he has won. The teacher says, "No! He can change it to a 1 and it hasn't gone bust." When watching this I reflected on Vygotsky's ZPD theory and how the teacher was able, by a few subtle remarks, to allow the two boys to actually play a game that might have broken down if

		not for a small amount of guidance from the teacher.
	Another girl and boy work together to create a animal that is sculpted out of paper and cardboard.	These two were working intently. One was colouring and the other was pulling the wrapper off a plastic coke bottle to use. They work together one holding and pulling the wrapper while the other pulls the bottle.
	A group of students are working on the carpet developing lego structures.	Both this and the animal sculpture are interesting to watch as the students enthusiastically debate and discuss the next step and what should come next. I am seeing lots of reflection in both these activities as students are evaluating the value of the next step as they decide what this might be. My thinking is that without the choice of being the owners of this process teacher the chance to reflect would be less.
08.05.2014 [redacted] - Centers	Four centers set up: 1. book activity 2. computer center 3. game center - where students were doing puzzles 4. problem solving	
	Again surprised and thrilled to see the high levels of engagement during math time. One boy known for being a little disruptive was very focused for the first 10 minutes that I was in the class. Didn't even say a word to anyone else.	He was working on a puzzle where a number of 2D shapes had to be arranged into a larger square shape. His concentration never broke.
	Another group that are working on the computer were using Sumdog a programme that asks students to play games that require math knowledge	The fact that the maths is embedded in a game context seems to make it so much more meaningful for the students. They are making a host of other decisions that go with the tasks that require math knowledge. Note: Watching this I get a feeling that when a situation is structured so that it requires more agentic thinking it draws

		the student in. So, possibly agentic operation leads to higher agentic operation. Just like running makes a person a better runner.
13.05.2014 [redacted] - Math	GRoups working excitedly on different activities	
	Teacher working with students at a table where they are exploring fractions.	One of the things that seems to make teaching times so engaging for the students is that the teacher ([redacted] is actively involved more as a participant in the process. Not really instructing. [redacted] constantly asked questions of the students like - “Ok, what size do you need to complete the pizza?” and, “What is that?”
	The task at the center where students were learning about fractions continued even when the teacher moved to check the students working on a text book activity.	The function of the teacher here was to ensure that the task was complete. Again more questioning drew the students into the task.
	It is hard to see or notice anyone in the class who is not engaged actively and excitedly in the learning process.	
	The workbook table are working and discussing their answers, but not in a conventional way. One boy is questioning another while sitting on his desk. Telling him that he is right and his friend is wrong, he then starts explaining why and how.	
	Vinci stops with the problem solving group to ask a few questions. This prompts a student to think about why he hasn’t solved it yet. He starts verbalising his thinking about his use of numbers in a particular square and how this isn’t allowed. He is reflecting and making changes and suggestions for other ways that might work.	
14.05.2014 [redacted] - Exploration	I noticed one group making something out of a cardboard box and tape. I asked them what they	They were planning together. Talking about their next step, cutting and sticking tape. They

Time	were making. They said - a rocket!	ended up joining several sections together to make this rocket.
	This is an environment where students can be intentional because they are allowed to have intentions.	
20.05.2014 Reflective Note: Degrees of conformity	One of the things that I have noticed about the observations that I have been carrying out is that the classes that I have been observing differ in the level of correlation to my framework.	This is an interesting thought as it relates to the two key aspects of the STF. Teachers differ in the way they engage with students in learning conversations and in the way they allow students to learn independently. As a minimally invasive approach to learning the discrepancies across the three cases seem to surround the level of structure or teacher directedness that is adopted in both the learning conversations and the independent work time. For example, students in 1C are set more open ended tasks than those in 2R with more autonomy over the direction that the task takes.
20.05.2014 [redacted] - Math Centers	Classroom set up with centers.	Students working really well independently and regulating their activities well. For example, in two groups the kids are playing games. They know the rules and are loud but still working independently and exercising the ability to socially function effectively. Two boys are unable to decide who will start the game so they play Paper - Scissors - Rock.
	Teacher is working with a small group teaching them how to use the Split Strategy.	The group is small (4 kids) that gives the feel that everyone is participating. Students are asked to participate by writing on their own whiteboards. The strategy changed for the next group. The teacher drew the students into a discussion about the strategy using questions. Interesting to see that when the group was bigger (6) the engagement levels

		of two of the boys were apparently less, as the teacher couldn't as easily involve them in the discussion as it was shared with more students.
	The lesson has been going for 15 minutes before there is a problem at the centers that the teacher needs to intervene in.	It is a dispute that can't be resolved. Teacher jumps up and quickly discusses the situation and the group resumes the game.
20.05.2014 Reflective Thought:	Teaching in this way involves a tolerance for kids to be kids, which is often loud and .	
20.05.2014 [redacted] Math Centers	Teacher 'conferencing' with students. They were completing a task from a textbook. The student was struggling the teacher supported this.	She supported by walking through a problem step-by-step. Then said, "Now have a look at the next one." This seemed like a good example of scaffolding. The teacher provided some extra instruction to the small group working on this centre. Occasionally she would move to another centre and pose some questions to the Problem Solvers or the Netbook group but always returning to the group doing the textbook task.
	At the conclusion of the lesson, which ran 7 minutes into lunch time, the students asked to stay in and keep going! No one complained about the lesson running long.	
04.06.2014 [redacted]	Workshop was just finishing students were looking at a mentor text	
	The learning conversations seem to be less focused and last a very short time. They don't seem to be about what the student is working of as a writer.	
	Students are also less focused in this class than in other classes. This is due to the fact that there are a number of difficult students in the class.	

	When watching I couldn't help but feel that the sense of independence that WW seeks to foster wasn't present. Often students would declare - "I'm done!!!" Perhaps this explains why the kids are less engaged and excited by their learning during writing time.	It is a vital element when trying to implement this approach that learners become independent and learn separate from the teacher. Today it could be seen why this independence is so essential. First, it frees the teacher up to have learning conversations. Second, it fosters learning as the teacher doesn't have to be present for the child to think and act.
	[redacted] used this time to conference on the carpet too. She did reading with her students rather than writing. She asked some great questions.	
[redacted] 09.06.2014	One boy has tried to replicate the ICC building.	
	[redacted] talks to him and asks questions about what he is doing and what he wants to do next.	What occurred to me was that the learning conversations that [redacted] has with the students stimulate or fuel the independent time that the students learn in.
	Some boys are playing Chinese Checkers. They know how to play.	[redacted] joins in and makes comments about what might work and what might not.
	Two students set up a chair as a net and play a kind of tennis game with a shuttlecock.	They had rules on who should serve. This was decided by playing a form of paper scissors rock.

APPENDIX FIVE : CODING EXAMPLES

Classroom X Category Analysis Example

Key:
Intentionality
Forethought
Self-reactiveness
Self-reflectiveness
Multi-category

27.01.14 1C Exploration	[redacted] sat with a child NC and discussed a science activity.	[redacted] used the time after he had set the class in motion with Exploration time to work with a student one-on-one on some work that he needed support with because he was away the previous week for a couple of days. There was dialogue between the teacher and student about a booklet activity. Student looked engaged and interested and ready to act.
	The classroom environment was extremely vibrant as kids started working on activities of their own choice.	During exploration time the classroom is a very vibrant place. Students are extremely engaged and excited about what the are doing. Two students that are noted as being particularly distractible were fully engaged in an activity on the computer. It will be interesting to see how they go when computer time is not an option for them.
	Occasionally [redacted] would stand up and move around to ensure that student's were on task and learning meaningfully.	[redacted] takes the time to offer himself as a resource to students when they are at the book center or the craft center if they need anything. Supporting them with any little probelms. This seems to allow them to continue in their own task of choice. **Q: What are all the centers that are used**

17/02/2014 1C - Exploration time	[redacted] seemed to spend a bit of time sorthing out logistical issues today.	
	He then began zooming in on kids and discussing their work. One example, "So this is the house you stayed in when you were in Vancouver?"	Every child is doing something unique, so it is an oportunity for [redacted] just to stop, see what they are doing and ask a question or make a point that might enhance their learning.
	Some of the time is spent resolving/teaching about quite practical issues.	One example on the computer he showed one girl how she had too many applications open and taught

		that this might be slowing things down. Another time he showed a boy how to zoom properly with the mouse. Actually ended up doing this with two kids. This allows kids to think a little bigger and do more than they would usually do.
	One boy named Ralph (Ernest) has definite attention and behaviour problems, but so far I haven't seen him anything other than focused and enthused during Exploration time, and usually not on the computer.	He was creating a project making a robot by joining boxes together.

Classroom Y Category Analysis Example

Key:
Intentionality
Forethought
Self-reactiveness
Self-reflectiveness
Multi-category

14/02/2014 2R	[redacted] leading a group for guided reading. Asking questions and eliciting responses. Text was NF and about dolphins.	This was a powerful time as students were supported through the examination of a text about dolphins. [redacted] asked question about the text that caused students to explore different aspects. For example, pointing out the heading and asking students to predict what the next section might be about.
	At the same time centers were set up for students to work and explore independently.	The centers used during this time were: - Tumble books on the netbook. - Silent reading - Talking back to books - some sort of vocab game Students seemed to be thoroughly engaged with texts in a variety of ways. The environment seemed to be well curated for independent open ended learning. Students were able to make choices in their learning, that is they could manage what they wanted to do first, second, third etc.
		It seems at this time that for this model to be implemented well teachers must work hard to curate a learning environment where expectations for continuous independent learning are established
	Students with the teachers were stopped midway through the book and ask about the content of the book. A time of learning about dolphins followed.	An interesting aspect to guided reading that can only enhance the learning of the topic. This would no doubt enthuse the students more as they are removed from the incessant of summarising - predicting - clarifying. At this point the students were asked about their favourite part. This seemed to facilitate an increase in engagement. Teachers active roll in these situations are able to lift enthusiasm for a text by doing this. Teachers, when working alongside the kids discussing the topic, can inspire curiosity in the students. By bringing their views /ideas/intentions/plans etc in as important.

Classroom Z Category Analysis Example

Key:

Intentionality
Forethought
Self-reactiveness
Self-reflectiveness
Multi-category

18.03.2014 3N	[redacted] said (when sitting with one student, "Try number 3 again." And, "What makes it one hour."	The first question was in reference to a question where a student had made a careless mistaken from a textbook activity. The redoing of this question was most helpful and allowed the child to examine what she had done more carefully. The second was a prompt as a student was struggling to remember how to represent an hour on an analogue clock. Both comments allowed the student to reflect and solve a smaller problem this ultimately led to a bigger problem being solved.

22.04.2014 [redacted]	Not doing centres	It was still a worthwhile visit as I was able to see her kids all working on group tasks (same one) and her circulating having learning conversations with her students.
	Student: Look what I did. [redacted] OK, why did you do it that way?	[redacted] seems to ask lots of questions that get the students to reflect on what they have been doing.