LEARNING IN THE 21ST CENTURY: EMPOWERING STUDENT-CENTRED PRACTICES THROUGH CURRICULUM INTEGRATION

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JASON MORGAN

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Abstract

The New Zealand Curriculum [NZC] provides a framework for schools to design and implement the curriculum at three levels: Nationally, school-wide, and in the classroom (Ministry of Education [MoE], 2007). Through a student-centred approach, which the NZC supports, a culturally-responsive curriculum that integrates subject matter from the learning areas with the 'front-end' values and key competencies is advocated, promoting the interests of students, their whānau and communities (Dowden, 2010; Fraser & Paraha, 2002). Curriculum integration [CI] is a curriculum design theory, which values students and the world they live in as the main source of curriculum, and as a result of the democratic teaching pedagogy that underpins this practice, acknowledges students as active collaborators throughout the learning process (Brough, 2008a). When students are positioned as curriculum decision-makers and have their voice heard and valued, equal power relationships can be established, enriching and positively influencing student motivation, achievement, and engagement (Brough, 2012).

As Beane (1995) explains, CI is a fundamental realignment of thinking about the purpose of schools, and the sources and purposes of curriculum and knowledge. When students are actively encouraged to engage with learning experiences relevant to their lives, knowledge is acquired in an organic way and developed through meaningful, real-life purposes. When a school's curriculum is designed to relate to both students' and their communities' needs and interests, students are no longer placed as consumers of information, but rather as producers of knowledge (Boyd, 2013). By integrating powerful learning environments in their classes which values students' voice and supports active, autonomous and collaborative learning, teachers and students are engaged in open-ended, democratic decision-making around curriculum decisions. This can enable the fostering of confident, connected, actively involved, lifelong learners (Brough, 2008b; MoE, 2007).

The aim of this thesis was to explore how teachers in the primary school, in particular the senior setting of primary schools, are integrating the

curriculum to encourage student-centred practices. It is hoped that this study will illuminate potential ways classroom practice can empower student-centred pedagogy and position students at the centre of educational decision-making. It was anticipated this project would contribute to the limited research in this field in both the primary and New Zealand school contexts.

A critical theoretical framework underpinned this study as it naturally aligned with the research question and the project's aims. A case study methodology was adopted which used a variety of methods, including semi-structured interviews, naturalistic observations, photographs and documentation.

Through this study it was found student-centred curriculum integration can provide a powerful and motivating curriculum framework and pedagogy for learning in the 21st century. Through a pedagogy that is underpinned by democratic principles and practices, students can develop critical and creative thinking skills. These skills empower students to 'perform' knowledge across authentic, real-life contexts. This not only prepares students to lead fulfilling and rewarding lives as active participants within society, but promotes emancipatory ideals leading to beneficial outcomes for communities. This study argues how through curriculum integration, teachers can find ways to empower student-centred practices.

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Introduction

Chapter Overview

Teaching and learning are coming under increased scrutiny and accountability. This, coupled with the narrowing focus to the curriculum by the emphasis on National Standards in literacy and numeracy, has accentuated the need for a democratic curriculum that draws on a wide range of curriculum content. This research was conducted to add to the limited field of student-centred curriculum integration research carried out in the primary school context and within New Zealand schools. This chapter introduces the research project and provides a background to student-centred curriculum integration. Following, a description of my personal motivation for conducting this study is provided, with the aims of the project set out subsequently, including the research question. To conclude, an overview of the thesis is provided with a brief description of the chapters.

Background of the Research

Student-centred curriculum integration, a curriculum design theory that underpins a democratic pedagogy, is the main tenet of this research project. Curriculum integration is interwoven with emancipatory ideals and questions the power relationships and contexts within which the curriculum is based. As a result of this rationale, a critical theoretical framework was chosen as it aligned with this study and the influence from its historical groundwork.

With origins rooted in the American progressive education movement, and influenced by Dewey (1902, 1916, 1936, 1938) and his work at the Chicago Experimental School, curriculum integration espouses a way of learning in which the student integrates learning through their own experiences and personally-relevant contexts. This type of education has once again begun to rise to prominence, in thanks to the increasing work around modern learning environments [MLEs]. The rhetoric surrounding these

environments has provoked questioning of a curriculum that will best suit the needs of 21st century learners. Schools have begun to face the challenge of educating a generation for a world, and workforce, which perhaps does not yet exist. Furthermore, the current New Zealand curriculum (Ministry of Education, 2007), is seen to be not only aligned with, but in support of, an integrated curriculum that has relevance to the communities students live within.

However, despite these advances, research is needed. There is a gap in the curriculum integration field of research not only in New Zealand/Aotearoa schools, but in the primary school context. As a beginning teacher within a school that had begun its journey towards MLEs and finding a curriculum that is going to best fit the needs of its pupils, I am advocative for a pedagogical approach that empowers its learners to take ownership of their learning within contexts that are directly relevant to their lives. I see it as a potential solution to facing the increasing demands on our learners in a digitalised, global community.

Personal Motivation for the Research

I began exploring student-centred curriculum integration through a university paper I undertook as a component of my Bachelor of Teaching degree. The paper, taught by authors who will be referenced throughout this thesis, Barbara Whyte and Chris Brough, instilled a passion within me regarding the importance of a democratic education. Through this paper's theoretical and practical components, I began to appreciate and experience first-hand the motivational qualities of this curriculum design framework and the positive effect it has on students' achievement.

Democratic negotiation and the co-construction of curriculum with my students and whānau has become a guiding philosophy as I begin my teaching career, and the opportunity to explore this field in more depth was a strong motivator for me to engage in postgraduate research. My enthusiasm to not only extend my knowledge, but share my interests of this limited field of research with colleagues, inspired me throughout this project.

I hope this thesis assists classroom practitioners looking to develop student-centred practices through an integrated curriculum, facilitating a process of inquiry for their own teaching and learning practice. Furthermore, I endeavour to support designers of 21st century learning environments as they design modern learning environments, creating powerful spaces for student-centred learning to occur and influencing the fundamental restructuring of schooling to meet the needs of all learners.

Aim of the Research

This research project aimed to explore the student-centred practices teachers are implementing and the ways the students are empowered through curriculum integration.

Research Question

In what ways are Year 5-6 teachers using more empowering student-centred classroom practices through curriculum integration?

Thesis Overview

This thesis is structured in five chapters. This first chapter has provided an introduction to the research project.

Chapter Two presents a literature review on student-centred curriculum integration. It begins with an analysis of the shift away from an industrial age towards a knowledge age. It discusses the historical origins of curriculum integration and illustrate the distinction between subject-centred and student-centred approaches. The review also investigates democratic principles and practices. Following, the role of the teacher, digital technologies, and professional development literature in relation to curriculum integration will also be drawn on.

Chapter Three outlines the study's methodology. Through the study's focus and research question, a critical theoretical framework that underpins this study is explored. The participants are described within this section. A case study methodology, as well as the methods employed are also elucidated. This chapter is concluded with an explanation of the data analysis, credibility and dependability and ethical considerations.

Chapter Four presents the results and discussion. It reports on the research question through five related themes: 21st Century Learning Needs, Digital Technology, Defining Curriculum Integration, Democratic Pedagogy, and Professional Development.

The final chapter, Chapter Five, provides the conclusions for the study. The chapter draws conclusions and implications together through the five themes identified in the results: 21st Century Learning Needs, Digital Technology, Defining Curriculum Integration, Democratic Pedagogy, and Professional Development. Finally, it provides the limitations and recommendations.

Chapter Two

Literature Review

Chapter Overview

This chapter provides a review of the literature to contextualise and inform the research question:

In what ways are Year 5-6 teachers using more empowering student-centred classroom practices through curriculum integration?

This chapter begins with a discussion of the knowledge age, as society shifts away from the industrial age, and what this means for 21st century educational needs and the curriculum. Following, I will investigate the historical origins and define curriculum integration, particularly subject-centred and student-centred approaches. Considerable attention will be paid to the role of the democratic principles and practice, as well as the role of the teacher, that underpin the student-centred model of curriculum integration which this research project aligns itself with. The positioning of digital technologies within this curriculum model will also be examined. Finally, I will identify the professional development and leadership requirements for this type of curriculum design, and conclude with a summary of the literature reviewed.

Knowledge Age

During the Industrial Age, a period defined by the mass transmission of homogenous, teacher-directed content, students were told what they should know, expected to assimilate this information, and then demonstrate how well they had absorbed it through summative assessments (Bolstad, Gilbert, McDowall, Bull, Boyd, & Hipkins, 2012). This prescribed 'one-size-fits-all' model of learning suited society and the economy as students were prepared for a profession in factory-based industries where they were able to call on the 'stored' information they had collected throughout their schooling (Brown, 2005a; Roberts & Bolstad, 2010). With the workforce compelled by efficiency, business and industry mechanisms were applied

to schools, as separate-subject learning was constrained to bell-controlled timetables in single-cell classrooms (Beane, 2013). However, during the 21st century, a paradigm shift occurred; a shift towards a Knowledge Age.

The Knowledge Age view is based upon an opposing epistemology, in that education is about fostering students' ability to create and use knowledge in a variety of contexts and combinations, not only empowering students to become life-long learners, but giving them the competencies and capabilities to become active and participating citizens in a democratic society (Bolstad et al., 2012). This evolution requires pedagogical approaches that place students at the centre of curriculum decision-making and learning experiences that are differentiated according to individual learning needs. With students being prepared for jobs that have not yet come to exist in emerging technological, engineering, and creative industries, children cannot be expected to lead rewarding lives if they are equipped by a redundant system (Yang, 2012). The 'production line' system of education where students are grouped by age, taught based on the assumption that all students learn the same way, at the same pace, and assessed using external standardised measures, fails to recognise that schools, now more than ever before, are preparing students for an egalitarian society; not for 'blue-collar' jobs in hierarchical, bureaucratic corporations (Gilbert, 2005).

Gilbert (2005) states that when societies value knowledge as the source of future economic growth, knowledge is no longer viewed as being owned by experts from the dominant culture. Rather, it is regarded as a process and is respected for what Lyotard (1984, as cited in Gilbert, 2005) terms its 'performativity'; its ability to be used to create new knowledge. By building knowledge around important ideas, knowledge ceases to be divided into disciplines where learning can become no more than a random assortment of facts and information to be memorised; students no longer learn in isolation (Beane, 2005; Postman, 2000). Through a fundamental realignment of principles that structure education around the learner, instead of the subject matter, knowledge is acquired in ways that connect prior knowledge with new learning, and is seen as a community endeavour,

not just an individual's (Bransford, Derry, Berliner, Hammerness, & Beckett, 2005; McDowall, 2013). This not only encourages deep understanding, thus increasing student motivation, but students learn to transfer knowledge when faced with new problems in the real-world (Fullan, 2001).

With a shift away from teacher-directed, transmission-based approaches, towards student-centred, knowledge-based approaches, pedagogical change is framed within a context of positioning students as producers of meaning-making, rather than as consumers of existing knowledge (Bolstad & Gilbert, 2006a). Conventionally, the role of the school has been to prepare workers who can contribute to the economy, rather than promote social, democratic values (Adams, 2011). Traditional and institutionalised ways of thinking hinder education's ability to bring about creative and innovative practice that enrich students active participation in personalised learning embedded within democratic and emancipatory ideals (Claxton, 2008). By challenging engrained assumptions, students are given choice and voice to collaborate in authentic learning experiences, as all members take active responsibility for educational reform within the learning community (Rudd, 2008).

Resources and tools, such as digital technologies that have assisted the move toward a Knowledge Age, must lead to transformative pedagogical practice if we are to truly prepare future-focused learners (Flanagan & Jacobsen, 2003). However, these tools can not merely mirror former practices; they must assist the development of innovative practice if their true potential for education is to be realised. Technology debate narrowly focuses on its ability to stimulate economic prosperity, overlooking democratic morals and its ability to critically engage students with their communities locally and globally to share and construct knowledge together (Brown, 2005b). These tools not only possess properties to blend diversity, but have the capacity to provide equitable opportunities that recognise both independence and collaboration (Garrison & Anderson, 2003). The ubiquitous nature of digital devices in this period provides learners with the chance to learn at their own pace following their own interests. However,

students must be equipped with the skills to engage critically not only with these tools, but with the information they provide (Bolstad & Gilbert, 2006b).

The world is evolving as a result of social, economic, and technological changes, and, consequently, the learning needs of children are adapting to deal with this change. The knowledge society must deal with a globalised economy, as the barriers of time, space, and location enable the rapid spread of information and communication (Bolstad & Gilbert, 2006b). With the global society in a constant state of flux as it constantly responds and adjusts to complex factors, such as technological innovation, knowledge growth, and changing demographics, a tension arises between, as Drake (1998) coins, the 'old story' and the 'new story'. As society evaluates the purpose of schooling and education, beliefs and assumptions are challenged, a disconcerting and challenging endeavour for all stakeholders. What is required, nevertheless, is a democratic, student-centred approach that recognises the interconnected nature of knowledge in an ever increasingly interconnected world.

History of Curriculum Integration

The origins of curriculum integration can be traced back to the American progressive education movement. This movement was split into four different factions consisting of social efficiency, supporting a hierarchal, 'one size fits all' approach; developmentalist, concerned with the integration of the curriculum with the natural development of the child, ideals promoted by philosopher Jean-Jacques Rousseau; and the social amerliorist and reconstructionist factions focused on improving society and developing independent, critical thinking through a democratic curriculum (Dowden, 2007b; Dowden, 2011; Kliebard, 1995). The social efficiency faction influenced the subject-centred multidisciplinary model. Alternatively, the democratic, student-centred model of curriculum integration was born from the social amerliorist and reconstructionist factions, underpinned by Dewey's work at the Chicago Experimental School during the late nineteenth century (Dowden, 2011).

Dewey's (1902, 1916, 1936, 1938) experience curriculum which embedded both personal and social integration, reasoned the need for learning to be active, bringing to the forefront the importance of learning by doing. Concerned with Dewey's notion of personal integration is that of continual "reconstruction or reorganisation of experience" (Dewey, 1916, p. 76) as students integrate prior knowledge and experiences with successive, new experiences to make sense of and mediate 'fluid' subject content (Boyd & Hipkins, 2012; Dewey, 1916). Thus, students do their own integrating, increasing student motivation for learning, and removing the onus from the teacher, and textbooks, to transmit 'pre-packaged' knowledge that has already been 'integrated' for the learner (Dewey, 1902). Through an organic curriculum, subject-matter and students' experiences are integrated and investigated within an embryonic community. Students participate in learning experiences that relate to their lives and learn to become active participants in a democratic society. Dewey (1915) viewed the classroom as a miniature democratic community where members work collaboratively to solve real-life problems which went beyond superficial correlation of traditional subject matter.

It was during the 1930s and 1940s that the 'core' curriculum came to fruition, having been influenced by Dewey's work. It is through the 'core' approach that students and teachers plan units of work in concert and is aligned with principles of democratic education (Vars, 1993**,** 2000). A subset of the 'core' curriculum is 'unstructured core' which is seen to be the desirable approach as subject matter is called upon by students and teachers as they address student and societal issues, taking into account that units are worthwhile and at an appropriate level for students' maturation (Vars, 1991). The core curriculum gained acknowledgement through the 1933-1941 Eight-Year Study (Aiken, 1942), a large-scale study that endeavoured to introduce progressive education into mainstream secondary education in American High Schools, with the six most innovative schools showing marked success (Brough, 2012). However, as Tyack and Tobin (1994) report, when the schools were re-visited in the early 1950s, the 'grammar of schooling', the institutionalised rules and structures that organise schooling, such as the

self-contained, age-graded, sole teacher classrooms that are at the very bedrock of schooling, had returned teachers to sole classroom decision-makers once more.

While the core curriculum built the foundation for the student-centred model of curriculum integration, the multidisciplinary model can be linked to the Herbartian belief of subject correlation. Herbartians, reformers supportive of German philosopher Johan Friedrich Herbart's philosophy, raised concerns regarding the traditional single subject delivery of curriculum and advocated for the identification of relationships between subjects through themes to organise curriculum. Nevertheless, Herbartians failed to reach a unanimous decision as to what constitutes a correlated curriculum before the Herbartian movement lost prominence in the early 1900s (Pinar, Reynolds, Slattery, & Taubman, 1995). This approach was criticised by Dewey who challenged the potential benefits that ineffectual thematic subject correlation portrayed in regard to any real benefit to authentic student learning (Dowden, 2007a, 2007b). Furthermore, as will subsequently be discussed, multidisciplinary approaches that focus on the correlation of subject-matter, do not stand true to the theoretical underpinnings that represent the democratic, integrative curriculum Beane (1997) promotes, a model with which I align myself.

Defining Curriculum Integration

According to Fraser (2000), curriculum integration is one of the most confused topics in education today. Due to a plethora of terms associated with curriculum integration, which are often used incorrectly, there is much confusion and ambiguity around what curriculum integration is, and is not, and how to implement it in the classroom (Dowden, 2007a; Fraser, 2000). As Dowden (2007a) explains, terms such as integrated, thematic/multidisciplinary, transdisciplinary, fused, cross-disciplinary, and interdisciplinary curriculum, are used interchangeably to describe curriculum integration. In reality, two predominant models exist: a subject-centred model, where learning areas are organised around a theme (Jacobs, 1989), and a student-centred, 'integrative' model, where curriculum is co-constructed around students and significant issues in their

lives through democratic decision-making (Beane, 1997; Brough, 2008a). A review of the literature surrounding these two models will now be presented.

Subject-Centred Approach

Jacobs' (1989) promoted the multidisciplinary model, aligned with correlation, where teachers arrange subject matter around a thematic unit in an attempt to remove any overlaps between different learning areas (Boyd & Hipkins, 2012; Dowden, 2007a). By identifying a topic or theme, teachers decide what each learning area can contribute to it, often with little, to any, input from students, or regard to their needs and interests (Beane, 1993; Dowden, 2010). Through this 'top-down' approach, students have limited responsibility for their learning and links between subject matter become tenuous as themes often lack relevance, or are adequately stimulating, for students (Dowden, 2007a). Because the teacher holds the power, it is possible that students will not be sufficiently challenged, and with curriculum and assessment decisions made in relation to the subject area, they may not develop a deep understanding of the interrelated nature of the concepts (Boyd & Hipkins, 2012; Fraser, 2000). For Beane (1995), any form of integration that does not come from students' questioning, is not authentic. During a New Zealand curriculum 'stocktake' in the last decade, it was found that the majority of teachers' understandings regarding curriculum integration were largely confined to multidisciplinary approaches (McGee et al., 2002, 2004). It, too, should be noted that the theoretical underpinnings of this approach are questionable, as Wraga (1997) critiques authors, such as Jacobs (1989), for adopting ahistorical views.

Student-Centred Approach

Beane's (1997) integrative curriculum model, strongly influenced by the work of Dewey, argued that curriculum integration "is a way of thinking about what schools are for, about the sources of curriculum, and about the uses of knowledge" (Beane, 1995, p. 616), rather than the superficial alignment of subject areas around themes. Through this student-centred approach to curriculum integration, curriculum is organised around problems, issues, and concerns that come from the students and the society in which they live (Beane, 1995). At the core of this design are two questions posed by Beane

(1997): “What questions or concerns do you have about yourself? What questions or concerns do you have about your world” (p. 51). With knowledge contextualised within real-world problems, the boundaries that separate subject areas are absent as students ‘perform knowledge’ as it is lived and experienced (Beane, 1997).

Essential to this process, Beane (1997) provided a description of the four dimensions that classify truly integrative curriculum: Integration of experiences, social integration, integration of knowledge, and integration as a curriculum design. ‘Integration of experiences’ recognises that learners’ experiences are fluid and can be reorganised depending on the situation. When learning involves such rich experiences that they become part of the learner, learning can be applied to future experiences. Secondly, ‘social integration’ relates to both students and teachers co-constructing the learning process, who, by working together for the ‘common good’ (Dewey, 1916; Ministry of Education [MoE], 2007), develop a democratic classroom community that appreciates dignity and diversity. Too often absent in schools, social equality has commonly been disregarded by traditional curriculum (Beane, 1990).

Thirdly, ‘integration of knowledge’ refers to the use of knowledge in the context of the problem or issue being investigated, not only making knowledge more accessible, but emancipating learners to use knowledge as they wish in their lives. When the curriculum draws upon a wide range of sources and viewpoints from students and society, learners are empowered to seek and use knowledge to solve their own problems, not acquire knowledge that a selection of society have chosen for transmission. Finally, by combining the previous three dimensions, ‘integration as a curriculum design’ relates to students not only having the opportunity to apply their learning and actively integrate knowledge into their schema, but recognises the importance of student participation and contribution to the curriculum design process.

When teachers move beyond a separate-subject approach toward more democratic practices in the classroom, units are organised around solving

problems (Beane, 1997; Drake, 1998). Because real-life problems do not fragment knowledge into separate subject areas, students' learning is given relevance, increasing motivation, engagement and achievement, and thus, extending students learning opportunities (Brough, 2012; Drake, 1998; Hargreaves & Moore, 2000). When students understand and care about what they are learning, they are able to transfer skills between problems, resulting in higher-order thinking and the construction of knowledge (Arredondo & Rucinski, 1998; Drake, 1998). As Brophy (2001, as cited in Alton-Lee, 2003) summarised, when knowledge is constructed around powerful ideas, skills and understanding are learnt in context, not only increasing retention, but making them accessible for real-life purposes. When students are able to engage in authentic learning experiences, they do not only have the opportunity to engage more deeply, but can also increase their performance on complex tasks (Barron & Darling-Hammond, 2005). These authentic experiences are brought about through the democratic principles and practices that underpin them, as this review will now discuss.

Democratic Principles and Practices

When students are involved in democratic decision-making about what and how they are learning, in concert with values, skills, and knowledge content, discussion and debate occur leading to informed young people (Beane, 2005). This is supported by Article 12 of the Convention on the Rights of the Child (United Nations, 1989) which describes how children have the right to participate in decision-making that affects them, by having the right to voice their views and have these taken into account. Brough (2008a) contends that through a democratic teaching pedagogy, children are at the heart of the entire learning process as their contribution is sought to shape the classroom curriculum, a meaningful and motivating experience. When the curriculum is negotiated and co-constructed with students, a safe learning community is established that treasures the different needs, abilities and interests of all, and recognises how learning must be differentiated to cater for the heterogeneity of their peers (Cook, 1992).

By organising the curriculum around personal and societal issues and concerns, students' acquire knowledge in an organic way as it is contextualised within purposeful activity that is directly meaningful to their lives (Beane, 1995; J. Etim, 2005). Through real-life contexts, students need to be engaged in authentic learning that prepares them for an increasingly diverse world (Murdoch & Wilson, 2008). By engaging a co-constructed learning process through collective decision making, schools can approach curriculum and pedagogy in ways that develop students' critical thinking and self-directed learning skills that lead them to take action (Boyd, 2013). When issues and concerns are selected directly from students' lives, a wide range of knowledge, skills, and opportunities are promoted that allow for in-depth investigation (Beane, 1995, 1997). The issue at the core of the unit should be both debated and clarified by teachers and students collaboratively, as questions are posed, prior knowledge is established, possible inquiries are raised, skills are identified, and possible assessment strategies are debated that will provide the best opportunity for students' to demonstrate their learning (Cook, 1992; Fraser, 2000; Fraser & Deane, 2010).

When young people are interested in what they are learning, their engagement is strengthened, they see the relevance of what they are learning and how it connects to their experiences, and intrinsic motivation is heightened within students. When students are coerced into teacher-driven studies, students become passive and unwilling participants; disengagement ensues (Cook, 1992). To ignore student voice and disregard their interests during educational decision-making is to jeopardise students' quality of learning (Boomer, 1992). However, as Fraser (2000) maintains, negotiation is not just inviting student choice on the order of activities, or establish units of work around student interests, rather, the curriculum is constructed through genuine power sharing between the teacher and students. While this process might raise concerns, such as the relinquishing of teacher knowledge or the denigration of the teacher's role in the classroom, quite the opposite occurs. A teacher's strong pedagogical knowledge and skill are called into play throughout curriculum integration, as will now be discussed.

Role of the Teacher

Often student-centred curriculum integration is misrepresented, including being labelled as purely student driven. This deeply misrepresents and does a disservice to the professional knowledge and skill that teachers possess (Fraser, 2013). Through student-centred curriculum integration, teachers develop what Beane (1997) coins a 'high pedagogy' that "has more to do with a way of thinking than with instructional techniques" (p. 70). Through a high pedagogy, teachers develop a culturally responsive pedagogy that demands strong pedagogical content knowledge.

Culturally Responsive Pedagogy

Gilbert (2005) posits rather than trying to find an absolute state of postmodern ideals that can be applied to all, such as freedom and equity, the education system needs to appreciate difference and inclusion. When difference ceases to be seen as a deficit, teachers believe in genuine power sharing in the classroom, recognising who students are and create knowledge alongside them that is culturally responsive (Fraser & Paraha, 2002). This type of institutionalised change is necessary if teachers are to encourage and model understanding of difference which is void of tokenism and cease making one size fit all (Whyte, 2008). By viewing all members of the classroom community as teachers and learners, power relations are addressed that overcome bias by recognising and empowering groups that have been traditionally marginalised (Beane, 1992). This can be addressed through the concept of ako.

The concept of ako, meaning to teach and to learn, recognises that the teacher does not have to be the 'sage-on-stage', but rather, should enter into reciprocal learning partnerships that are culturally appropriate (Bishop, 2008). As the Ministry of Education (2009) Māori Education Strategy document, Ka Hikitia, states, learning and teaching is reliant on reciprocal partnerships between the teacher and student, emphasising the importance of valuing and appreciating who and where students' are from, including respect for the interconnected nature of learner and their whānau, and the influence this has on the learning environment. Because the knowledge of the dominant culture is transmitted in New Zealand schools, when culturally-

congruent teachers take a critical stance towards the curriculum, knowledge is viewed as “shared, recycled, and constructed” (Bishop & Glynn, 1999, p. 155).

Whānau, literally meaning family, in its broadest sense, is key to establishing a sense of community. As Metge (1990, as cited in Bishop & Glynn, 1999) explains, the term whānau is increasingly being used metaphorically, such as its use to describe a collective of people working towards a common end. When teachers and students develop whānau-type relationships, power imbalances in the classroom can be redressed through collaborative, culturally positioned decision-making that incorporates self-determination (Bishop, 2008). Rangatiratanga, as Bishop (2008) describes, is fundamental to Māori educational institutes, and while literally meaning ‘chiefly control’ can be figuratively interpreted as self-determination. Tino rangatiratanga recognises the importance of genuine power sharing with students during curriculum decision-making and legitimises all students’ experiences and questions. When teachers understand the importance of self-determination, the cultural diversity of all students is respected and valued, deficit theorising and dominate-subordinate relationships are rejected as students are positioned as co-creators, and the Treaty of Waitangi is honoured as model for power-sharing (Bishop, Berryman, Cavanagh, & Teddy, 2009; Bishop & Glynn, 1999).

By establishing a classroom community that fosters feelings of belonging, values diversity, and builds feelings of connectedness between students and their teacher, knowledge is co-constructed as students not only interact with the curriculum, but with each other (Sewell & St George, 2008). Through building upon expertise and previous experiences and learning, new understandings are negotiated as member work towards a common goal, promoting a democratic community and social integration (Beane, 1997). By developing a thriving democratic community, where students and teachers are connected and openly share and value their cultures, dynamic relationships that lead to purposeful dialogue and action are built. When students feel safe in a trusted classroom community, they will ask more honest, deep questions, contribute more openly to classroom discussions,

and passionately encourage and guide fellow students (Alton-Lee, 2003; Beane, 2005; Sewell & St George, 2008).

Pedagogical Content Knowledge

When discussing student-centred practices, there is a fear that teachers will slip into epistemic relativism, in that facts and an objective reality do not exist, a view often associated with postmodernism (Maddux & Cummings, 2004). However, the complexity of the processes involved with student-centred curriculum integration draw heavily on the pedagogical and content knowledge of the teacher as they carefully scaffold the learning process and, at times, directly teach students knowledge needed to investigate with purpose and skill (Brough, 2012; Fraser, 2013). Teachers' sound pedagogical content knowledge informs the decisions they make regarding the subject matter they are teaching and the pedagogical decisions to represent and communicate that matter. Alongside this decision-making, in concert, teachers must also be able to anticipate how students' understandings, and misunderstandings, may develop throughout the many facets of the learning process (Grossman, Schoenfeld, & Lee, 2005; Shulman, 1987). As teachers carefully scaffold this learning process within context to students' inquiries, teachers provide support, feedback and question to ensure students are assisted according to their needs (Alton-Lee, 2003; Brough, 2008b; Vygotsky, 1978).

An important skill for teachers when scaffolding students' learning is the act of questioning to extend and promote students' thinking and accentuate students' participation throughout the learning process (Fraser, 2000; Brough, 2008b). By using questions to "'trigger' thinking, ignite inquiry and establish dialogic relationships" (Bishop & Glynn, 1999, p. 140), students develop a range of thinking skills and become willing and able questioners themselves, an essential proficiency for active learners (Claxton, 2008). When a positive, open classroom climate is fostered, open dialogue between students and teachers is achieved (Caram & Davis, 2005). This is essential as teachers' model effective questioning, demonstrating how through questioning, students can extend and direct their own learning. Furthermore, by developing students' ability to skilfully question, learners

are able to inquire into questions and curiosities they have posed, resulting in feelings of achievement when they find solutions to their own problems (Cook, 1992; McGee, 2008)

These feelings of achievement can be further investigated during a process that referred to as 'back-mapping' (Brodhagen, 1999, 2007). The importance of back-mapping is particularly at the fore as we find ourselves in an age of teacher accountability (Dowden, 2012). Back-mapping is the process of documenting learning outcomes from the integrated unit, including what subject areas and skill sets have been covered against mandated curriculum objectives and standards. By including students in this process, significant concepts can be identified and students can reflect, individually and collectively, on their progress and performance (Broadhagen, 1999, 2007; Dowden, 2012; Nesin & Lounsbury, 1999). This strengthens assessment strategies, such as portfolios, exhibitions, self- and peer-assessments, and student-led conferences, which have been decided upon jointly between students and teachers, effectively reporting against co-constructed success criteria (Beane, 1997; Brodhagen, 2007). By having a sound understanding of curriculum integration within the New Zealand Curriculum (MoE, 2007), teachers and students can clearly articulate and document how their units of work account for required 'official knowledge' (Apple, 1993).

Curriculum Integration and the New Zealand Curriculum

The New Zealand Curriculum (MoE, 2007) strongly supports student-centred curriculum integration as a curriculum design framework (Brough, 2008b; MoE, 2007). The New Zealand Curriculum [NZC] provides a framework for schools to design and implement the curriculum at three levels: Nationally, school-wide, and in the classroom (MoE, 2007). Through a student-centred approach, a culturally-responsive curriculum that integrates subject matter from the learning areas with the 'front-end' values, principles, key competencies is advocated, promoting school's to build their curriculum around the interests of students, their whānau and communities (Dowden, 2010; Fraser & Paraha, 2002). The vision of the NZC sets out how the school curriculum needs to nurture young people to become

“confident, connected, actively involved, lifelong learners” (MoE, 2007, p. 8), who can actively seek, use, and create knowledge (MoE, 2007).

With the introduction of key competencies, capabilities people must use as members of a connected, globalised community, schools have implemented a systematic approach to promoting the key competencies by embedding them across wider school practices as they recognise curriculum integration as a powerful vehicle for their development across learning (Falloon, 2012; Hipkins, Cowie, Boyd, Keown, & McGee, 2011). These key competencies of thinking, using language, symbols, and texts, managing self, relating to others, and participating and contributing were a replacement for the essential skills identified in the former New Zealand Curriculum Framework (MoE, 1993). During the New Zealand curriculum ‘stocktake’ (McGee et al., 2002, 2004) previously mentioned, it was found that these essential skills were seen by teachers as an ‘extra’, while the need for the inclusion of attitudes and values was also expressed (Hipkins, 2006). By drawing on the curriculum stocktake and the Organisation for Economic Co-operation and Development’s [OECD] (2005) Definition and Selection of Competencies (DeSeCo) project, the key competencies are viewed through a holistic lens which recognises that knowledge, skills, attitudes and values are interconnected and need to be developed throughout life. Furthermore, through the sociocultural theory that underpins the competencies, knowledge is appreciated for its performativity and its ability to be transferred between contexts, and, with students at the centre of learning, acknowledges the importance of relationships (Hipkins, 2006; Rutherford, 2005). As a result, key competencies must be developed in relation to a range of meaningful, real-life contexts which can be met by curriculum delivery approaches such as student-centred curriculum integration (Brewerton, 2004; Brough, 2008b).

Furthermore, as the NZC illustrates, when the curriculum is organised around future-focused issues, such as sustainability, citizenship, and globalisation, the relevance of learning to students’ lives is enhanced (MoE, 2007). Claxton (2008) adds issues such as negotiation and mediation, epistemology, and ethics, to this list, and describes how these are “qualities,

traits, values and habits of mind" (p. 31), rather than discrete disciplines of knowledge. This type of learning allows students to undertake purposeful activity which draws on a wider range of content, rather than dividing knowledge into discrete subjects, to inform larger, lived experiences (Beane, 1995). When personal knowledge, concerns about self; social knowledge, critical exploration of social and global issues; explanatory knowledge, disciplines of knowledge and 'popular' knowledge; and technical knowledge, inquiry and problem-solving skills, are drawn together within democratic classrooms, students come to realise the importance of taking responsible, informed action within their communities as they inquire about sophisticated, socially-constructed knowledge within deep, authentic experiences, as they prepare for their future lives (Beane, 1997, 2013).

By investigating how these future issues influence the curriculum, and similarly, the experiences that students bring to the classroom, students begin to see curriculum as a social construction and come to realise it is highly "layered, contested and political; similarly, the relationships between teachers and learners in mediating the curriculum" (A.-M.O'Neill & J. O'Neill, 2007, p. 3). What educators must come to realise alongside their students is that if the curriculum is inherently problematic, this will be mirrored in the relationship between teachers and students (Beane, 1995). Herein lies the power of student-centred curriculum integration. If we are to critically analyse issues that will affect the future, and how the curriculum prepares learners for that future, we must understand the wider social, economic, political, and cultural contexts that influence the curriculum and its make-up (A. O'Neill & J. O'Neill, 2007). This can make learning directly relevant to students' lives, leading them to take greater ownership of their learning and assisting them to take meaningful action in their communities as students purposefully and critically engage with the goals of the curriculum (Apple & Beane, 1999; Brodhagen, 2007; MoE, 2007). These goals are progressively being underpinned by technological innovations, with rhetoric convincing society, and schools, they must have the necessary digital skills if they are to be adequately prepared for the future.

Digital Technology

Information and communications technology [ICT] is increasingly influencing the way students learn, and consequently, digital technologies are adapting the approaches teachers use to engage with the curriculum with their students. As the NZC states, “schools should explore not only how ICT can supplement traditional ways of teaching but also how it can open up new and different ways of learning” (MoE, 2007, p. 36). However, as a number of writers postulate, current approaches to teaching will do little to maximise the potential of ICT for learning, much to the detriment of student learning, as opposed to revolutionising pedagogical practices that enhance students’ educational opportunities (Adams, 2011; Boyd; 2013; Cuban, 2001; Gilbert, 2005; Prestridge, 2012; Yang, 2012). Two formative texts in the field, Cuban’s (2001) ‘Oversold and underused’ and Oppenheimers’ (2003) ‘The flickering mind’, propose that for a fundamental shift to occur, widespread reform at the core of schools’ organisational, political, social, and technological contexts are required, currently sustained by historical beliefs about prevailing teaching practices. Technology is seen as the ‘silver bullet’, supported by the assumption that by providing technology in the classroom, sweeping changes to education will ensue, and students will become more knowledgeable through access to easily retrievable information. Technocentric reformers’ focus on economic productivity neglects the importance of critical thinking and reasoning skills and marginalises the civic role schools play in democratic communities.

When ICT is viewed through a lens influenced by former practices, reinvented traditional activities make trivial use of technology devices to increase students’ efficiency. Educational technology debate must evaluate the transformative potential for pedagogical and organisational change that challenges current technological planning. Educational decision-makers must question how new technology devices can add value naturally to the democratic learning processes through opportunities for students’ to critically connect with a wide range of content from a variety of sources, rather than being concerned with fitting specific devices to activities (Adams, 2011; Edmunds & Matzen, 2005). The ability of ICT to motivate and engage

students and build partnerships with their local and global community assists students as a range of tasks can be personalised for students' needs and interests (A. Etim, 2005; Smeets, 2005). However, with practitioners choosing to supplement, instead of transform, their practice, teachers need to be supported to explore and trial challenging and authentic approaches to integrate technology in their classrooms (Flanagan & Jacobsen, 2003; Underwood & Dillon, 2011). As Hayes (2007) explains, if isolated, technology will not improve classroom practice, and without opportunity to experiment with new approaches to teaching, teachers will not make the necessary philosophical changes.

With teachers' beliefs about subject knowledge and their pedagogy influencing technology decision-making in their classroom, when teachers begin to co-construct knowledge alongside their students, teachers utilise ICT to effectively develop strategies for students to collaborate and engage in shared decision-making around student-centred issues (Beauchamp & Kennewell, 2008; Flanagan & Jacobsen, 2003; Lai, 2005; Sutherland et al., 2004). ICT can make it possible for teachers to give greater control of learning to their students, and challenge subject-centred curriculum which fragments learning (Sutherland, Robertson, & John, 2009). When knowledge is fluid, the potential to organise personalised learning is created through technology, as learners take on flexible, negotiated roles, such as creators, designers, performers, and researchers and develop the competencies needed to participate in the 21st century (Drake, 2012; Livingstone, 2012). However, as Apple (2004, 2012) and Adams (2011) examine, the current accountability culture inhibits creativity and risk-taking, and with greater societal aims replaced by those of economic value, technological reform disregards how it can improve student-centred inquiry, drawing on integrated bodies of knowledge and relationships through self-directed and active learning, that ICT can afford. It is clear from the literature that strong professional development and leadership is required to support teachers as they make transformative changes in their pedagogy that lead to rewarding outcomes for students and innovative use of ICT through student-centred practices.

Professional Development

Practitioners must navigate substantial challenges when their pedagogy is underpinned by an integrative curriculum (Beane, 1997). Teachers need to be supported when experimenting with new pedagogies, such as the democratic model of curriculum integration, and as this model is highly politicised, tensions will inevitably occur (Beane, 1997; Boyd, 2013; Fraser & Paraha, 2002). With this student-centred model breaking free of traditional subject-centred approaches, the institutionalised 'grammar of schooling' is challenged; deeply-rooted traditional structures and practices that govern schooling and hinder change, as stated previously (Tyack & Tobin, 1994). However, reformers should refrain from hastily adopting student-centred practices with disregard for the past. For example, the emergence of modern learning environments, open and flexible learning spaces that push the design of classrooms beyond single-cell, self-contained classrooms fashioned for 'factory-style' learning, are not dissimilar to past innovations that have experimented with time and space which have ultimately failed to gain significant traction (Osbourne, 2013; Tyack & Tobin, 1994). Practitioners must gain a thorough understanding of past and current education systems and reform, at local, national, and global levels, if they are to recognise that transforming education is a continual process of evolution (Rudd, 2008).

Change within schools must be brought about through collaboration, not imposed by top-down approaches (Ravitch and Wirth, 2007). As Fullan (2001) describes, when teachers work collaboratively, they build a professional learning community, positively linked to authentic pedagogy, actioning reform school-wide rather than sporadically. Teachers' professional development needs to provide active and collaborative opportunities that mirror the democratic principles teachers embody with their students. In itself, by negotiating the curriculum, teachers challenge the status quo and the assumptions that are embedded within the beliefs that make up the entrenched structures (Lester, 1992). When professional development creates dissonance between teachers' current practices and those being advocated for, tension can arise, challenging long-held

assumptions and requiring the repositioning of relationships between students and teachers (Timperley, Wilson, Barrar, & Fung, 2007). However, teachers can also believe they have undergone a fundamental shift, when in reality they have only made superficial changes, in a process Hammerness et al. (2005) refer to as 'over-assimilation'. This is common, for example, when teachers claim to negotiate the curriculum with their students, when, in reality, teachers have pre-planned units and students have had limited input (Fraser, 2000).

When teachers are engaged in critical practice, they, along with their students, investigate the social construction of curriculum and question the inclusion of ideologies that are not related to the students' lived experiences, and understand how assumptions and injustices are either strengthened or challenged through curricula (A.-M. O'Neill & J. O'Neill, 2007; Smyth, 2001). Through critical reflection, reflective practitioners are able to inquire into the taken-for-granted assumptions that give purpose to the actions teachers take on a daily basis (Hill & Sewell, 2010). By challenging and refining these assumptions, both at an individual and collective level, informed action that can be explained and justified which leads to the desired 21st century pedagogy can be explored. However, only through critical inquiry, and thus, scrutinising the power relations and underlying agenda, is it possible for teachers to model critical thinking and create a classroom environment that respects this process (Brookfield, 1995). Existing structures are becoming redundant, and with teachers overwhelmed by a crowded curriculum, schools can no longer take democracy for granted (Hargreaves & Fullan, 1998). When democratic principles are protected in the classroom, the voices of all are not only heard, but valued, leading practitioners to uncover beliefs and practices they have long-held, ultimately leading them to new pedagogical approaches; a significant influence on student learning (Timperley et al., 2007).

However, teachers' beliefs, including their epistemological views, influence their practice and the way they interpret differing pedagogical approaches, just as subject epistemological paradigms determine the way that subject is taught and assessed (Arredondo & Rucinski, 1998; Yang, 2012). In the

current accountability environment driven by standards-based outcomes, over-emphasis of particular epistemological perspectives dominate, making teachers resistant to innovative practices and limiting the development of multi-paradigmatic views (Barefield, 2005; Yang, 2012). When 'top-down' policies determine school aims, personal initiative is seen as counterproductive, with lone reformers having to work against the grain of established school culture (Barefield, 2005; Bush, 2011). However, if current school culture is ignored, reform is likely to fail as it is this culture that assumptions and beliefs direct learning within the institution (Stoll & Bolam, 2005). This requires strong leadership from the principal as a change agent, influencing and supporting the learning community to make fundamental changes to both curricula and pedagogy, and through distributed leadership, a learning community is sustained that is focused on improving student learning through transparency and participation (Halford, 2009). The complex and consuming process of transformation necessitates whole-school professional development and learning, encouraging professional conversations that challenge long-held assumptions and the building of partnerships with the wider-school community (Hadjithoma-Garstka, 2011; Halford, 2009; Robertson, Grady, Fluck, & Webb, 2006).

The school community should be involved in the curriculum integration process, including students' whānau (Dowden, 2012). When leadership and teachers have a sense of collectivity, they assertively pursue community partnerships and create power sharing relationships focused on the same outcome; what is best for their child (Fullan, 2005). Parents and other community members are often against educational reform movements that are not reminiscent of the way they had been educated themselves, and can be quite vocal in their objections (Beane, 1997). Issues are intensified when governments implement poor educational practices to gratify parental pressures, with well-positioned members of society seeing traditional programmes as academically advantageous (Beane, 2005; Hargreaves & Shirley, 2008). However, when teachers go to lengths to demonstrate the power of democratic learning, as demonstrated by Brodhagen (2007),

parents can be become fellow advocates when enlightened to meritorious democratic programmes.

When teachers and parents share the responsibility for students' education, expertise and experience are shared during collaborative decision-making, ultimately benefiting students' learning (Hargreaves & Fullan, 1998). By developing long-term relationships with community resources that enhance student learning and create opportunities to positively contribute to community development, teacher barriers to building community partnerships and inviting the community into their classrooms, such as fear of public scrutiny and negative fallacies about families, can be overcome (Sanders, 2006). Through school-community partnerships, 'bottom-up' approaches to learning that are culturally-enriched and prepare students for civic life are created that current top-down approaches can neglect. Approaches such as pre-planned unit themes can inhibit creativity and impede teachers' ability to accommodate and take advantage of teachable moments that happen both in and outside the classoom (Brough, 2012).

The literature analysed in this review demonstrates the need for research into how democratic curriculum design and pedagogy can meet the 21st century learning needs of students in schools. If education is to adequately prepare students for constantly evolving social, political, economic and technological changes, while developing their competencies and capabilities to participate discerningly and rewardingly in their communities, the literature indicates a solution can be found through the practices and principles encouraged by student-centred curriculum integration. By investigating the practices of three senior teachers at a Bay of Plenty primary school, this study endeavoured to add to the limited amount of research in this field conducted in primary settings, and provide an insight into the current reality of these teachers as they developed student-centred practices within their school. The next chapter examines the methodology this study adopted.

Chapter Three

Methodology

Chapter Overview

This chapter describes this study's methodology. It begins by discussing the critical theoretical framework that underpins this study. This framework was shaped by the study's focus and research question, which will also be outlined. Following, a description of the participants is provided, including their recruitment for this project. Ensuing is a discussion of the methodology, a case study, and the methods used, semi-structured interviewing, naturalistic observations, photographs, and documentation. As Mutch (2005) explains, the methodology connects the theoretical framework to the associated methods, while methods are the strategies used to generate data for the project. Data analysis will be discussed, and credibility and dependability will be reviewed, rather than validity and reliability due to this study's qualitative approach. To conclude, ethical concerns are considered.

Theoretical Framework

A paradigm, a set of basic beliefs accepted on faith, represents the parameters that underpin all elements of a research project (Guba & Lincoln, 2004; Markula & Silk, 2011). A researcher's paradigm not only influences a researcher's axiology, their values and ethics, but provides a framework for epistemological, ontological, and methodological assumptions (Markula & Silk, 2011). Epistemology, the philosophy of knowledge, informs the beliefs to which the truths that are sought can be created and justified (Hesse-Biber & Leavy, 2006; Scott & Usher, 2011). Epistemology is intimately related to ontology, the philosophy of reality, which governs a researcher's fundamental belief system when searching for that knowledge, and methodology, the processes used to gather that knowledge (Lincoln, Lynham, & Guba, 2005; Krauss, 2005). Krauss (2005) contends a researcher's theoretical lens is a philosophical argument between differing epistemological perspectives, and through Dobson (2002), states that through this lens, the ontological assumptions that

influence these views will guide the way researchers choose their research methodologies. As not all researchers operate from the same paradigm, a researcher must decide not what paradigm is the best, but what paradigmatic logic is the 'best fit' with their research objectives (Markula & Silk, 2011).

Within research, there are three dominant theoretical paradigms that researchers are influenced by: Positivism, interpretivism, and critical. Postivism is concerned with finding an objective reality through observable, scientific method. With methodologies grounded in the natural sciences, researchers separate themselves from the investigated phenomena in search of scientific rigor (Lincoln et al., 2005; Scott & Usher, 2011). Quantitative research is often associated with the positivist paradigm as 'hard' data, such as numbers, can eliminate bias through value- and context-free generalisations (Hesse-Biber & Leavy, 2006; Onwuegbuzie, 2002). Through an examination of causality, society is defined by a universal set of rules, independent of social practices, which can be predicted and controlled. With facts and laws valued over experience, positivism is not suitable for this research project (Scott & Usher, 2011). Positivism is not only untenable when investigating in a classroom context for the purposes of this study, but with society and research participants disregarded, policy and decision-making is informed by 'expert' objective generalisations and applied to all (Cohen, Manion, & Morrison, 2007; Usher & Scott, 2011). With teaching and learning being an inherently relational endeavour, an interpretivist paradigm is more suitable as it recognises the relationship between the researcher and their participants.

Interpretivism values the construction of knowledge as a subjective meaning-making process, which through negotiation, researchers gain an insight into participants' lived experiences (Markula & Silk, 2011). The interpretivist paradigm acknowledges that there are multiple interpretations of reality which are multi-layered and context-specific, and by collecting rich data that qualitative approaches provide, a researcher seeks to understand participants' realities and attempts to interpret situations through the participant's eyes (Cohen et al., 2007). Qualitative methodologies are

typically adopted, however mixed-methods research, that combines both quantitative and qualitative approaches, can also be implemented. The 'paradigmatic wars' of the past emphasised the methodological differences between quantitative and qualitative approaches, instead of searching for epistemological unity, and it is now appreciated that quantitative and qualitative approaches should be viewed as representing opposite ends of a continuum, rather than being seen as dichotomies (Creswell, 2009; Onwuegbuzie, 2002).

With research influenced by interpretivism providing 'thick' description, typically in the form of words, knowledge is produced through the meanings participants construct through their experience and interaction with others and their environment. These meanings are understood and interpreted through an interactive co-construction process between the participant and the researcher, resulting in the participants experiences becoming evident in the knowledge created (Cohen et al., 2007; Lincoln et al., 2005; Labaree, 2003). This approach suits educational research as, according to Labaree (2003), it is only through multiple perspectives that researchers can gain a deep understanding of educational problems and the contexts in which they are situated. However, as this research project is concerned with the promotion of democratic and emancipatory principles, a critical perspective is seen as having the best philosophical match with this study's aims.

The critical paradigm is heavily influenced by the works of German social science philosopher Jürgen Habermas (1972, 1984) who argued that while positivist approaches were of a technical interest, and hermeneutic, interpretivist perspectives are of a practical interest, critical theory is of an emancipatory interest, valuing justice and freedom. Critical theorists contend that positivism and interpretivism disregard the political and ideological contexts that position educational research, and recognise that by freeing those oppressed by dominant ideologies, society can become equal and democratic through informed, emancipatory action (Cohen et al., 2007; Markula & Silk, 2011; Scott & Usher, 2011). By going beyond merely understanding, the purpose of research is "to emancipate the disempowered, to redress inequality and to promote individual freedoms

within a democratic society" (Cohen et al., 2007, p. 26). This is achieved by questioning, rather than accepting, power structures that are entrenched within society. Thus, research becomes a political act as researchers endeavour to create transformative knowledge in the quest for an empowered, egalitarian society (Guba, 1990; Markula & Silk, 2011).

Critical education research is concerned with educational reform through participatory and collaborative means, involving those involved with education, such as students and teachers. Educational research, it is contested, should be conducted by those who are involved with education themselves, such as myself, who has recently graduated as a primary teacher (Carr & Kemmis, 1986). The paradigmatic logic of the critical paradigm best fits with the study of curriculum, and thus the objectives of this study, as it recognises that the curriculum is a selection of knowledge protecting dominant ideologies, thus making the curriculum partial and highly politicised. As Cohen et al. (2007) state, "a research agenda for critical theorists, then, is how the curriculum perpetuates the societal status quo and how can it (and should it) promote equality in society" (p. 31). This aligns with the goals of student-centred curriculum integration as it is this curriculum design framework that, like the critical paradigm, emancipates the disempowered and works in the interests of a democratic society.

While some claim for the neutrality of researchers, this in itself is a paradoxical statement underpinned by values and beliefs. Critical researchers realise even 'hard' data, such as statistics, are prejudiced through selection and omission, while surpassing other forms of research by being concerned with praxis; just and moral action informed by self-reflection that leads to best practice (Carr, 1995; Carr & Kemmis, 1986; Popkewitz, 1990). Praxis requires teachers to acknowledge the relationship between knowledge and power and how its situated within social, cultural, political, and economic contexts, and, likewise, the need for the redressing of power relationships through the realisation that knowledge within curricula is biased toward certain groups, empowering some while disempowering others (Apple, 2004; Cho, 2010). This theoretical framework naturally aligned with the focus of the study, which will now be outlined.

Focus of the Study

This study aimed to address how teachers in primary schools, in particular the senior levels of these schools, are integrating the curriculum to encourage student-centred practices. The study was a small-scale investigation into the ways that Year 5-6 teachers empower student-centred practices in their classrooms. These practices are encouraged through the principles and practices promoted by student-centred curriculum integration. It was hoped that this study would illuminate potential ways classroom practice can empower student-centred pedagogy and position students at the centre of educational decision-making. Furthermore, it was anticipated that this study would contribute to the field of curriculum integration in primary school settings, particularly in New Zealand, where there is a perceived lack of research. This focus led to the creating and refinement of a broad research question.

Research Question

This study focused on the following question:

In what ways are Year 5-6 teachers using more empowering student-centred classroom practices through curriculum integration?

This question narrowed the field of participants to teachers of only composite Year 5-6 classes, or those who taught solely Year 5 or 6 classes.

Participants

One suburban primary school in a provincial city in the Bay of Plenty region was chosen for this study. Not only is this school perceived to be innovative with its curriculum and practices, but is well-equipped with digital technology which provided the researcher the opportunity to report on how these classroom practitioners are integrating digital technology devices into students' learning, and how they engage with these ubiquitous devices critically.

The school, Kea Primary School, a pseudonym, is decile six, and of mid-size with a student roll of between 450-500 students, including nine international students. The ethnic composition of the school, as of 2012,

consisted of 66 per cent New Zealand European, 23 per cent Māori, and 11 per cent other, being made up of other European, Asian, Pacific, Indian, and others. The school consists of 22 classrooms and is led by a principal and two deputy principals with a wealth of experience and knowledge between the three. Three teachers from the senior syndicate participated in the study, whose recruitment will now be explained.

Recruiting Participants

Through a conversation with the principal, an expression of interest was garnered. All six teachers at the school who teach either a Year 5 or 6 class, or a composite class of these year groups, were provided with an information sheet outlining the study and what their involvement would entail. Following this information sheet, an informal discussion took place individually with three interested teachers. These informal conversations led to these three teachers indicating an expression of interest in being involved.

Formal written consent was gained from the principal, the three teachers, the students in the three classrooms, and students' parents through the attached consent forms (Refer to Appendices A-D). In the cases where informed consent was not obtained from a student(s) and/or their parents, data was excluded that was concerned with those particular students.

The three teachers were all mid-career teachers, with experience ranging from seven to twelve years. The teachers had been at the school for a fairly short time period, with the longest serving teacher in the group having been at the school only four years, including one of those on maternity leave. It should be noted that this is not representative of a high turn-over of staff. The group consisted of two female teachers and one male who were teachers of two Year 5 classes and one Year 6 class respectively. See table one for collated information on the three teachers involved in this study.

Table 1: Teachers' Personal Descriptions

Teacher Name (Pseudonym)	**Sex**	**Year Level of Class**	**Years of Teaching Experience**	**Years Teaching at Kea Primary School**
Tom	Male	Year 6	11 Years	1st Year
Marie	Female	Year 5	12 Years	4th Year
Alice	Female	Year 5	7 Years	2nd Year

Methods for Data Generation and Analysis

If this research project was to discover ways that teachers empower student-centred practices through curriculum integration, a window into their natural setting was required. It was thus seen imperative that a research design was selected that would provide in-depth, 'thick' description of the lived experiences of the teachers and students within their classrooms. This was found through a case study approach. Through this approach the data collection methods of interviewing, observations, photographing, and document analysis were undertaken. Following a discussion on this approach and these methods, data analysis will be addressed, concluded by a description of credibility and dependability.

Case Study

A case study methodology was chosen as it is through this approach that rich description can be provided of a bounded system. A bounded system is made up of a finite number of participants and must have a distinguishable identity that has defined boundaries, in this case three Year 5-6 teachers of one primary school (Denscombe, 2007). These boundaries illustrate the entity in which a thorough investigation can occur that Merriam (1998) characterises as particularistic, descriptive, and heuristic. Particularistic refers to the limited-scope of the study as its sole focus is on one particular situation or phenomenon. The descriptive characteristic identifies how 'thick' description is provided through prose to describe and analyse qualitatively the investigated phenomenon. Finally, through its particularistic and descriptive nature, case studies are also heuristic as they extend

understanding of the phenomena and can uncover new knowledge for the reader, or confirm what is already known.

These three attributes reflect the composition of case studies as it is these studies that explore the connection between relationships and processes as they naturally occur (Denscombe, 2007). A case study inquiry "investigates a contemporary phenomenon (the "case") in depth and within its real-world context…" (Yin, 2014, p. 16), and furthermore, calls upon multiple sources of evidence. This study conforms to this as it utilised interviews, observations, photographs, and documents, to triangulate evidence from the different perspectives of the participants to gain a realistic understanding of those that belong to, and identify with, the investigated group. These methods, which are typically qualitative, attempt to capture the lived reality of those that belong to these settings, and while the focus of the study was on the practices of the teachers, this approach incorporated the realities of the students as the teachers' practices were centred upon them in an attempt to democratise the classroom and its curriculum (Scott & Usher, 2011). By incorporating multiple sources of data, findings can be corroborated and systematically account for the investigated phenomena (Cohen et al., 2007). Teachers' practices are embedded and influenced by multiple complex factors, including those of a historical, political, cultural, and personal context, that are time and place specific, and therefore, do not occur in a vacuum (Freebody, 2003).

While various types and designs of case studies are defined and promoted, such as descriptive, interpretive, intrinsic, collective, evaluative, exploratory, explanatory, and ethnographic, this study concerned itself with an instrumental design (Cohen et al., 2007; Hancock & Algozzine, 2011; Merriam, 1998; Stake, 1998; Yin, 2014). Through an instrumental case study, the case supports the investigation into a particular issue, and while the case is still explored in detail, it facilitates the study rather than being of a primary interest (Stake, 1998, 2000). An instrumental case study is used to elucidate the investigated phenomena, and thus, is in keeping with this study as its investigation of student-centred practices empowered through curriculum integration was enabled by exploring the reality of three teachers

within one primary school in-depth (Creswell, 2012). One primary school was chosen due to the scope of the study, and as case study knowledge is entrenched in context, just as our experiences are, by providing comprehensive description of one school, rather than thinly of three, the reader is more able to apply findings to their own situation (Merriam, 1998).

In accordance with the theoretical framework of the study, in my reporting of the case study, I was reflexive in my role and acknowledged how my values and biases may have affected the data collected, as it is my ambition to advocate for transformative knowledge to empower marginalised groups (Creswell, 2012). While case studies have the ability to provide a holistic account, encompassing the many variables that not only assist the reader to draw comparisons to their own experiences and understandings, but the capacity to encapsulate the many subtle and multifaceted processes of social settings, the integrity of the researcher must be evaluated (Denscombe, 2007; Merriam, 1998). With the researcher selecting, interpreting, and presenting data as they wish, it has been prudent to declare to the reader my biases and how I have accounted for and addressed these throughout the research process (Hancock & Algozzine, 2011). This will be discussed in more detail when addressing validity and reliability near the end of the chapter. The following section discusses the data collection methods, starting with the semi-structured interview.

Semi-Structured Interviews

Interviewing is a common within case study research as it recognises that knowledge is constructed between people, rather than lying as an external source, and is this study is concerned with the co-construction of knowledge between its teacher and student participants, this method practices this principle (Cohen et al., 2007; Yin, 2014). As Kvale (1997) explains, “the research interview is an inter-view where knowledge is constructed in the inter-action between two people” (p. 13). This knowledge is created through a responsive and interactive relationship in order to produce information on people’s perceptions, understandings, and realities that may not have been revealed through exclusively observing. Through the personal and flexible nature inherent in interviewing, interviewees, in this case teachers, are able

to share in their own terminology and can provide detailed explanations of information which is contextually-rooted, illuminating the interviewer to their particular situation and reality (Gillham, 2005; Menter, Elliot, Hulme, Lewin, & Lowden, 2011; Punch, 2005). Furthermore, while shared and common understandings may exist across the three teachers at Kea Primary School, individual perspectives were collected that could be analysed for any apparent contradictions and differing of experiences, behaviours, and attitudes that influenced their classroom practices (Hannabuss, 1996).

By selecting to use semi-structured interviews, rather than unstructured or structured, the interviewed teachers were able to develop their ideas along the intended themes for the interview in a more fluid nature, enhancing the data collected from this method. Semi-structured interviews are powerful as they balance flexibility with structure, creating the opportunity for the researcher to probe further on areas of interest in regards to the aims of the study. While a pre-planned interview schedule had been created (see Appendix E), through general and focused open-ended questioning, the 'space' for the interviewee's personal views to come through in rich detail was generated (Flick, 2011; Merriam, 1998).

However, while regarding interviewing as a social interaction can be considered a strength, it can also hinder the information gathered as power relations influence the relationship between interviewer and interviewee. Through a semi-structured interview, power relations can be redressed by promoting a reciprocal relationship that values meaning-making, rather than seeing the interviewee as a data source, and encompassing a view of interviewing that regards it as data generation, not data gathering (Freebody, 2003). From the selection of interview venue and creation of interview schedule, to dynamic gender and cultural relations, social and political contexts must be taken into consideration if a non-hierarchal relationship is to be constructed. By investing in the relationship by sharing my own personal background, interests, and identity at the beginning of the interview with the participants, a commitment of interest was demonstrated toward building a trusting and steadfast relationship with the teacher participants (Bishop, 1997; Scott & Usher, 2011).

These reciprocal relationships flow down into the ways that the interview data is collected and handled. Teachers were interviewed in their classrooms, enriching the detail of their responses as they talked to wall-displays and student-created pieces of work, thereby eliciting real-life examples to support responses. As Hancock and Algozzine (2011) describe, careful selection of the interview setting can increase the realism of the interviewee's responses, enhancing the quality of the collected information. All interviews were audio-recorded, with teachers providing consent beforehand. This was to avoid the loss and distortion of data should only handwritten notes have been used. As all audio-recordings were transcribed, the teachers were provided with a transcript following the interview, allowing them to make amendments, provide clarification, remove or extend on the points that had been discussed, and to ensure that the interpretation of the interview had been correctly recorded (Cohen et al., 2007; Menter et al., 2011). Each teacher was interviewed once at the outset of the study for approximately one hour, with observations subsequently being undertaken by the researcher in each of the three teachers' classrooms over a two-week period.

Naturalistic Observation

With the objectives of this study calling for the investigation of student-centred practices teachers are using in their classrooms to empower curriculum integration, it was necessary that the researcher observed these practices in their natural settings. These observations supplemented the evidence already generated through interviewing with the data illuminating understanding of how these practices are applied in the classroom and what benefits and issues can arise from their use for students (Yin, 2014). Observations provide a first-hand account of the investigated phenomenon in its real-world context and, as Merriam (1998) points out, facilitate the triangulation of evidence to corroborate data collected through other methods. With the researcher wanting to collect evidence of the student-centred practices in the teachers' classrooms in their everyday context, while remaining inconspicuous to avoid distorting evidence, an 'observer-as-participant' stance was adopted. It is through this role that the researcher

was able to observe these classrooms in their natural state, while also enabling interaction with both the teacher and student participants to probe further, at times, to seek clarification and gain multiple perspectives of past, present, and future events (Cohen et al., 2007; Menter et al., 2011).

The 'observer-as-participant' role, opposed to those of being a complete participant or observer, or 'participant-as-observer', provides the researcher with access to a wide range of information, however, this was moderated by the teacher and students of these classrooms (Cohen et al., 2007; Merriam, 1998). This positioning facilitated a more encompassing view of the many processes, interactions, dynamics, and relationships as they occurred naturally and were less likely to be influenced by the researcher's presence or, underlying assumptions or preconceptions the researcher held. However, the mere presence of a researcher in the classroom can influence the behaviour of participants as they attempt to act in certain ways, both positively or negatively, for the researcher; the Hawthorne effect, as it is known (Cohen et al., 2007; Scott & Usher, 2011).

Researchers must also account for, as they do with interviews, their biases that may influence the recording of field notes, and as these notes are the researcher's interpretation of what is observed and selected for recording. As Denscombe (2007) explains, people perceive experiences differently, depending on their familiarity, past experiences, and current state, consequently, field notes needed to be as thorough and systematic as possible to ensure that credible, trustworthy data was documented. To mitigate bias, the researcher detailed a flexible record of the observations through thick descriptions, allowing for themes and categories to be discovered in the data during analysis, rather than having these prescribed for the researcher to observe (Punch, 2005; Scott & Usher, 2011).

All participants were aware of my position in the classroom and the tasks I was undertaking, including the audio-recording of the classroom during the observational periods to ensure the accuracy of verbatim quotes of the interactions between the teacher and students, and student-to-student. Audio-recording was selected over video-recording as it seen to be less

intrusive and minimised the potential for participant reaction. Each classroom was observed over four ‘blocks’ of time, each block approximately one-and-a-half hours, during a two-week time period. An even spread of sessions, negotiated with the teacher, was maintained to capture a realistic understanding of the learning experiences that occur in these classrooms across the school day. Menter et al. (2011) suggest observing at different days and times in order to gain coverage and more ‘natural’ observations. Observations were also supported with photographic evidence.

Photographs

Through the critical perspective that this study is influenced by, photographs are viewed as ‘visual diaries’, captured by the researcher who is positioned within the research study, for a particular purpose. The epistemological perspective of the researcher recognises that through this method, the reality being photographed is predisposed by the researcher’s presence and is being viewed through their personal perspective (Flick, 2011; Hesse-Biber & Leavy, 2006). This once again emphasises the importance of reflexivity as the researcher declares their own positioning to the reader. Prosser (1998) defines this as ‘personal reactivity’, the researcher’s identity and decision-making manipulating the photographs that are taken, and ‘procedural reactivity’, the researcher modifying the natural environment through their presence to take the photos, for example, children ‘acting up’ for the camera. To counter this, because the researcher carried an iPad at all times during observations to type field notes, this also facilitated the capturing of photographs unobtrusively at opportune moments, minimising reactivity from the participants. This process had been described to the participants before taking place. Consent will be discussed in the ethical considerations, including measures taken to protect participants’ identities in the publication of imagery.

While a picture may paint a thousand words, created imagery must be supported by other methods to contextualise still imagery. By corroborating data with traditional methods of research, such as observations and interviewing, the potential to mislead or present misconstrued realities can

be minimised, while also strengthening the credibility of findings through visual representation (Menter et al., 2011). The imagery created by the researcher in the classroom not only supported the analysis of the dynamic processes and interactions that were recorded in the field notes, and discussed during the interview, but were also particularly illuminating when it came to analysing contextual elements, such as wall-displays, which can reveal power dynamics by examining who has produced displayed work and for what purpose. All imagery contains symbolic representations that communicate messages to the viewer (Denscombe, 2007). Finally, the last method to be discussed that was used in this study will be secondary documentation data.

Documentation

Documentation can prove to be a rich source of information as they are created by the participants, in their language, and can provide further explanation of data that has been generated and collected through other methods (Creswell, 2012; Yin, 2014). Documents are treated as secondary data as they were not created by the researcher, for their research, rather having already been created for another purpose; they are existing documents that have already been produced and analysed. Using existing evidence saves the researcher time, however, data must be sufficiently scrutinised in terms of its source, creator, purpose, including an underlying 'hidden' agenda, and audience. The researcher must go to lengths to ensure that secondary data is not taken out of context or used to support arguments that conflict with the original author's purpose (Cohen et al., 2007; Flick, 2011; Menter et al., 2012).

Foucault (1978, as cited in Hesse-Biber & Leavy, 2006) identifies the relationship between knowledge and power, and that through power relations that exist within texts, dominant ideologies and views are transmitted, thus recognising that knowledge is embedded within context. Because meaning is inferred through reading, the intended meaning by the author may be misinterpreted by the reader, such as if there is a single, or multiple interpretations of the text. The subtext embedded within the text is epistemologically and historically located, authorising a certain

interpretation of the text. However, a reader, in this instance the researcher, has prior knowledge and experiences and operates from a particular perspective, which mediates the reading process, providing the argument that multiple interpretations of texts are always possible (Scott & Usher, 2011). Through 'deconstruction', the researcher is able to reveal meanings concealed within the text made through assumptions embedded within the author's decision-making (Hesse-Biber & Leave, 2006). As Freebody (2003) explains, texts are constructed upon decision-making by the author regarding how they represent their reality, with these decisions resulting in a particular perspective of that reality, decision-making can become a contestable process. Nevertheless, texts communicate individual and shared experiences and meanings, and are therefore cultural artefacts, reflecting the identity, relationships, and practices of individuals and their communities.

With educational texts often portraying what Freebody (2003) coins a "purposeful distortion" (p. 180), part of the process of analysing the documentation gathered for this study involved identifying the purpose and audience for these documents. This study incorporated secondary documentation data through the collection and analysis of publicly accessible online documents, including Kea Primary School's website and the class blogs of the three classroom's investigated, as well as samples of the teacher participants' planning and two staff-created iBooks titled Curriculum Implementation Plan (Kea Primary School, 2012) and 2013 Conceptual Curriculum (Kea Primary School, 2013). These documents are a combination of senior management-, teacher- and student-creation, who all belong to Kea Primary School. While this documentation provided evidence from the participant's perspective in their language, multiple documentation evidence was sourced to substantiate findings and to address possible bias and selectivity that may exist within these existing documents (Cohen et al., 2007; Merriam, 1998). This was taken into account when analysing the data for themes.

Data Analysis

Before data can be analysed and interpreted, it needed to be prepared. This included verbatim transcripts of the three interviews that had taken place, as well as cross-checking observation field notes with the audio-recordings and researcher photography. The data also underwent a tidying up process by logically ordering and storing the data, easing accessibility and reviewing data against the research objectives to identify any gaps requiring further data generation (LeCompte, 2000). Following data preparation, the researcher conducted a preliminary exploratory analysis. By re-reading and immersing oneself in the data, a holistic understanding of the data was sought, enabling the researcher to make several tentative preliminary assessments regarding possible areas and patterns of commonality, interest, and meaning before the coding process began (Creswell, 2012; LeCompte, 2002).

Having become familiar with the data, initial codes were produced for the complete data set. Through a process described by LeCompte (2002), the data was examined for frequency, omission, and declaration of ideas, which were subsequently refined by searching for similarities which could be grouped and categorised into themes (Creswell, 2002; Denscombe, 2007). Through the forming of descriptions and organising the data into broad themes, a comprehensive understanding of the investigated phenomenon was sought. By reviewing the initial coding of the data and searching for patterns between the codes, themes that accurately depicted findings from across the data set were selected (Braun & Clarke, 2006). Detailed descriptions that drew on multiple sources of data were constructed to clarify and examine participant's understandings and experiences that inform their classroom practices (Creswell, 2002).

Relationships between themes were then identified, establishing major and minor themes, the interrelationship between these themes, and their significance. These relationships began to form rational explanations of the investigated phenomena and were reflected upon to ensure the reader was provided with 'thick' description, including contextual information, supporting them to make possible judgements regarding 'transferring'

findings to similar contexts (Creswell, 2002; Denscombe, 2007; Shenton, 2004). While this discussion may appear to present the data analysis of the data for this study as a linear process, it was one of iteration. The researcher moved back and forth between the 'raw' and 'analysed' data, each time developing a deeper understanding and attempting to incorporate different perspectives (Creswell, 2002; Denscombe, 2007).

By challenging assumptions found within the data and including the participants in the analysis and interpretation of the data, this process matched the critical theoretical framework of this study. By including the participant's in the data analysis and interpretation, participants were actively positioned in the meaning-making process and were advocates for their experiences, while also reducing researcher bias and selectivity (Braun & Clarke, 2006; Creswell, 2006; Merriam, 1998). The researcher probed to explicate conditions that are currently repressing or hindering student-centred practices in attempt to overcome these and find solutions, rather than just providing mere description (Carr & Kemmis, 1986). This analysis formed the narrative discussion that was used to report the findings. The writing of this narrative involved analysing and interpreting findings that were credible and dependable.

Credibility and Dependability

The applied, and subsequently 'soft', nature of educational research tends to produce findings that are more descriptive and interpretative than quantitative research. As a result, the researcher must account for 'trustworthy' findings that are defensible from a perspective that is harmonious with their theoretical stance (Labaree, 2003; Merriam, 1998). Consistent with the paradigmatic assumptions of the critical perspective of this study, validity and reliability were used to challenge taken-for-granted assumptions and redress participant inequalities (Creswell & Miller, 2000). The way validity and reliability are addressed in qualitative research differs from the way it is addressed in quantitative research. In quantitative research, validity is used to address whether the study measures what it states to measure, while reliability examines if the study were to be repeated, using the same methods, consistent results would be found.

However, within qualitative research, such as this study, credibility and dependability play the role of how validity and reliability are addressed (Cohen et al., 2007; Denscombe, 2007; Scott & Usher, 2011; Shenton, 2004).

Credibility is concerned with how accurately the findings from the study represent the reality of those investigated. Researchers must prove that the data and findings they present are as accurate and appropriate as possible, and by understanding the perspectives and reality of those involved in the investigated phenomena, a holistic interpretation is offered within its context (Denscombe, 2007; Merriam, 1998). Being underpinned by a critical paradigm, and recognising that participants' realities are validated in a foreground of power relations, the interpretations of these realities needed to be credible to these participants (Scott & Usher, 2011). Member checks were conducted with the participants, including the revision of interview transcripts, as well as more importantly, discussing and interpreting tentative themes together to not only verify their accuracy, but explore possible patterns within their contextual framework (Denscombe, 2007; Merriam, 1998; Shenton, 2004).

Triangulation, validating from more than one perspective to counteract differing strengths and weaknesses, was addressed through a number of different means. Data triangulation meant that data was validated by using different sources, including different teachers, in different classrooms, at different times of the day, as well as analysing a number of different documents. Furthermore, methodological triangulation was incorporated by triangulating data 'between-methods', comparing data generated by different methods, such as those adopted in this study including interviews, observations, photographs, and documentation (Denscombe, 2007; Yin, 2014). By corroborating evidence between sources and across methodologies, the researcher is able to authenticate findings and document common themes with several forms of evidence, helping to enhance the 'construct validity' of the case study; converging data provides "multiple measures of the same phenomenon" (Yin, 2014, p. 121), and are a meaningful and accurate reflection of the participants' experiences and

reality (Cohen et al., 2007; Creswell & Miller, 2000). By supporting findings with data from multiple sources, justification of themes can be strengthened, enhancing the credibility of the study, and offering differing perspectives of the investigated phenomena (Creswell, 2009, 2012; Stake, 1998). Triangulation also assists in ensuring dependability and confirmability.

Dependability, rather than reliability, recognises the role of the researcher in generating and analysing the data, and thus, appreciates the difficulty of replication. With the researcher bound to their study, and the evolving nature of their investigated phenomena that occurs within a contextual framework, researchers must provide a reflexive account of their decision-making and the philosophical perspectives that influence that decision-making (Denscombe, 2007; Shenton, 2004). Merriam (1998) explains that due to the multifaceted and contextual nature of educational research, "achieving reliability in the traditional sense is not only fanciful but impossible" (p. 206). However, by ensuring findings are representative and consistent with the data generated, researchers can address how their findings are dependable (Creswell, 2009; Merriam, 1998).

Furthermore, by acknowledging my personal values, beliefs, and biases, and how this has influenced the research inquiry, the confirmability of the study can be strengthened, while also appreciating that all research has, in some way, been influenced by the researcher, due to social, cultural and historical backgrounds. By recognising the role of 'self' in this study, data has been generated and analysed openly, and meant the researcher could 'bracket' out personal biases to avoid imposing preconceived ideas onto the data. Additionally, aligned with the critical paradigm that underpins this study, the researcher's reflexive account has facilitated the redressing of power relationships, which was also an important ethical consideration (Creswell & Miller, 2000; Denscombe, 2007).

Ethical Considerations

Prior to the commencement of this study, ethical approval was obtained from the University of Waikato, Faculty of Education Research Ethics Committee through written application. The application involved

consideration of elements such as participant recruitment and involvement, as previously discussed, informed consent, confidentiality, potential participant harm, and other important ethical aspects. Interwoven into the ethical considerations of this study was the principle of beneficence, in that research is concerned with being beneficial to people, or at least in ways that minimise harm, while being advocative for the participants, teachers and students, and the democratising of student-centred practices (Guillemin & Gillam, 2004; Stake, 2010).

Informed consent was sought from Kea Primary School's principal, the three teachers, the students in the classrooms of these teachers, and students' parents through formal letters and signed informed consent forms. The language in each letter was targeted for its intended audience to ensure clarity and full disclosure of the study and involvement to avoid deception (Refer to Appendices A-D). However, it should be noted that signed consent forms only provide evidence that consent has been given by documenting the process (Guillemin & Gillam, 2004). Participants should receive appropriate information to make an informed and reasoned judgement when giving consent (Denscombe, 2007). As a result, discussions took place with teachers and students to ensure all participants made an informed decision regarding their participation; informed consent. These discussions were free from coercion and identified steps taken to avoid participant harm, including the use of pseudonyms, both for the school and the teachers, to protect participants' identities and photographic procedures, such as covering facial features, to avoid capturing identifying features. Furthermore, participants were free to withdraw from the study at any point, and this right was upheld by the researcher.

In addition to doing their upmost to protect their participants' identities, researchers must also protect data (Flick, 2011). Appropriate measures should be taken to store data securely to restrict access and data should be destroyed after a reasonable period of time (Densombe, 2007; Flick, 2011). All data was stored securely in a locked filing cabinet and on the researcher's password-protected computer utilising participants' pseudonyms, not real or identifiable characteristics. The data was only

accessible to the researcher, the participants, and the research supervisor. All data will be stored securely for five years to allow for review, if needed, and then will be destroyed.

Data generation periods were negotiated with the teachers to ensure minimal disruption to the participants, and students' learning. The researcher was mindful of the participants' time and strived for minimal disruption. Interviewing periods were conducted after school at a time chosen by the teacher. Questioning was of a professional nature, directly linked to the aims of this study, with the teacher able to ask for clarification of questioning, as well as review any generated data. Teachers were not expected to answer any questions of a personal nature, and could object freely to any line of questioning. I also saw fit that participants benefited from their participation, with the researcher providing assistance with one participant's professional development inquiry (Creswell, 2002).

Congruent with the critical perspective of this study, power relations were also of ethical concern to me. I was aware of participants' non-verbal actions, particularly with the students, that would demonstrate their willingness to be involved, and attempted to be responsive to these signs. The researcher adopted a 'learner' role when questioning students during observations, positioning students as the 'experts' as I sought to understand their perspectives (Einarsdottir, 2007). Additionally, it was made clear to the teacher participants that their involvement would not result in an exercise to pass judgement on their teaching practices or for attestation purposes. Instead, their involvement was fundamental in understanding current student-centred practices to understand ways future practices could empower student-centred curriculum integration, with the project advocating change not only for the participants, but for other practitioners, students, and schools. The next chapter will provide the results of this research project.

Chapter Four

Results and Discussion

Chapter Overview

This chapter provides the results and discussion from the study, reporting on the research question:

In what ways are Year 5-6 teachers using more empowering student-centred classroom practices through curriculum integration?

The results and discussion are presented within five themes that became apparent during the analysis of the data: 21st Century Learning Needs, Digital Technology, Defining Curriculum Integration, Democratic Pedagogy, and Professional Development.

21st Century Learning Needs

Kea Primary School's learner model (Kea Primary, 2012), embedded in the key competencies from the New Zealand curriculum (MoE, 2007), envisions preparing "inquiring learners" (p. 15) who are "responsible citizens" (p.15), and who know "about our world, the environment, and values and morals" (p. 15). To create a learning community that fosters these characteristics, Kea Primary asserts that learners need to be "committed team players" (p. 15) who are "contributors" and "skilled communicators" (p. 15). The school, and the teachers, identify that these are the attributes they hope to promote within their learners if they are to actively participate in a democratic society. To do so, through an inquiry process, the teachers promote thinking skills that will foster students into lifelong learners.

Alice and Tom saw the development of students' thinking skills as necessary for learners in the 21st century. Thinking skills underpinned Alice's teaching philosophy and she saw these skills as a priority for the students in her classroom by:

> Alice: …actually teaching them how to think, not what to think; how do you actually formulate an opinion, or make a judgement.

When students examine meaningful problems related to self and societal issues, students can apply a range of problem-solving skills that strengthens their ability to think critically and reflectively, crucial if students are to transfer these skills across their learning. Wilson and Wing Jan (1993) believe that by improving students' metacognitive capacity, students are empowered to direct their own learning and, through a growing awareness of appropriate thinking strategies, such as reasoning, hypothesising, predicting, adapting and evaluating, draw links between prior and new knowledge and experiences as they set, measure and assess against personal learning goals they have set.

Alice saw metacognitive skills as key to students understanding the learning process and reflecting on their needs, especially as the focus shifted from:

> Alice: …content and knowledge gaining and acquisition, but actually can you articulate the thinking you went through, do you understand the thinking that you went through.

Alice helped her students to refine their thinking skills by "teaching strategies across areas of the curriculum", such as:

> Alice: …using literacy skills in maths time, whether you're deliberately talking about how to plan, using graphic organisers, or you're searching for key words in a maths question.

If students are to be able to effectively adapt these strategies for their own purpose, they must be cognisant of their own, and others', thinking processes. Murdoch and Wilson (2008) argue students must be able to flexibly utilise a myriad of thinking skills that will support them in becoming lifelong learners. This requires them to critically reflect and monitor their own learning, including systematically implementing self-assessment throughout the learning process. These skills must be contextualised and embedded seamlessly into learning, rather than taught in isolation, so that students are able to set their own learning goals and reflect upon these to guide their own learning.

Through teacher modelling, including the use of ‘think-alouds’ and graphic organisers, Alice aligns to a philosophy of “making thinking visible”, a term coined by Harvard University’s Project Zero: Visible Thinking website, a website that strengthens her teaching of thinking skills and reinforces the importance Alice sees in learning being supported visually (Harvard University, 2013; Walsh & Sattes, 2011). By making the thinking process visual in her classroom, as shown in Figures One and Two, Alice’s students were able to refer to previous learning experiences that have occurred throughout the year, naturally linking past, present, and future units of study, and, when negotiating the classroom curriculum, visual scaffolds presented on the walls of the room empower students to articulate their contributions. Alice has found that now her students are using the language of thinking, such as describing their prior knowledge, she has observed that their level of thinking has deepened, increasing ownership and engagement. When teachers create a classroom environment that not only encourages, but expects students to communicate their own thinking, students learn to effectively engage in thinking discourse and are more readily able to organise their thinking and understanding, such as identifying the relationships between their knowledge as they address meaningful problems (Gilbert, 2005; Tishman, Perkins, & Jay, 1995).

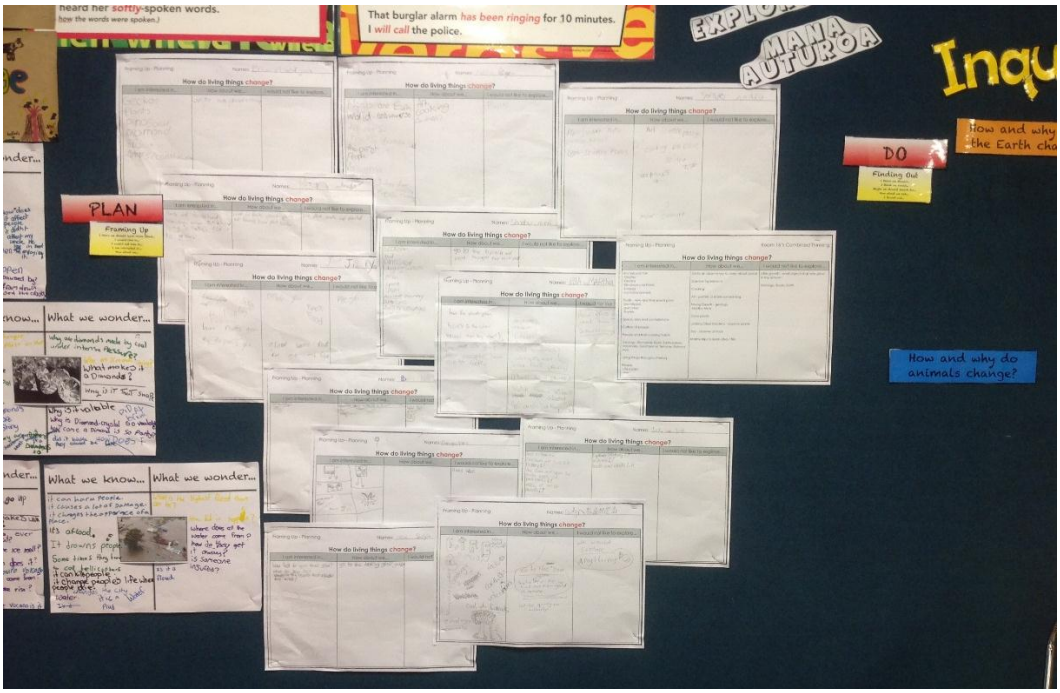

Figure 1: The planning stage of the 'change' inquiry in Alice's classroom

Figure 2: Sample of thinking tools displayed in Alice's classroom

Student-centred curriculum integration emphasises the importance of students understanding what and how they are learning, ultimately demonstrating their ability to transfer knowledge across authentic learning contexts to create new knowledge; knowledge performativity (Beane, 1991; Boyd, 2013; Drake, 1998). The transfer of not only knowledge, but also skills, dispositions, and strategies is essential if learners are to avoid 'storing' redundant knowledge that has no real-life application. Teachers need to model creating connections across learning, not only across the day, but across different investigations that span the year, facilitating their ability to construct classroom dialogue around the concept of transferability

and practice the integration of knowledge into various experiences (Tishman, Perkins, & Jay, 1995). For Tom, by applying thinking skills across the curriculum, such as creativity or critical thinking, he sought to strengthen his students' ability to cope with a range of contexts. He explicitly taught thinking skills to his students in the endeavour to enable them to discover the natural connections between curriculum areas throughout learning contexts. He commented in his interview:

> Tom: Thinking skills, trying to explicitly teach those, or make them as explicit as possible, in terms of what the thinking skill we are looking at is, why we are doing it, and trying to see the connections across the curriculum. For example, in mathematics, we might be trying to do a problem that might be skimming and scanning for information or classifying information, and then we do similar things in reading so they see the natural connections between the learning.

Marie emphasised skills that students required to investigate and inquire into their curiosities, identifying the need for learners to have "skills to sort through information", and furthermore, saw the ability to be an able questioner as key, because students "need the skills to ask, know what to ask, create the right questions". From a young age, people are naturally curious and question as they attempt to make sense of the world (Brodhagen, 1999). Good questions add value, inquisitiveness and interest to the learning process and challenge, while supporting, students to new understandings (Wilson & Wing Jan, 1993).

Moreover, Marie recognised that for 21st century learners, as Alice suggested, knowledge acquisition was no longer a priority. By focusing on an education system that values knowledge as democratising for society and adopting a perspective of knowledge as fluid, it is acknowledged that every member of society has equal right to acquire and shape knowledge. Additionally, learners can be equipped with the skills to interact with this knowledge (Bolstad & Gilbert, 2008; Gilbert, 2005). With the increasing role of technology in society and its ubiquity, and the exponential growth in

information, this has only become more crucial. This is reinforced by Marie's belief that:

> Marie: …you don't need to know everything anymore, it's too hard to know everything, but we need to be able to find it out because it's right at our fingertips all the time.

Alice reiterated this point, postulating that students need the decision-making skills to make a judgement:

> Alice: You've got the internet at your fingertips, but how do you figure out what's relevant, what's not relevant, what's useful, what's not, what's actually valid. So that decision-making is huge, I think, for them.

Digital Technology

Teachers at Kea Primary saw the embedding of digital technology into the classroom as crucial:

> Tom: The ability to use technology, but in a meaningful way, because I don't see that as ever changing and will become more and more apparent…

Authentic learning experiences where learning is embedded within real-life contexts are greatly contributed to by digital technology. Through differentiating learning experiences to create powerful learning environments, digital technology can be tailored to a curriculum that supports open-ended experiences that value individual learner needs. It can also facilitate the co-construction of knowledge through interaction and relationships between learners and content, as shown in Figure Three (Garrison & Anderson, 2003; Smeets, 2005; Yang, 2012).

However, for this to occur, teachers must value a learning environment that promotes a shift in pedagogical practice from former instructivist methods that siloed knowledge toward constructivist approaches (Hayes, 2007). Alice regarded the use of technology in the classroom as an enhancement, complementing current pedagogy, rather than seeing the need to transform

pedagogy to best maximise the opportunities it presents. This may be because, as Alice explained, she does not want to adopt a techno-centric view of technology:

> Alice: I don't want to say it transformed because that sounds like I've changed to suit the technology. I'd say that what I'm doing I could do without an iPad, but the iPads have enhanced it. They've added to the value, they haven't necessarily been the catalyst for change.

When Marie was asked if integrating digital technology into her classroom curriculum had transformed her pedagogy, she replied:

> Marie: How could it not really? You'd be stuck in the dark ages if you didn't. I mean there's no way I could be without my laptop or my iPad now.

Figure 3: Students using 'Explain Everything' on an iPad to collaborate on a fractions task

Tom tried to use digital technologies to enhance his teaching, as much as possible, so that students were "learning through technology, rather than about". This supports the concept that powerful implementation of digital technology is cross-curricular and seamlessly integrated with identified curriculum intentions, rather than being narrowed to a single learning area

or being an isolated tool (Edmunds & Matzen, 2005; Flanagan & Jacobsen, 2003; Lynch & Redpath, 2012).

These teachers' beliefs must be taken into account, as it is these beliefs that affect the pedagogical decision-making teachers make regarding the implementation of digital technology in the classroom. While these beliefs are typically entrenched, resulting in them being difficult to shift, if digital technology is to be effectively appropriated into the classroom, pedagogical and organisational evolution is required (Adams, 2011; Prestridge, 2012; Yang, 2012).

With the rapid innovation of technology, the redressing of power relationships is significant in recognising that students can learn from each other, and also highlights the need for teachers to be comfortable with learning alongside their students (Flanagan & Jacobsen, 2003). This is reiterated by Marie:

> Marie: I love that kids are more adept at certain aspects of technology than I am, and then therefore they start leading each other.

Despite the teachers' varying perspectives on the use of digital technologies in the classroom, all the teachers and students actively utilised digital devices throughout their teaching and learning. Alice, Marie and Tom saw the need for digital tools to be used purposefully for educational purposes because as Alice explains, she wanted her students to use technology to "create and communicate, not consume". While the technology devices have a motivational dimension that needs to be considered, Marie argues that students must be able to articulate their purpose for using their classroom iPads, as she states:

> Marie: They have to know what they're learning and why they're learning it.

The teachers encouraged their students to make these critical learning choices by developing their awareness of their learning needs, and thus, selecting learning tools which will support and enrich their learning experiences. Tom considers it important to explore the applications [apps]

available with his students enabling them to make decisions about how it will transform their learning, rather than making the decision for his students. He believes it is necessary for students to realise that a technology device is not always the best tool for every purpose, especially “if it is not going to enhance the learning.”

Teachers need to model the critical thinking skills that students need to be creators of knowledge, and this includes how to make evidence-based decisions so that they are not just users of technology, but make logical, strategically-considered actions that make full use of digital technology as a learning tool (Burns, 2005). Learners need to be discerning when selecting learning tools, digital or not, and base these decisions on their learning needs and the task (Yang, 2012). While young people tend to be digital natives, schools need to equip students with the skills to critically evaluate the information that these devices provide and use these devices appropriately in a range of contexts (Conole, de Laat, Dillon, & Darby, 2006).

All the classrooms were equipped with an Apple TV, a set of iPads, and Tom and Marie’s classrooms had iMacs. Alice had swapped her iMacs for two more iPads at the start of the year, bringing the number of iPads in her classroom to 13. She reasoned that the learning potential using an iPad is far greater than that of a desktop computer or laptop because “laptops are so consumer-based”. Furthermore, Alice noticed last year when she asked her students to “grab some technology device, go grab a tool, and bring it back, no-one ever wanted the laptops”. When she asked her students why, “they’d say, ‘it’s slow, it’s clunky’, and ‘you can’t do as many things as quick’”. This was a defining moment for Alice and, upon listening to her students, traded her laptops as she saw “no reason for them”.

By positioning students as creators, devices, such as the iPad, can be used as a tool to represent and produce knowledge, and through building authentic connections between the school and their communities, purposefully communicate these understandings (Lynch & Redpath, 2012). While Alice accepted students could create media such as iMovies, “you

also need a digital camera to take your pictures. Otherwise you're walking around with a laptop snapping photos". The portability and functionality of iPads was empowering for her students' learning and opened up a number of learning experiences that would otherwise not be possible, aspects that Melhuish and Falloon (2010) identify as affordances of iPads, and add connectivity, affordability and personalisation to the list.

These three teachers recognised that the variety of apps available on the iPads are a beneficial way for students to record their learning, and have become a vital tool for collecting evidence of students' progress and achievement. They are challenging their students to create and communicate their understanding in creative ways, and to reflect on how these understandings evolve across learning experiences. With the dominance of text-based forms of representation and communication falling, multimodality is requiring learners to be multiliterate, interacting with the five semiotic systems in concert to consume and produce: Linguistic, visual, gestural, spatial and aural (Anstey & Bull, 2010; Gilbert, 2005). Technological and social change have transformed what it means to be literate in the 21st century, with Anstey (2009) postulating that multiliterate people have the metacognitive capacity to critically and strategically implement literate practices that are socially and culturally appropriate.

Apps such as 'Explain Everything' are seamlessly integrated into classroom learning and support students to record their learning as multimodal artifacts which can be shared and communicated openly on platforms, such as the class' blog:

> Tom: One of the main things I get children to do is to reflect on their learning via the technology. Whether that is recording themselves, writing things or sharing things on the blog, I think that is probably one of the main things… I look for opportunities for students to evidence their learning via the technology because at the end of the day I have to make judgements about where they are at, and that's definitely one way of doing it.

> Marie: I love the ‘Explain Everything’ app on the iPads because kids can explain, and make little movies, and record themselves and their knowledge and how to do things which is so often, especially for our ultra-intelligent ones, they can do it, but they can’t explain it, so making them put it into words of how they do things, especially for maths.
>
> Alice: So they can create something to share their learning, they can communicate that through the blog. We use ‘Explain Everything’ as a digital record. So creating a T-Chart on Explain Everything. When they’re doing their learning, in any area across the day, they’re recording their thinking, they can go back to it and change it, being creative with how you share your learning. We are at the point now where I don’t have to tell them what apps they can and can’t use… Instead of me telling you everything I want you to do, I want you to judge what app is best for what you are trying to do, so they’re learning to make judgements as they’re learning to create and communicate their learning.

Digital technology has the power to encourage students to reflect throughout their learning experiences, and through the interactivity of open-ended apps on the iPads, students can record and revisit in-depth reflections, as shown in Figure Four, as students record each other practising their speeches to assist them with a peer reflection (Brooks & Fletcher, 2008). Open-ended apps present the mechanism for students to apply self-direction of their learning and produce artifacts to demonstrate their learning, rather than consuming pre-integrated information that reinforces dominant viewpoints and position learners as passive (Lynch & Redpath, 2012).

All three teachers were observed using either their laptop, iPad, or a combination of both, to support their classroom teaching. This is greatly assisted through the use of an Apple TV that is connected to a widescreen television installed in each classroom. The Apple TV enables any device connected to the school’s network, such as a student’s iPad or the teacher’s

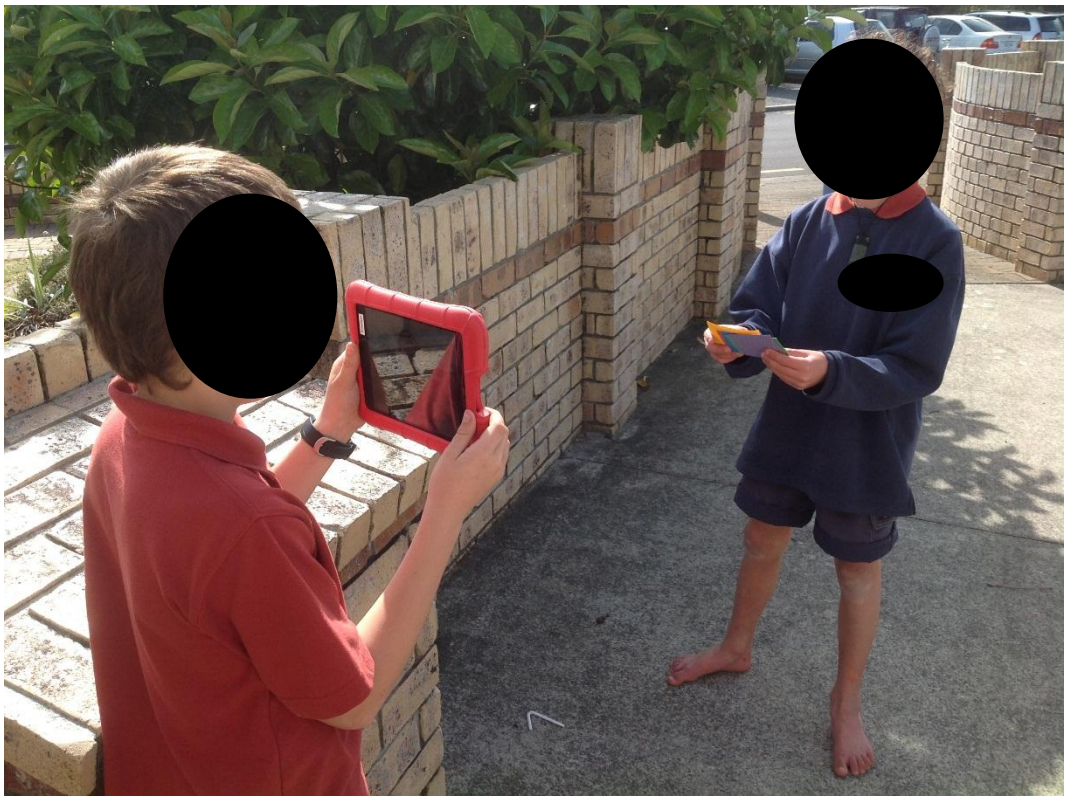

Figure 4: Students recording themselves practising their speeches using an iPad

laptop, to wirelessly share its content via an Apple TV-equipped television, as shown in Figure Five, no matter where they are in the school. The Apple TV not only provides a medium for students to share their work, but enables students to openly collaborate not only with students in the class, but with students across the school and in the wider global community. Students at Kea Primary are actively engaging with Web 2.0 to network with peers, using a range of digital tools to support their learning and build knowledge in collaborative environments (Conole et al., 2006). These tools, such as Skype, support students' authentic, cross-curricular inquiries as they communicate with their peers, adults and experts, locally and globally. Knowledge is valued as a shared endeavour and, through the affordances of technology, co-constructed by a variety of mixed-ability groupings. The child-friendly accessibility and interactivity features of the Apple TVs have been seen as an asset by these teachers at Kea Primary:

> Tom: The TV's often used as a portal tool to connect students with things in the outside world and things via the internet. It's definitely used as a sharing tool in terms of students sharing what they're doing

with the rest of the class, so there is a bit of collaboration there. I think that's really important that things aren't hidden. That learning isn't hidden in a book or on one iPad, it is shared with the entire class.

Marie: Walking around, especially with iPads now, they all connect to the TV, so if a kid is doing a bit of writing and say 'Can I share that?', and then it's straight up there and they're doing it.… So it makes certain things like that easier, and because we can connect to any TV in the school, it doesn't matter where we are, we can showcase or just show a bit or demonstrate. Whereas with the projectors it was harder because you had to turn it on, warm it up, whereas with the TV, it's on all day. Or you'd have to read out to the kids, and it's much better for the kids to see a visual of what was said. Sometimes it is handwritten and we just take a photo and whack it up, then we can talk about it.

Alice: The Apple TV is fantastic. We do all our shared thinking, shared modelling on there. But the kids love to be anywhere in the room and just put it on the Apple TV and share it with everyone what they are doing at that time.

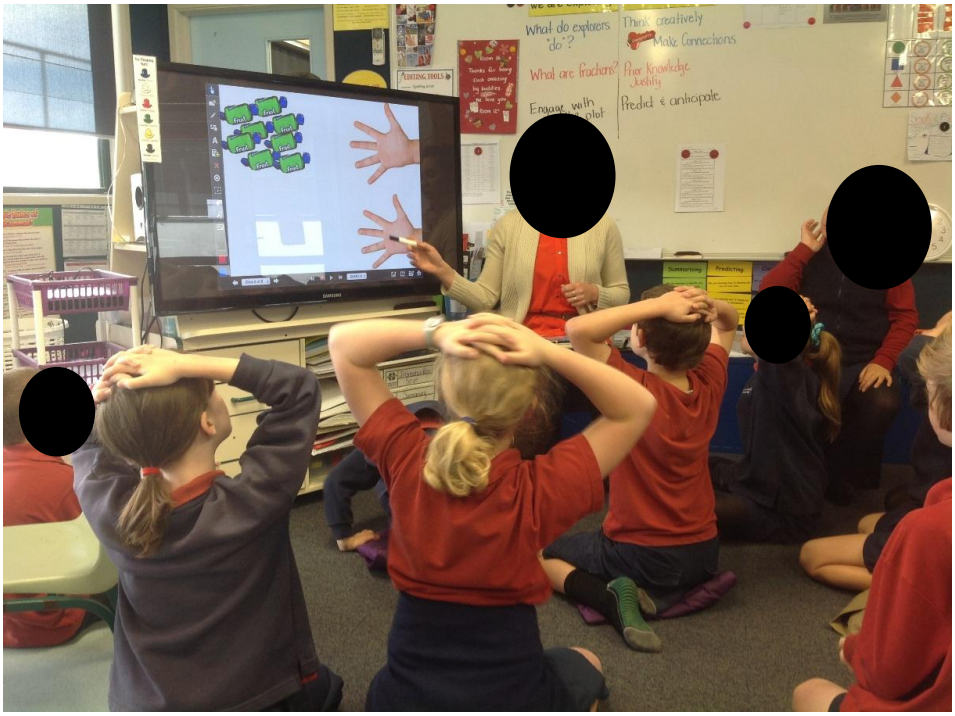

Figure 5: Alice using her iPad and an Apple TV to teach a lesson on fractions

Defining Curriculum Integration

The teachers in this study viewed curriculum integration as an inquiry-based approach, ideas that can both be linked to the work of Dewey (Boyd & Hipkins, 2012; Dewey, 1905, 1916), and used the term 'curriculum integration' synonymously with what the school termed its 'conceptual curriculum':

> Our conceptual curriculum at [Kea Primary] is a rich integrated curriculum approach that connects the essence of the NZ curriculum. It enhances teaching and learning opportunities more effectively than a separate subject approach (Kea Primary School Curriculum Implementation Plan [CIP], 2012, p. 32).

Tom explained that he viewed curriculum integration as an "inquiry-based approach… And as you work through the inquiry, there are different aspects of the curriculum that you will cover". This aligns with Boyd & Hipkins (2012) as they argue that curriculum integration is a way of supporting learning, rather than structuring the learning process, and as such, sees its pairing with an inquiry process as complimentary. Through these interconnected concepts, students will begin to appreciate the significance of not only knowledge, but the processes involved with its creation (Kelly, 2005). Tom attempted to integrate an inquiry approach into all areas of the curriculum:

> Tom: In terms of an inquiry approach, I guess I try to integrate that into all areas of the curriculum, whether that be mathematics, getting students to identify what we are learning and why we are learning it, constructing answers or understandings for themselves, asking themselves once they've found things out, using that – putting it into action.

For students to be able to do so, Alice believes "a lot of it is in the framing up of learning" as she sparks her children's interest through a "think, puzzle, explore" process, exposing students to new experiences while also drawing on their prior knowledge. When students' prior knowledge and experiences are used as the initial trigger to spark and identify learning themes, and underpin the learning process, the relevance of learning is heightened

through purposeful connections with their own experiences (Drake, 2012; Fraser, 2013; Hargreaves & Moore, 2000). This process has come about through a change in Alice's thinking when it comes to student-centred inquiry learning. This was initiated when she arrived at Kea Primary School:

> Alice: I guess when I came to [Kea Primary] my definition of student-centred inquiry learning was quite different than what it is now. It was giving them a topic and asking them to find out about it. That was my inquiry model in my head, and now it's changed in that the student-centred is taking your curriculum areas and finding where the child sits in that area, what do they know about the topic, what are they interested in [in] the topic. And the inquiry side of it is actually involving them in the whole process; inquiring into your learning, not just inquiry as a topic…

Tom saw this inquiry approach as essential for his learners, in particular having an understanding of, and how to successfully implement, an inquiry approach to lead their own learning. He asserted that through an iterative process, learners in the 21st century need to know what information they need to find and how to find it, as well as continuously reflecting throughout to identify their next steps. While students may find the constant need to reflect and review arduous and verbose, it is a necessary element of inquiry as learners respond to the information they locate, review and synthesise, reorganising and re-evaluating their questioning, and scope and scale of their study (Treadwell, 2008). This also ensures students dedicate time to analyse, individually and collectively, the implications of their investigations and share possible solutions to new challenges that may arise (Cook, 1992).

All these skills are not only important in terms of their educational value, but are necessary dispositions for students if they are to contribute, and improve, democratic communities both in and outside of school (Beane, 2013). Tom argues that this all-encompassing inquiry-approach is necessary if students are to be adequately prepared to contribute to an evolving society, because as teachers:

> Tom: We are trying to prepare them for a world they don't know they are heading into so they need to have strategies or an ability to cope with that".

Student-centred integrated inquiry learning is recognised as a fundamental capability of a lifelong learner and, through our need, as humans, to make sense of our world, rich systems and networks facilitate the process for learners to collaborate to create new knowledge and concepts (Treadwell, 2008).

When defining curriculum integration, Tom recognised:

> Tom: For me, the core of it is identifying the connections across different curriculum areas and exposing children to that so that they form natural connections themselves.

This enables students to do the 'integrating' themselves. Rather than having subject-matter imposed on them in a delineated fashion, students need to integrate experiences into their own schemes of meaning in unison with discipline knowledge (Beane, 1991; Fraser & Paraha, 2002). This is an essential goal of learning at Kea Primary (2012), as their CIP states:

> The purpose of learning is for an individual to construct his or her own meaning, not just memorise the 'right' answers and regurgitate someone else's meaning (p. 4).

When the creation of knowledge is valued over remembering and recalling facts, students are active participants in, and develop a deep understanding of, the learning process while also engaging with discipline knowledge in context to the inquiry (Beane, 1995; Brough, 2008b). This assists students to identify the relationships between knowledge and develop an appreciation of its interconnected nature, supporting them to transfer knowledge and skills across learning and minimising the duplication of content throughout learning programmes by identifying overlaps (Drake, 1998; Hargreaves & Moore, 2000).

Alice set out to ensure her learners were “finding the natural links between what you’re doing across the whole day”. She argued that these connections must be purposeful so that curriculum integration is not implemented in a tokenistic way, such as:

> Alice: …doing inquiry for forty minutes in the afternoon, and your writing programme is persuasive because you haven’t covered it yet, and your reading programme is finding the levelled books in the book room because they’re reading at [level] 8-9.

This description typifies thematic-type units where teachers find themes to link learning areas. While these units may remain superficially engaging, they have questionable educational value as content and assessment are aligned to their individual, respective learning areas, and depict indifference towards democratic practices and principles (Dowden, 2007a; Drake, 2012).

Teachers viewed curriculum integration as a way to create experiences where learning occurred within real-life contexts. Student-centred curriculum integration treasures learners as the foundation of the curriculum and places them at the centre by drawing from their interests, concerns, passions and needs to create learning themes (Beane 1997; Brough, 2008a). By interweaving these issues into learning experiences, authentic contexts are created that are directly applicable to students’ real lives (Beane & Apple, 1999). As Brough (2008a) has found, this can also lead to improved student achievement. For this to happen meaningfully, teachers needed to be trusted to use their professional judgement and not have unnecessary curriculum areas or superfluous connections mandated, as will be discussed in more depth later in this chapter. As Marie states:

> Marie: So really integrating authentically to get your coverage really, without making up things or making things fit. To me if it’s not going to fit, it’s not going to fit.

Learning areas should naturally align with students’ inquiries, rather than be prescribed which undermines learners as co-contributors (Fraser, 2013).

Various disciplines of knowledge, defined by Beane (1995) as lenses in which we can use to describe phenomena, are made up of communities of people that recognise the fluidity of disciplinary boundaries. It is by drawing these disciplines together through powerful contexts that learning evokes meaning for students which leads to retention of learning (Beane, 1995).

Marie indicated that through curriculum integration, by linking learning together through authentic contexts, connections across curriculum areas are made "without it losing its strength, without it losing its value". Disciplines of knowledge are called upon when pertinent within learning tasks, not when they are seen to be convenient for the teacher (Beane, 1995; Brough, 2008a). Kea Primary's (2012) CIP recognises:

> Students will learn best when they can make a connection between the curriculum and their interests and life experiences (p. 12).

Alice suggested that this gives learning a purpose as students investigate issues they are interested and passionate about. Students need to be exposed to opportunities so that they are able to integrate experiences from their lives and their learning into their schemes of meaning (Beane, 1995, 1997).

At times the teachers' definitions of curriculum integration aligned with a subject-centred or multidisciplinary approach, rather than a student-centred approach, as they sought ways the concept they were investigating could contribute to each curriculum area, rather than organising the curriculum around investigated concepts generated from students' questioning in relation to issues and concerns they have identified (Beane, 1995; Dowden, 2007a). This was illustrated by Marie explaining how, for her, it was "how can I teach that concept [the school's concept for the term] throughout our different curriculums…", rather than finding curriculum areas that naturally aligned with that concept. This exemplifies an autocratic relationship between the teacher and the learner as student voice is marginalised, ultimately undermining the relevancy of the learning context. This reduces student-centred curriculum integration's motivational qualities and maintains the discrete compartmentalisation of subject-matter as the

concept is explored within each learning area (Dowden, 2007a). While Tom reasoned that their conceptual curriculum enabled them to conduct "in-depth investigations of the curriculum areas, rather than thematic, topic-type approaches", teachers were often selecting classroom investigations, or at least guiding students towards concepts, as they needed to follow the school's concept for the term as well as covering pre-selected achievement objectives.

At Kea Primary, the school had a concept of 'Mana' for the 2013 year which was supported by four term concepts of belonging, communication, exploration, and contribution. In contrast, Brough (2008b) explained that values, including those from the NZC, such as participation or citizenship should not be used as the centre of student investigations, rather these are to be modelled in the pursuit of students contributing to the amelioration of their communities. Beane (1991, 1995) argued that the sources of curriculum should originate from issues and concerns related to themselves and society, and at their convergence, powerful concepts to organise the curriculum are realised. This is a negotiated process, agreed upon by both students and teachers as they refine and pose questions to be investigated (Fraser, 2000).

Marie shared that Kea Primary's concepts came from:

> Marie: …a group that gets together at the end of the year and they look at what the needs are for our school, and then they put together a conceptual curriculum for the year with each term so there is a natural flow between them, too.

Students and the community were not seen to have an active role in this process by Tom, Marie, and Alice, with Alice explaining:

> Alice: The Board of Trustees might be as far going in terms of community consultation on the curriculum, but it might be more of an approval thing than involvement in it.

Marie who had been at the school longer, mentioned that a Whānau Support Group surveyed parents at the end of each year to find out "what the parents

feel there is a need for". Through community consultation, the school curriculum must deliver the New Zealand Curriculum in ways that address the needs and interests of the school's community and effectively utilises local resources (Dowden, 2010; MoE, 2007).

Alice explained that the school's conceptual curriculum plan for the year was "laid out before the school year even started", and when it came to selecting the curriculum areas or concepts for the term, she "wasn't consulted or involved in that process". However, she recognised that she did not "necessarily see that as a bad thing, at some point they need to have someone that makes the decisions…", especially with senior management having the time and resources to "recognise what learning is going on and recognising what the next learning steps might be across the school". When designing and reviewing curriculum, all stakeholders need to be consulted, including students, teachers, whanau and the local community (Dowden, 2012). By establishing strong, power-sharing relationships that treasure partnership, protection and participation, the Treaty of Waitangi can be valued as a metaphor for power sharing, and with reciprocal partnerships being an integral component of this process, the concept of ako is practiced (Bishop, 2008; Bishop & Glynn, 1999; MoE, 2009).

Through the concept of 'Mana', teachers were expected to focus on three curriculum strands throughout the year: Two Social Sciences strands consisting of 'Identity, Culture, and Organisation' and 'Economic World', and the Science strand 'Living World'. Teachers had the flexibility to cover these strands as they saw fit, while ensuring this was documented accordingly:

> Marie: So there is a high-trust model at our school, but there's high accountability too.

Teachers were expected to document how those curriculum areas had been addressed throughout the year. While a high accountability culture can stifle creativity and risk-taking, teachers must actively 'back-map' subject content and skills covered against the national and school curriculum (Adams, 2011; Brodhagen, 2007; Dowden, 2012; Fraser & Paraha, 2002). A sample of Marie's planning is shown in Figure Six, providing an example of how she

ensures that each of her literacy groups has sufficient curriculum coverage of different genres in reading and writing. It is the teacher's responsibility as a professional to ensure that crucial content is included and adequate curriculum coverage throughout the year is maintained (Cook, 1992). Marie viewed the flexibility offered at Kea Primary as positive, especially as the term concepts "naturally flow into one another…" Alice utilised these natural connections as well, as for some of her students it was "going on a 13-week concept for them, and we're transitioning from this idea of communicating the past to exploration of the future".

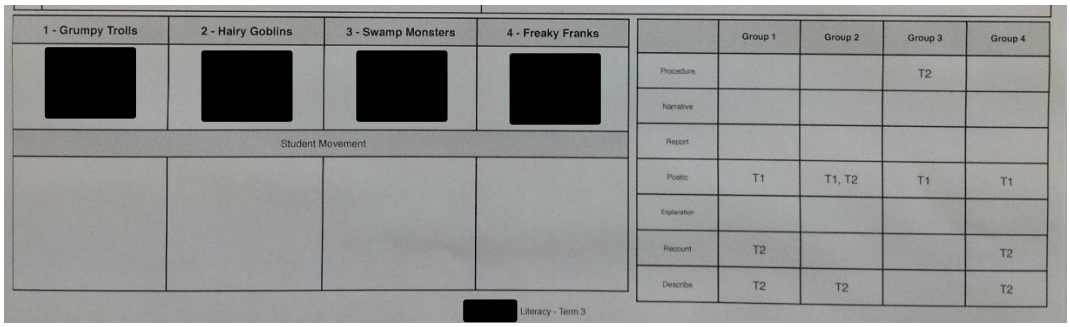

Figure 6: An example of how Marie tracks student curriculum coverage of different genres in literacy

However, as a result of having learning concepts and curriculum areas mandated, Alice would pre-plan "the achievement objectives, plan the learning around the curriculum area that needs to be pitched to them [Alice's students]…", requiring her to have a 'hidden agenda' by leading students towards particular curriculum areas, rather than allowing concepts to evolve democratically with students through negotiation and co-construction (Brough, 2008b; Fraser & Paraha, 2002). While Alice would tailor the school concept as much as possible in negotiation with her students, she felt compelled to disregard student contributions which did not align with the required school curriculum focus. She found this restricted her ability to align with a student-centred approach to curriculum integration:

> Alice: … because what you might stumble across and want to run with, and not to say you can't, but to go back to that curriculum overview of that concept, you're almost forcing yourself to negate some of it. I know that our kids got really, really engaged in geometry learning and that would've been really nice to explore in other

> contexts, you know, the geometry in other areas. But because we were talking about communication and we had a social sciences link, rather than another focus area as your sole focus area, it kind of thwarted that a little bit.

The teachers acknowledge there are times where aspects of their classroom curriculum are not negotiated with students, because as Alice suggests, teachers need to recognise "that often times what they're curious in is what they already know. There's no point in going back and teaching it yet again", and as Marie pertinently states, "they [students] don't know what they don't know". To overcome these barriers, Marie guides and supports her students through experiences to new understandings. She exposes her students to new and different concepts to peak their interests because, as she suggests, if learning was entirely student-directed, they would not "explore a new area, unless they've given themselves exposure to it". Tom explains that the aspects of his classroom that are not negotiated are due to the needs of his students that he has identified, however he discusses these learning needs with his students so that "they understand the reason why we are doing it". Through utilising student-generated questioning, Alice identifies potential learning areas where students lack awareness and understanding by having her students ask plenty of questions:

> Alice: So lots of questioning until they get to the point where they have stopped because they don't know anything more about that topic and that's a really good point to start.

During term three, Marie and Tom along with a teacher of a Year Four class, had based their conceptual curriculum around the Primary Enterprise Programme [PrEP] as they focused on the term's concept of 'exploration' and the Social Sciences strand the 'Economic World'. Enterprise is suggested as one of the future-focused issues within the NZC, involving the identification of relevant, cross-curricula learning opportunities that encompass the investigation of innovation and entrepreneurship. These suggested learning contexts not only encourage the integration of content from across learning areas, but also draw on the key competencies and

values promoted by the curriculum. It is anticipated that through the adoption of 'front-end' key competences, values and principles, learners will be better prepared to live and participate in the 21st century, however, these must be complementary, rather than supplementary, throughout all learning (Brough, 2008a, 2008b; MoE, 2007).

The purpose of the PrEP programme, as recorded in Tom and Marie's shared planning, was to "explore 'real life' economic contexts, which students need to understand as local, national and global citizens". This planning also documented how, as students developed businesses and products, they would begin to inquire into "how the economic world functions. Identifying the process of development, production, distribution and sales". This focus was decided upon by the teachers, rather than the students, because as Marie shared, they thought "it was such a great experience" when they had taught it previously. Marie believes her students "get so much out of it because they are managing with different kids, dealing with students, all that conflict resolution", crucial skills if students are to be active participants in their communities and positively contribute to the 'common good'. However, this learning context lacked student initiation and collaborative planning which invited student questioning about themselves and their world was not evident. The selection of the learning concept should primarily be sourced from the lived experiences of the students and should reflect their lived experiences and reality (Brough, 2008a; Gehrke, 2008). 'PrEP' time was isolated to a tokenistic offering of three afternoons a week where students worked in company groups to develop a product. However, teachers planned workshops to cater for students' needs as they arose, which as Marie pointed out, required a relinquishing of teacher power and a change in mind-set for the teachers around planning:

> Marie: …PReP is one of those things where you can't foresee too far, you don't know what problems are going to arise, or what workshops we're going to have to run. We've got three teachers and we've each taken charge of a different area of PReP, and we're going to run workshops, but we can't do a timetable too far ahead because we actually don't actually know what they're going to need. Which is

> really good for teaching wise, but if you're a really organised teacher you really struggle with that because you've got to do more things kind of on the run, which is what I'm getting better at. I used to hate it. I used to do all my planning in the holidays, and my term would just run. But now I'm doing that more week-to-week. You've got to let it go a lot more.

Alternatively, Alice's term three 'exploration' conceptual curriculum was focused on the Science 'Living World' strand. Because her class' previous inquiry had been based around the Social Sciences, Alice pitched the achievement objective to her students because her class "needed to have a little bit of a science focus, we needed to change our curriculum focus". This is not harmonious with a democratic model of curriculum integration. True democratic negotiation involves complex skills and processes, and teachers must not try to trick or lead students toward preconceived ideas (Beane, 2005). Nevertheless, she wanted her students to recognise that this achievement objective is about "how living things, people and places change over time". Her class had visited Rotorua Museum "to spark their interest", and went through a "think, puzzle, explore" process, investigating:

> Alice: What do you think about that question? What are you curious about on the puzzling side? The explore problem was where we began to go deeper and that's where we were talking about interests in rocks and geology, not just saying 'that's really cool', and stopping with the rocks and geology, but the further probing and questioning.

Through this process, and probing questioning, the class began an investigation into finding out:

> Alice: How the Earth has physically changed… So we've got this nice pathway of science focused on geology and the Earth over time.

Alice believes in the importance of unpacking the concept so that students are "completely hooked and focused", and that learning goes beyond trivial curiosities. This included students watching a YouTube clip of Earth taken from an orbiting satellite as Alice asked open-ended questions and

wonderings to provoke student thinking. Relevant student experiences were drawn out in relation to the learning context as students began to question and hypothesise, heightening student engagement and ownership and allowing the investigated issues to be refined and providing students' with the opportunity to integrate their experiences into their own schemes of meaning (Beane, 1991; Cook, 1992). By dedicating time to thoroughly set the scene, the co-construction of classroom units will be more beneficial and rewarding as trust is established and student motivation is enhanced (Brough, 2012).

Alice found that initially students were only interested in animals:

> Alice: …Because that's their go-to. But just talking with other people in my team, I realised three or four are focusing on animals in some way or form this term as a science theme...

However, she maintains that learning must be purposeful for students, and thus, it must be relevant. Learning themes must not be selected just because they are favoured by the majority, but rather addressed because they bring value and assist students to understand their community and the world around them (Beane, 2005). This unit of work manifested itself over the course of the term and, unlike traditional units of work that are largely pre-planned, the scope and sequence of the unit is built upon as the unit progresses. Alice's students are active participants in designing the classroom learning experiences, as she recognises that this is an on-going process that needs to be constantly revisited and negotiated throughout the term. This has required her to adjust routine habits as she shares power with her students, including 'back-mapping' against curriculum objectives and standards retrospectively (Brodhagen, 2007; Fraser & Paraha, 2002):

> Alice: They [students] need to be involved and have the input. Particularly when I think of my concept planning, it's quite bare at the beginning of the term. I'll know the achievement objectives I want to achieve, but then it's a lot of scaffolding with them, listening to their thoughts and judging their interests, and their prior knowledge. So

my inquiry plan, as such, isn't finished until the end of the term. I think they need to be quite involved in the process.

Alice tended to plan the first session of classroom workshops, and then planned the rest of the week with her students "in response to what they are asking me for, what I'm seeing, and the needs that they have". However, for mathematics, she no longer does group rotations. At the start of the session, the whole class explores a learning question or pondering relevant to what they are investigating at that time. She explains:

> Alice: We unpack it only so far and then they make a choice how they'll spend the rest of their maths time, it's not me assigning it to them.

This time in class has been termed their "Learning Choices" as students reflect on their understanding of the concept, and decide upon a learning task from "understand", "apply", or "extend", as shown in Figure Seven, that will best support their individual needs:

> Alice: …it's either an understand, an apply, or an extend, and it's unpacked as, if it's understand, you still need to build your understanding of that question, that concept, you're not ready to quite use it, you're still developing it. Apply is you now have an understanding of it and you're ready to use and transfer that knowledge. And extend is with those that are ready to take off and run off and fly. So they make their own choice every day so in that sense it's quite centred around where they are at. It gives me that time to do some targeted teaching.

Figure 7: Alice's understand, apply and extend set-up

Alice explains that through this approach, she has adjusted the way she plans. For her, it is about creating a fluid plan which enables her to personalise classroom learning tasks, meaning she is "not planning a whole week of maths sessions on a Sunday night knowing exactly what group will be doing what each day of the week".

Democratic Pedagogy

When describing their personal teaching philosophy, all the teachers' practices were driven by their students' needs. Marie labelled her philosophy as being very much "student-relationship driven". She believed in the importance of getting to know her students and their whānau, and building and maintaining "good working conversations and relationships with them". These relationships were established through a safe learning environment within Marie's class, which was supported by a myriad of co-constructed systems. Marie reasons that through co-constructing these systems, such as their class consequence system, with her students, they will take greater ownership of their learning, and a strong learning community, where learners manage their own learning, will be facilitated. Evidence of this supportive community in action was collected by Marie:

> Marie: Someone's desk fell over and straight away there was six kids there helping pick it up and I thought "Yes!', it's working".

For a miniature democratic community to be created in the classroom, a vital element of implementing curriculum integration effectively, students need to feel safe to take risks and genuinely share their views with the collective if they are to work together for the common good and become active democratic citizens (Beane, 2005; Brough, 2008b, 2012; Cook, 1992; Dewey, 1915; Dowden, 2007a).

By having carefully constructed procedures and systems in place, Marie created a culture of mutual responsibility in the classroom. This culture supported student-teacher relationships built on trust, growing students' confidence to participate in the co-construction and negotiation of curriculum with their teacher (Brough, 2012; Dowden, 2010). As a result, students understood the learning process, and their own learning needs,

therefore enabling them to set “their next steps, with guidance”. Likewise, Tom attempted to be as “student-centred, as much as possible”, arguing:

> Tom: This leads directly to student ownership and student voice within the curriculum and all aspects.

As discussed earlier in this chapter, Alice’s philosophy was largely underpinned by thinking skills and processes, which like Tom’s, was influenced by a student-centred inquiry approach. Alice verbalised that student ownership of learning was of significance to these three teachers’ philosophies because “[Kea Primary] is really big on that whole ‘student-centred inquiry learning’”.

It was seen as essential that if students are to drive their own learning, and learning to be personalised in order for students to lead this learning, teachers need to support their students to understand and have an awareness of their own personal learning needs. This is reiterated by Marie, because as she explains, when as a class they negotiate what they need to learn, establish where their needs are, and discuss their next steps, students will approach her and ask “‘Mrs. M., can we look at a bit of statistics next?’… I’m very much that individual, and having students lead things, and be responsible for their own learning”. This demonstrates the effect increased autonomy and responsibility students have when it comes to leading their own learning.

When Alice’s class was investigating the concept of ‘communication’, Alice modelled an inquiry exploring how people used semaphores in the past, teaching her students about “thinking”, such as knowing the “difference between what they want to know and what they need to know”. Students need to have a clear purpose for their investigations and understand “that idea of what is you need to know and how do you go about finding it… I want to know who invented them [semaphores], but that doesn’t necessarily help to understand how to use them”. She sees the need for students to develop their ability to reflect for a range of reasons:

> Alice: The ability for them to reflect on what they need to know. Whether it's their next step in learning or when you're investigating, or exploring a concept, or a topic, or a question, what do you already know and what is it you need to know.

All the teachers believed strongly in personalising learning and echoed the school mantra "teaching the student, not the stage". The teachers placed students at the centre of all learning, and, as students' needs dictated the learning focus and direction, teachers attempted to scaffold the learning to meet them. Tom stated that "students' needs are at the core of everything we do", and as teachers collect evidence through formative assessment, they can be responsive to these needs (Fraser & Paraha, 2002). Teachers personalised the learning in their classrooms in different ways, however as Tom examined, all three teachers were concerned with "identifying needs in many forms, in different ways, and structuring our programmes around that". Through a holistic approach to planning, teaching and assessment, cross-curricular connections can seamlessly assimilate subject matter with students' needs, inquiries and their local context (Dowden, 2007a; Gehrke, 1998).

This required a shift in the teacher's role in the classroom and the redressing of the power relationships within the classroom as a result:

> Marie: The teacher is more of a facilitator of learning, but students are learning from each other, and they realise that.

This shift, nevertheless, required strong pedagogical knowledge and skills as teachers differentiate their practice and classroom learning, appreciating "what works for one student, doesn't work for another". She recognised the pedagogical nuances required for delivering curriculum integration, which as Brough (2008a) and Fraser (2013) explain, involves knowing when to directly teach and when to stand back, and how an effectively placed question can springboard student thinking into a new set of possibilities. Alice scaffolded the learning in her classroom by:

> Alice: …having the learning choices differentiated so that they always have the opportunity to challenge themselves or go back for support.

Thus, students need to have the skills to reflect on their learning needs and recognise what their personal learning goals are. However, students must also be offered opportunities to work collaboratively with their peers, alongside personalised individual inquiries.

All three teachers argue that at the core of their student-centred curriculum is student voice. Tom's teaching philosophy, which emphasises being student-centred, recognises the importance of student voice, with him articulating:

> Tom: The biggest philosophy for me is trying to make it student-centred, as much as possible. I guess that's across the whole curriculum, as much as possible, where the students have a voice.

This meant helping his students to understand the learning process through driving the direction of learning within the classroom curriculum, and as students are informed participants of their own learning, they begin to understand how they can best make progress and achievement (Pullar & Brennan, 2008). For this to occur, student voice needed to be informed by an awareness of the children as learners:

> Tom: Students' needs are at the core of everything we do and that sort of drives, first and foremost, but then from that is the students' voice and understanding what are their learning styles, what are their interests, what are their passions, and trying to tap into those.

This student input is driven by:

> Tom: …interests and things that motivate them.

Additionally, when culture is recognised in this mix, learning opportunities for all students can be lifted (Fraser & Paraha, 2002).This is the power of curriculum integration as, together with their students, teachers can create personalised learning experiences tailored to individual preferences to

ensure that all students are adequately supported and challenged throughout their learning experiences (Cook, 1992).

The teachers reason that when students have their voice heard and respected during negotiating their learning, student ownership of learning is heightened (Cook, 1992). Alice acknowledges that students' "voice actually come through them owning it [the classroom curriculum]". In her interview, she mentioned when students are:

> Alice: Passionate about that concept, the conceptual curriculum, it's because they've had ownership in deciding what they're going to be focusing on. Their voice, in a sense, comes through by what we're focusing on because you can see their passion and interest that they have.

Alice has noticed in the past when the planning has been solely teacher-directed and created, students can become disengaged as they perceive a lack of relevance:

> Alice: Whereas in the past when it has come from me, I've owned it because I've planned it before the term has started, there is less buy-in from some who are perhaps a little more reluctant, and then they have no connection to it.

By disregarding student contribution, student interest can be weakened and learning power withheld when they sense a lack of relevancy to their lives (Boomer, 1992). When a disharmony exists between students and teachers and the classroom curriculum, the student-teacher relationship can be oppressed (Beane, 1995).

Co-constructing assessment criteria with students was another important aspect of empowering students to understand the learning process in order to monitor their own learning and enabled them to demonstrate their understanding using the best strategies possible. Student involvement in the creation of assessment criteria is fundamental in their ability to assess their own learning (Brough, 2008a). Tom and Marie use a lot of co-constructed rubrics with their students, with Tom explaining:

> Tom: I use a lot of rubrics. I create a lot of rubrics and we do that cooperatively, co-construct them together, so students unpack the learning and then have an opportunity to know where they need to head to next. I think that's an important part of student voice.

Unpacking the learning with students is imperative if students are to recognise the knowledge and skills needed to undertake their inquiries (Brough, 2008a). Students need to be involved in real-world tasks that offer them the opportunity to apply their learning (Treadwell, 2008). The value of performativity and transferability must be embedded in these early stages (Boomer, 1992; Gilbert, 2005). These two teachers have found rubrics have helped students to set explicit goals, especially when explaining their next steps in the learning process. Marie's class used a number of rubrics which her class had worked out and created together:

> Marie: We've got a rubric for handwriting, a rubric for oral language questioning, all these different ones we've come up with together, or they've come up with.

Alice uses the SOLO [Structure of Observed Learning Outcomes] taxonomy in order to scaffold students into developing assessment criteria so that from the beginning of their classroom inquiry learning they know how they must provide evidence of their learning. SOLO is isomorphic in structure to the Piagetian stages of development, however, it recognises the variance between learning and development. Four dimensions are used to categorise responses within the five SOLO stages of prestructural, unistructural, multistructural, relational, and extended abstract. These dimensions are memory capacity, operations relating content to cue and response, the ability to come to some kind of conclusion and the consistency amongst these conclusions, and finally the structure of interrelating the dimensions together (Biggs & Collis,1982).

Alice co-constructed the SOLO rubric from their inquiry into 'change' with her students by discussing the verbs that are associated with each stage of the taxonomy. While Alice wanted to expose her students to the taxonomy terminology, Alice also used accessible terms and symbols (as shown in

Figure Eight) with her students to describe the levels of thinking, making it possible for every child in her class to be involved in the negotiation and sending the message that everyone's ideas mattered:

> Alice: Yes? Do you agree? Hands up if you agree with what we've got so far. So you have to provide evidence that you can describe ways, more than one. Moving down. Our thinking is getting deeper. Snorkler/unistructural, diver/multistructural, scuba diver/relational, submarine/extended abstract. What would a scuba diver's thinking be? What would they be able to do? Compare, classify, or explain. What do you think? Going back, we're exploring change, whether you're changing the Earth, plants, or animals. What could you be able to do with your scuba diver's thinking?

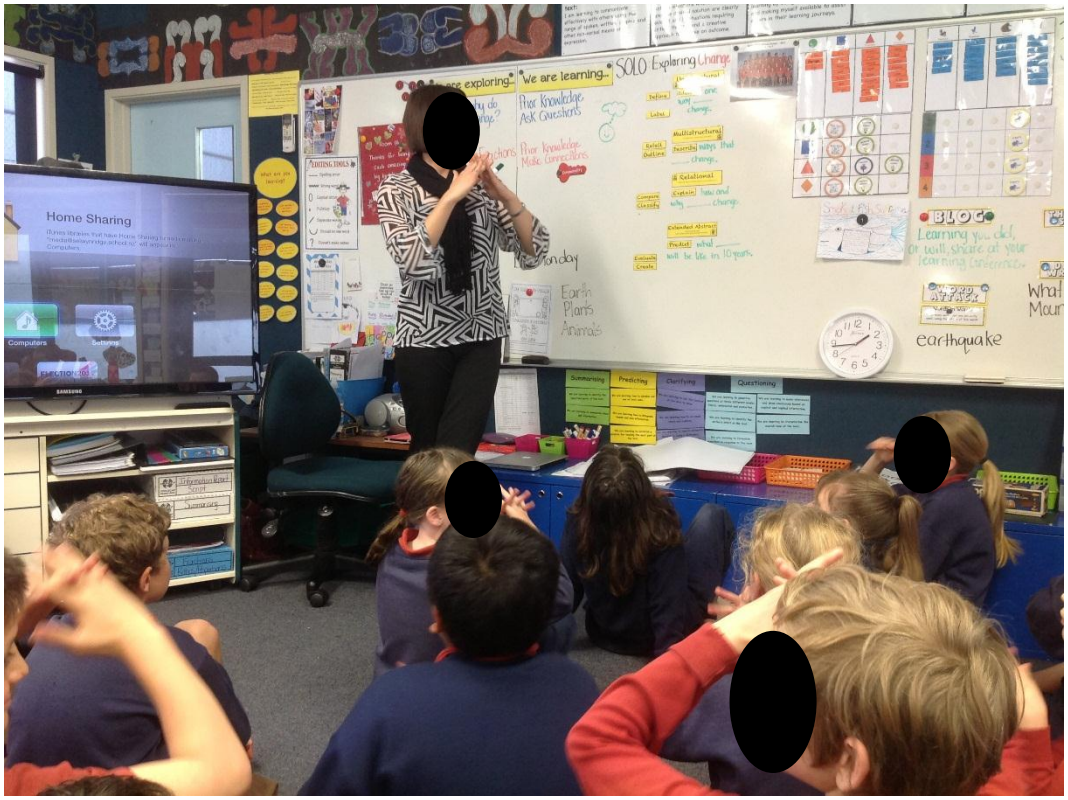

Figure 8: Alice co-constructing assessment criteria with her students using the SOLO Taxonomy.

As a class, students negotiated amongst themselves, with teacher guidance, to select a verb for each stage and create a criteria using a class-chosen verb that could be applied to the three 'change' topics that students had decided upon: Plants, animals, and the Earth. Because students may not be accustomed to being involved in the production of assessment

criteria, they need opportunities to experiment with strategies that work best for them. Teachers must also scaffold the process to develop students' reflective and evaluative thinking skills and differentiate criteria so that all students can set attainable goals for success (Beane, 2005). While at first students were fixated on the product, rather than the level of thinking, through considered pedagogical decision-making and questioning skills, Alice was able to shift her students thinking:

> Alice: Who still wants to use 'create' for our extended abstract benchmark? Who's unsure of how they want to demonstrate that they're an extended abstract thinker. That their thinking has gone quite deep.
>
> B5: A poster.
>
> Alice: Not what you're actually creating physically, what you're creating with your thinking. What can you do with your thinking now. Let's review. Maybe we'll be sparked by interest if we go back. We're saying to be a unistructural thinker, a snorkeler thinker, you're up on the surface, you can identify one way that your topic changes, and you'll be able to show me some evidence however you choose. If you're multistructural, you can describe more than one way that your topic changes. So your thinking is now diver. You've gone deeper. If your thinking is even deeper, you're now a scuba diver, you can now explain why the Earth changes, so not only can you tell me that an Earthquake makes it change, but you can now explain how and why Earthquakes change the Earth. So what are we going to say to really show that we have a great understanding of change, what will we be able to do with our thinking, not creating posters, what will you be able to do in your mind?
>
> B5: Oh, we can be able to predict.
>
> Alice: You want to be able to predict?
>
> B5: Yeah.

> Alice: Predict what these things will look like, will they continue to change? Who agrees? Who disagrees? If you disagree, what are you thinking about? So, who's thinking we should use predict then? How you show the evidence, is up to you…

Professional Development

The structure of the day affected the teachers' ability to implement student-centred curriculum integration and make connections across learning. Classroom timetables were typically constructed around mathematics in the morning, literacy during the middle block, and 'conceptual curriculum' inquiry time during the afternoon. Kea Primary's (2012) CIP outlined that while the school's curriculum promoted, through a conceptual approach, making natural connections between learning areas:

> There are times when elements of curriculum are presented as distinct and integration with other learning areas is not necessary for powerful learning outcomes (p. 20).

Alice was constantly attempting to evolve the way she structured her day and challenged the 'grammar of schooling' (Tyack & Tobin, 1994). While she implemented her mathematics programme as a stand-alone during the morning, but for the rest of the day Alice's class were involved in what she had termed "blended learning", consisting of a literacy and inquiry-based approach:

> Alice: … so it's our reading, our writing and our inquiry all into one and we do that from end of morning tea straight through until almost before 2pm in the afternoon. So we have a break for lunch, but we're not stopping [the learning].

Alice found the timetabling of the day to significantly hinder the implementation of student-centred curriculum integration. For her, the typical three-block scheduling of the day is not natural and can impede the ability for students to make connections between their learning. By implementing "blended learning" time in her class, she has tried to

overcome this barrier, and believes that if the structure of the day was more flexible:

> Alice: It would be far easier and seamless and I could make those connections easier. But it is morning tea at 10am and you stop your learning. It's not a natural thing.

To realise how the structure of schooling is to change, stakeholders, such as teachers, must initially understand how the curriculum is best organised (Beane, 1992). Tom and Marie too found time to encumber practicing an integrated curriculum, while Marie also identified that teachers need "to be willing to let go as a teacher". However, Marie explained:

> Marie: Occasionally, I'm a bit of a purist when it comes to maths, and I haven't successfully seen a complete year's programme of integrated maths where you have good coverage and you've taught everything that needs to be taught.

This reinforces Marie's epistemological beliefs, and thus influencing the way she approaches integrating her curriculum.

To overcome these barriers, the three teachers are constantly adapting and evolving their practices, ultimately trying to personalise learning to best meet the evolving needs of their learners. Too often in the past has the entrenchment of a subject-centred curriculum hindered the ability of schools to be creative with their approaches to curriculum implementation (Beane, 1991).

As a reflective practitioner, Tom postulated:

> Tom: It's also being flexible with your approach, and be willing to change as a teacher the way of doing things. Especially when you realise the needs of your students have changed, or what you're doing isn't working.

Teachers at Kea Primary are actively encouraged to take risks with their pedagogy and experiment with their classroom pedagogy, and are

supported in conducting an inquiry into their own pedagogy as a component of the staff appraisal process. Tom described this process maintains:

> Tom: The expectation with everyone in terms of we're meeting the needs of our learners, but we have to put that first and we can adapt our approach, our curriculum, to suit as long as we can justify why we are doing it.

This facilitated teachers to understand the relational nature of the curriculum and how it mediates the relationships between the students and teacher (A.-M. O'Neill & J. O'Neill, 2007).

Alice explained that her practice was constantly evolving:

> Alice: I'm never in that cruise mode where it's just good. Something is always having to change. When I start to get comfortable, I get a little bit nervous. I'm like why am I comfortable, what's going on?

This is demonstrated by her reflecting on her students' needs at the start of the year and adapting the way she delivered her mathematics programme in her classroom, a need she ascertained from her students' behaviour:

> Alice: … at the beginning of the year that I wanted to overhaul my maths programme at the start of the year and she said, 'Go for it!' She said I trust that you have good reasons for it and you want to do it for the kids, because this class was diabolical with my original maths programme and I realised it was because their needs were not being met and they were letting me know by being diabolical… Last year I did the same thing. I overhauled my reading/writing programme it was the same thing. Go for it, give it a try, if you need help holler out.

Kea Primary had also implemented vertical learning teams at the start of 2013. Three vertical learning teams across the school were comprised of classes from Year 0-1 up to Year 6. The motivation behind structuring the school within vertical learning teams, as Alice explains, was to help "promote stage, not age. We're not teaching Year Five, therefore, Level

Three of the curriculum". Furthermore, they have proved to be influential in terms of professional development as Alice has found:

> Alice: Every time we get together our focus is on learning and pedagogy, not admin and 'nuts and bolts.

A comprehensive restructuring of Kea Primary that challenges embedded institutionalised practices has increased teacher collaboration through systemic change. Through vertical learning teams, learning communities have been created that promote active and seamless professional development school-wide.

Within Tom's vertical learning team, which Marie's class is a member of, "there is communication and understand of learning through the different levels", particularly when the opportunity to co-teach in a collaborative environment is presented. Figure Nine illustrates Marie and Tom co-teaching three classes across Years 4-6 in a collaborative environment. Tom has observed that through these vertical learning teams, teachers address:

> Tom: What are the needs within their class and their classroom programme, and what they're doing is set up based around that, first and foremost, rather than being dictated horizontally by we're all doing this, all Year 3 we traditionally all do narratives in Term Three.

This focus on exploring learning vertically, rather than horizontally, has increased professional learning within the staff across the year levels as Alice has discovered:

> Alice: In one room we have Year 0-6, so you're having teachers with some excellent content and pedagogical knowledge on those learners sharing it vertically.

Figure 9: Marie and Tom co-teaching three classes during PrEP time

Through the creation of professional learning teams, teachers can be supported to undertake their own critical inquiry into their classroom teaching and curriculum, and be encouraged to challenge embedded pedagogical decisions (Hill & Sewell, 2010). By implementing these professional learning communities school-wide, powerful, authentic pedagogy is able to be openly shared, and activities such as moderation, have undergone strong professional growth:

> Alice: With our writing we've just been doing, when we were moderating writing, we moderated it without names on it, we were looking at those learners and identifying next steps. I know there was one child that we looked at, and the punctuation was a shocker, so we had these junior school teachers sharing strategies for what they use to teach punctuation, and when it came out it was a Year 5 student. So had we sat down with Year 5s, we might not have had that rich conversation, it might have been on he knows that punctuation, clearly he knows, he's a Year 5, but to actually go all the way back and say, "Does he actually know, or do we assume he knows because he's a Year 5?" That professional learning has been really strong.

The move to vertical learning teams has built stronger relationships across the school as Tom recognised:

> Tom: Learning doesn't just have to happen with your students, all students are ours, so there might be opportunities to teach and learn with other students, or students can work with other students that aren't just from their own classroom, but across from any area across the school.

It has meant that students with a range of academic needs can have personalised learning opportunities, which in the past, Alice suggested, students would have viewed more negatively:

> Alice: Like today I sent three kids down to the new entrant room because they were building paper planes, but the whole reason I sent those three specifically was because they are kids who have some severe academic needs and they need that confidence of teaching someone else because they never have the opportunity to teach anyone in here because they are so far behind the academic level of the rest of the class. So they come absolutely overjoyed by the fact that they've been teaching kids all afternoon. You ask them, 'Room 2 needs some buddies to come down and support their writers', and I have 27 hands-up. If I had said that last year, 'The other Year 5-6 wants some buddies', they'd all look at me and say, 'I'm not going over there'.

Chapter Five

Conclusions

Chapter Overview

This final chapter presents the conclusions for this study. It begins by presenting the conclusions and implications through the five themes identified in the previous results and discussion chapter. These are 21st Century Learning Needs, Digital Technology, Defining Curriculum Integration, Democratic Pedagogy, and Professional Development. Following, the limitations and recommendations are identified.

Conclusions and Implications

21st Century Learning Needs

At the core of student-centred curriculum integration is an emphasis on promoting critical and creative thinking that can be applied in the real-world. As the teachers of Kea Primary identified, these complex skills are necessary for dealing with the sophisticated ideas that a democratic curriculum promotes and preparing students to learn as a consequence of appropriately-sequenced learning which provokes lateral thinking (Beane, 1997; J. Etim, 2005; McGregor, 2007). By integrating the curriculum through authentic real world learning experiences, students' were developing an understanding of the learning process and their metacognitive capacity; learning how to learn (Beane, 1991; Boyd, 2013; Drake, 1998; Murdoch & Wilson, 2008).

Strong critical thinking skills were seen to be essential for the learners at Kea Primary. Critical thinkers know how, and are willing, to ask questions, and this includes inquiring into issues that need to be addressed, an underlying principle of curriculum integration and a truly democratic curriculum. They seek answers that challenge taken-for-granted assumptions and can justify their reasoning, which seeks the truth. Additionally, they embody the creativity to employ multiple perspectives to imagine new possibilities. These questions must be generated by the students themselves, for if teachers are the sole questioners, students will

lack the skill, and appreciation, of how to identify issues that need to be questioned or be able to produce the questions needed to address it (Beane, 2005; Claxton, 2008; McGregor, 2007; Nosich, 2012; Wilson & Wing Jan, 1993).

As evidenced by the learners at Kea Primary, students need to be able to set learning goals based on their needs, requiring them to have the metacognitive skills to reflect on their own knowledge and understanding and identifying their next steps (Treadwell, 2008). When students are cognisant of their next steps and have the confidence to voice their ideas, they become active participants in negotiating the direction of learning in the classroom and learn to perform knowledge through maximising the learning capacity (Boyd, 2013).

Digital Technology

Teachers at Kea Primary were beginning to recognise that approaches to teaching and learning must be transformational and innovative, and appreciate that if students are to be successful, simply augmenting current practices will not suffice (Gilbert, 2005). When the teachers at Kea Primary began to uncover the epistemological philosophies that exist within each of the different learning areas, they scrutinised the interaction between their beliefs and values, pedagogical approaches, the curriculum and technology. It is these factors that influence the implementation of technology and it is this analysis that can lead change on embedded practices (Beauchamp & Kennewell, 2008; Sutherland et al., 2004; Yang, 2012).

However, as evidenced by Alice's views, a techno-centric approach does not need to be adopted. Research based on learning without digital technology can be applied to teaching with technology, as it this best practice that informs a student-centred pedagogy that effectively appropriates technology into the curriculum (Sutherland et al., 2004). If digital technology continues to be viewed through an industrial-age perspective, its use will be trivialised to institutionalised practices where subject matter is to be learnt compartmentally through transmissive

methods from the teacher (Adams, 2011; Cuban, 1993, 2001). While digital technologies mediate, and can transform, the teaching and learning within the classroom, critical thinking and the ability for students' to be cognisant of their needs and learning outcomes is crucial.

The results of this study illustrate the need for pedagogical approaches that re-evaluate the purpose of education, examining the crux of a democratic curriculum and blending technological innovations to support the acquisition of culturally responsive skill sets as students become autonomous, collaborative inquirers in a global context (Garrison & Anderson, 2003). While technology can be considered a catalyst for restructuring the learning environment, its adoption needs to be supported by a student-centred pedagogy and curriculum, redressing the power relationships that co-exist in these environments so that students have the power to take greater direction of their own learning and build connections with their communities, both locally and globally through technology devices (Hayes, 2007; Robertson et al., 2006).

Through the ubiquity of technology in today's world, it is has become increasingly important that students develop a global perspective and a culturally-matured understanding of the issues faced in a living world as a global citizen (Claxton, 2008; Drake, 1998). This can be assisted through the use of tools such as Apple TVs to communicate with those outside the classroom.

Alice's illustration of the redundancy of the laptops in her classrooms emphasises the importance of future-proofing investment in technology. Devices do not become a 'white elephant', with funds better being spent on enhancing teachers' e-learning pedagogy to maximise the potential of the devices that they do have, while also highlighting the importance of student involvement in the decision-making process as, ultimately, they will be the end-users of these devices (Yang, 2012). Research should play a considered role in this process to avoid adopting faddish practices. Devices need to be given fair trial and underpinned by sound research, rather than

rapidly implemented and then swapped for the latest invention (Maddux & Cummings, 2004).

Tom, Alice and Marie recognised that metacognition and digital and information literacy are requirements of an effective e-learning pedagogy. This personalises learning so that students are sufficiently supported throughout the learning process and have the skills and strategies to ethically co-construct knowledge, especially in terms of gathering valid and reliable information from the internet to form accurate, objective understandings (Treadwell, 2008; Yang, 2012). By creating connections with resources outside of the school environment, purposeful links between content and their learning can be informed and an authentic audience is established (Solomon & Schrum, 2007). Not only does technology adapt the way students engage and make connections with content, it has revolutionised their work habits, providing ways for students to collaborate on projects and learn positive working behaviours (Flanagan & Jacobsen, 2003).

Defining Curriculum Integration

When Kea Primary's teachers empowered their students through critical inquiry, students learning lead to action and challenged students to 'perform knowledge'; using their understandings, skills and strategies to investigate meaningful issues from their lives which lead to social action. Because learning is active, through action, barriers that separate subject areas can be disregarded as students use their knowledge purposefully in a variety of contexts. This can also support them to discover how knowledge is integrated, not subject-defined, within real-life contexts (Dewey, 1902, 1916). When students' integrated inquiry learning leads to action, it is recognised that knowledge is not simply acquired by individuals to be stored, but is shared collectively with the community. This reinforces the role a democratic curriculum plays in developing students as active participants in collaborative situations to solve problems for the common good (Beane, 1997; Dewey, 1902; Drake, 2012).

By nurturing a democratic community within Marie's classroom, a respect for students' rights and responsibilities was fostered, promoting the competency of her students to address both individual and societal issues as democratic citizens (Brough, 2008b; Dowden, 2007a). When learning experiences were meaningful and valuable, students invested emotionally in their learning, resulting in student-initiated action out of a deep concern and a need to participate (Murdoch & Wilson, 2008).

All three teachers emphasised the importance of the inquiry process in the classroom and its ability to provide a logical, unambiguous structure to guide students through their learning and expand their "critical thinking, information literacy, learning to learn, and reflection skills" (Boyd & Hipkins, 2012, p. 17). As students pursued personal and societal meaning, a variety of real-life experiences scaffolded through the inquiry process were needed so that students could acquire the necessary social skills to communicate and represent meanings as they make sense of the world (Beane, 1991, 1995; Dowden, 2007a).

Ultimately, it began to emerge that if knowledge is power, trivialising it into an incoherent assortment of facts through subject areas will limit students' potential, marginalising any sense of autonomy, and learning will disengage and disenfranchise as learning lacks relevance to personal experience (Beane, 1997; Dowden, 2010). A democratic curriculum can scrutinise dominant culture, and explore issues related to gender, race, justice, human dignity and freedom, for example. Through integrated concepts such as enterprise, as was Marie and Tom's focus, students can draw upon disciplines when dealing with the aforementioned concepts that will be ever more apparent in an increasing globalised society (Beane, 2013; Beane & Apple, 1999; Treadwell, 2008).

The lack of student involvement in the co-creation of learning concepts limited the capacity for student inquiries to focus on real-life issues. This restricted students' ability to make sense of the world around them, and through its natural scope, encompass a wider range of content. This was particularly evident with Alice having to negate learning that did not fit within

mandated school-wide concepts. When knowledge can be contextualised in relation to students' investigations, subject matter can be integrated with disregard to subject demarcations, and relevancy and motivation can be heightened (Beane, 1995, 1997; Brough, 2008b; Cook, 1992; Dewey, 1902; Etim, 2005).

Furthermore, the perceived lack of community consultation could be seen to hinder the school's ability to build strong community partnerships. During periods of curriculum reform, it is increasingly imperative that consensus is sought on the implementation of a democratic curriculum, especially when change fails to align with embedded beliefs and views or differs from parents own experiences (Beane, 1997, 2005). When whanau-type relationships and respect for tino rangatiratanga is treasured, all students can be acknowledged as culturally-positioned curriculum constructors and decision-makers as the underlying power relations and assumptions within the curriculum are challenged (Bishop, 2008; Bishop & Glynn, 1999; Bishop et al., 2009).

Evidence by teachers suggesting that mandated curriculum objectives hinders student-centred negotiation is supported by Brough (2012) who has found that student involvement is undermined when teachers are required to "steer discussions to meet predetermined achievement objectives" (p. 359), and cites Beane (1997) who maintained that school structures hinder the implementation of student-centred curriculum integration. When constraints are imposed, whether they are curricular or time restrictions, they should be raised and discussed with students during the negotiation process so they are understood and dealt with by all participants from the outset (Boomer, 1992; Cook, 1992).

While teachers are increasingly being faced with mandated content they must cover, along with their students, they must find ways to organise this knowledge around personalised learning contexts that are directly relevant to the students' lives. As indicated at Kea primary, this supports students to draw on and engage with knowledge from a number of sources and perspectives, including their prior knowledge (Beane, 2005; Fraser &

Deane, 2010). Rather than imposing themes, democratic learning contexts should be initiated through a variety of student-centred means, such as being sparked by a 'teachable moment' (Brough, 2012) or through asking students questions posed by Beane (1997): "What questions or concerns do you have about yourself? What questions or concerns do you have about your world" (p. 51).

Democratic Pedagogy

It became evident that when students can inquire into questions they have posed, a platform for students to learn how to learn can be provided. Through personalised programmes, the inquiry process can be scaffolded for students' individual learning needs for it to be effectively implemented (Boyd, 2013; Boyd & Hipkins, 2012; Drake, 1998). However, as the teachers at Kea Primary argued, it is essential that students are assisted to identify their prior knowledge. As students begin to shape their inquiry, students' curiosity needs to be cultivated and higher-order questioning probed. This needs to be modelled throughout the inquiry process as students build confidence and the ability to self-motivate and -direct (Treadwell, 2008).

It was seen as vital that teachers have in-depth pedagogical content knowledge if they are to skilfully and purposefully scaffold students' learning appropriately (Brough, 2012). Fraser (2000, 2013) made the distinction between student-driven and student-centred learning, and identified an alignment with the latter. She explained that considerable, nuanced pedagogical knowledge and skill are imperative to deliver student-centred integrated curriculum. Throughout the observational periods, it became visible that teachers must use their professional knowledge to help students draw upon knowledge as it is relevant, powerful and appropriate, rather than opportune, to their inquiries, and use effectively questioning to broaden students' thinking (Beane, 1995; Brough, 2008b, 2012; Drake, 1998).

Teachers at Kea Primary were seen to be creative in their planning, using their professional knowledge to ensure that mandated curriculum objectives, material and content are covered within the context of students' inquiries and that they avoid narrowing the curriculum. Additionally, required

assessment and standardised testing were an integral component in this process and students have ownership over these processes through the use of taxonomies such as SOLO (Beane, 2005; Fraser & Deane, 2010). Teachers immersed their students in the language of learning, including that of reflection and evaluation, for them to become effective peer- and self-evaluators and co-constructed rubrics together to model the negotiation process (Brodhagen, 2007).

Through negotiated meanings, knowledge and understandings, the ability to solve problems and reach conclusions within a team environment was also promoted and students were exposed to the hidden curriculum that incorporates ideals such as justice and power (Apple & Beane, 1999; Cook, 1992). Through the democratisation of classroom processes, learners began to share their learning with each other, and because learning is active and a concern for the common good is present, students discovered the importance of social knowledge in a democratic community (Beane, 1997, 2005).

Professional Development

Teachers at Kea Primary had begun to challenge institutionalised practices, and through vertical learning groups, had begun to question the entrenched year-grouped class structure, stimulating shared decision-making and increased teacher collaboration (Cuban, 2001).

While teachers can face pressure from peers when experimenting with pedagogy and curriculum implementation, through school-wide implementation, Kea Primary's trials have been deemed largely successful by the leadership and teaching team. Through the creation of vertical learning teams, teachers have been encouraged to undertake critical inquiry into their own pedagogy and curriculum, and by analysing their fundamental perspectives, understand how their taken-for-granted assumptions influence their decision-making.

Furthermore, self-contained classrooms directly influence the way the school day is structured, the way students learn, and the relationship between students and their teachers. Consequentially, this has impacted on

the dominate knowledge that has been disseminated in Kea Primary, which has typically been 'official knowledge' (Apple, 1993; Cuban, 1993). By understanding the social and economic contexts that situate the curriculum and reflecting on these through critical inquiry, teachers at Kea Primary were able to better meet the needs of their learners (A.-M. O'Neill & J. O'Neill, 2007).

Concluding Comments

With regards to the research question, the findings indicated the need for students to develop critical and creative thinking skills, and have a growing awareness of the learning process. When these are developed through authentic, real world learning concepts and experiences, teachers can empower students through student-centred practices. By giving students the opportunity to generate questions, and subsequently create their own inquiries, students can develop the metacognitive ability to reflect on their own learning needs, while also purposefully integrating knowledge into their own schemes of meaning. This process can be augmented, and ultimately transformed, through empowered student-centred practices that effectively appropriate digital technology.

Curriculum integration can empower student-centred practices when students are positioned as active creators, contributors and collaborators. Student involvement throughout the learning process, and the redressing of power relationships, is fundamental to this curriculum design theory and pedagogy. Likewise, the involvement of whānau and community, and building partnerships with these stakeholders, is crucial. Through a democratic curriculum and pedagogy, students and teachers alike can develop an agency for powerful, integrated learning where students work together for the common good. Ultimately, these student-centred practices empower a curriculum that will situate learners to cope with an ever-increasing, globalised community.

Limitations

This study was very small in nature, involving only three teachers from one primary school. Due to this limited scope, and the qualitative nature of this

study, generalisations cannot be drawn. Nevertheless, the findings can make a contribution to the curriculum integration field of research, particularly in the primary school and New Zealand contexts.

With six teachers from the school being offered invited to participate in this study, the first three to return an expression of interest were chosen. This meant the researcher was unable to select participants based on their knowledge or experience in regards to a student-centred pedagogy or the implementation of curriculum integration within the classroom. With each teacher on an individual learning journey with respect to these concepts, I, as the researcher, have had no control over these aspects.

While the researcher attempted to capture the lived realities of the participants, including the teachers and students, these were viewed and interpreted through the 'researcher's lens'. However, it is hoped that through the triangulation of data, and including the participants in the data collection and analysis stages of the research project, the dependability and credibility of the data can be strengthened. It has also been seen as judicious to declare and address any biases or positions I may hold.

It must also be noted that teachers may have stated in the interview or changed their teaching practices in attempt to please the researcher or demonstrate practices they think the researcher may be looking for. Participants were not given interview questions in preparation for the interview, therefore the data generated from these interviews cannot be construed as a teacher's complete and full understanding of the discussed phenomena. The researcher was also aware that data collected through interviewing can also be misconstrued to support previously conceived notions. Poor wording of questions and inadequate probing can bias responses. To prevent this happening, the researcher's supervisor and ethics committee sighted and reviewed questions before they were administered (Cohen et al., 2007). Because, as Nisbet and Watt (2010, as cited in Bell, 2010) argue, interviews only capture what people perceive as taking place, observations were also used in an attempt to uncover the true reality for the participants of this study.

Observations have their limitations, too, however. The researcher was unaware of antecedents that may have influenced the episodes that were observed, and likewise, the teacher participants in this study may be atypical of teachers in similar contexts (Cohen et al., 2007). Furthermore, the presence of the researcher in the classroom during observational periods may have affected the data that was collected, both positively and negatively. It was hoped that by recording thick description and audio-recording observational periods, themes would emerge naturally from the data rather than have prescribed beforehand (Denscombe, 2007).

Power-relations have needed to be addressed throughout this project as aligned with the critical paradigm that underpins this study. Through an attempt to engage in a non-hierarchal, reciprocal relationship with participants, data was seen to be generated between the participants and the researcher, rather than viewing participants as a data source to be collected from. Steps, as discussed in the methodology, were taken to address these limitations, and to ensure that the findings of this study are as dependable and credible as possible.

Recommendations

This study was small-scale, involving the understandings and interpretations of three teachers within one school. It would therefore be pertinent to undertake similar research on a larger scale, encompassing more teacher participants and the involvement of several schools in different contexts. Due to the nature of this study, its findings cannot be generalised to other schools in New Zealand, or in other countries.

The number of studies investigating student-centred curriculum integration within the primary school context are very limited. This field would be greatly influenced by far-reaching, larger scale studies. Likewise, it could be considered valuable to replicate this study within other schools or conduct a longitudinal study with the three teachers involved in this project. I would also consider it beneficial to involve all teaching staff and the leadership team from Kea Primary to investigate the student-centred practices

empowered by curriculum integration school-wide, while adding to the credibility and dependability of the findings presented in this study.

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Appendices

Appendix A: Principal's Consent Letter

1st August, 2013
The Principal
XXXXXX School
XXXXXXXXXXXXX
XXXXXXXXXX
XXXXXXXX

Dear XXXXXX,

I am writing to you to formally invite your school to participate in the research project we previously discussed. As you are aware, I am a Masters student at the University of Waikato, Faculty of Education and wish to undertake a research project at your school. It is through this research that an investigation into student-centred learning practices and the integration of digital technologies in the classroom will be explored.

If consent shall be obtained, your school's involvement would include the interviewing of three teachers from the senior syndicate. It is also intended that I would observe these teachers during pre-negotiated periods over the course of a week. This would be conducted at a time that is convenient, and at a time that would cause minimal disruption. It is hoped that through this data collection, I will gain insights about your school through a case study, with an aim to report on my research question: In what ways are Year 5-6 teachers using more empowering student-centred classroom practices through curriculum integration?

Participation in this study is voluntary, and the participants have the opportunity to withdraw from participating, partially or fully, up until the end of the data collection period. The interviews and observations will be audio-recorded with consent gained from teachers, students, and students' parents. Pseudonyms will be utilised to maintain anonymity throughout the research process. Photographs will also be taken of students involved in learning activities. These photographs will be taken over students' shoulders so their faces are not captured, protecting their identity. The research data will only be accessible to myself and my supervisor, with all collected data remaining confidential. At the conclusion of my report, if you wish, with the permission of the three teachers, I can present the findings to you and your staff. There is also a future possibility of findings being presented in research articles or presentations. An electronic copy of my

completed thesis will be widely available in the University of Waikato digital repository: Research Commons.

A consent form is attached to this letter. If you have any questions or concerns, please do not hesitate to contact me in the first instance on XXXXXXX or at XXXXXXXX. My supervisor Dr. Nigel Calder is also available at XXXXXXXXX.

Yours Sincerely,

Jason Morgan

Informed Consent

I _____ (name) give consent for _____(school) to be involved in the research project of Jason Morgan, a Masters student of the University of Waikato. I understand that the project will involve the interviewing of three teachers from the senior syndicate, with observations being undertaken in their classrooms. I understand the interviews and observations will be audio-recorded, as well as photographs taken of learning activities occurring in the classroom. These photographs will not identify any teacher or student. My name, the school's, the teachers', and students' will remain confidential and anonymous to Jason and his supervisor, Nigel Calder.

Signed:_____

Name:_____

School:_____

Date:_____

Telephone:_____

Email:_____

Appendix B: Teachers' Consent Letter

1st August, 2013
XXXXXX Primary School
XXXXXXXXXXXXX
XXXXXXXXXX
XXXXXXXX

Dear Teacher,

I am writing to you to formally invite your school to participate in the research project we previously discussed. As you are aware, I am a Masters student at the University of Waikato, Faculty of Education and wish to undertake a research project at your school. It is through this research that an investigation into student-centred learning practices and the integration of digital technologies in the classroom will be explored. It is hoped that through this study, I will be able to depict an accurate portrayal of your classroom practices, in an aim to report on my research question: In what ways are Year 5-6 teachers using more empowering student-centred classroom practices through curriculum integration?

If consent shall be obtained, your involvement would include being interviewed for approximately one hour, and the observation of your class during pre-negotiated periods over the course of a week. This would be conducted at a time that is convenient, and would cause minimal disruption. Participation in this study is voluntary, and you have the opportunity to withdraw from participating, partially or fully, up until the end of the data collection period, and to decline to answer any line of questioning. The interview and observations will be audio-recorded with your consent, with pseudonyms being utilised to maintain confidentiality throughout the research process. Photographs will also be taken of learning activities involving students. These photographs will be taken over students' shoulders so their faces are not captured, protecting their identity.

The research data will only be accessible to myself and supervisor, with all collected data remaining confidential. At the conclusion of my report, there is a possibility of the findings being presented at a seminar or in research articles. An electronic copy of my completed thesis will be widely available in the University of Waikato digital repository: Research Commons.

A consent form is attached to this letter. If you have any questions or concerns, please do not hesitate to contact me in the first instance on XXXXXXX or at XXXXXXX. My supervisor Dr. Nigel Calder is also available at XXXXXXXX.

Yours Sincerely,

Jason Morgan

Informed Consent

I _____ (name) give consent to be involved in the research project of Jason Morgan, a Masters student of the University of Waikato. I understand that the project will involve being interviewed for approximately an hour, and having observations take place in my class at pre-negotiated periods over a period of a week. I understand that photographs will be taken of classroom learning activities, however, no identifying images of any teacher or student will be taken. My name, the school's, fellow teachers', and students' will remain confidential and anonymous to Jason and his supervisor, Nigel Calder, as well as all data collected. All data will be stored securely and treated with confidence.

Signed:_____

Name:_____

Date:_____

Telephone:_____

Email:_____

Appendix C: Parents' Consent Letter

1st August, 2013

Dear Parent/Caregiver,

I am a Masters student at the University of Waikato, Faculty of Education. I am currently undertaking a study to investigate and gain an understanding of student-centred learning practices and the integration of digital technologies in the classroom. As part of my research, I will be conducting observations in your child's classroom. During these observations I may record what your child is saying and doing as they undertake learning activities within the classroom. XXXXXX, the school's principal, and your child's teacher have agreed to participate, but I also require your permission and your child's.

The focus of these observations are not on any child in particular, but on the learning that is occurring within the classroom. The children will be involved in their normal programme of study. These lesson observations will be audio-recorded with written notes taken. Photographs may also be taken of students involved in learning activities. These photographs will be taken over students' shoulders so their faces are not captured, protecting their identity. The name of the school, your child's teacher, and your child will remain confidential and anonymous with pseudonyms used throughout this project. Your child has the right to withdraw from taking part, up until the end of the data collection process, and this will not have any effect on their involvement in the classroom. Any child that is not a part of this study will be excluded from any audio-recordings, notes, and photographs captured. There is also a future possibility of findings being presented in research articles or presentations. An electronic copy of my completed thesis will be widely available in the University of Waikato digital repository: Research Commons.

Should you consent, I will be talking to your child's class and asking your child to sign a form consenting for me to take notes and record their learning. Could you please discuss this project with your child, and return the attached form to school tomorrow. If you have any questions or concerns, do not hesitate to contact me at XXXXXXXX or my supervisor Dr. Nigel Calder XXXXXXXX.

Yours Sincerely,

Jason Morgan

Informed Consent

I _____ (name) give consent for _____ (child's name) to be involved in the research project of Jason Morgan, a Masters student of the University of Waikato. I understand that this research project involves the possibility of my child being audio-recorded, accompanied by written notes, with possible non-identifiable photographs of my child involved in classroom activities being used. These photographs will be taken over students' shoulders so their faces are not captured, protecting their identity. My child's real name will not be used to maintain confidentiality and anonymity, with only Jason, and his supervisor Dr Nigel Calder, having access to the recorded data. I understand that my child will not be identifiable in any of the research findings.

Signed:_____

Name:_____

Date:_____

Telephone:_____

Email:_____

Appendix D: Childs' Consent Letter

1st August, 2013

Dear Student,

My name is Jason Morgan and I am from the University of Waikato. Your teacher and I are doing a research project together in your class this term. For us to complete this project, we need to ask for your permission.

The research project is looking at ways that teachers and students can decide together what learning activities they do in the classroom. These activities are to do with things that you are interested in. As part of this research project, I will be coming to look at the activities your class will be doing over the next two weeks. When I come to see your classroom, I would like to record the discussions you have with your class mates and teacher while you do your school work. I will also be taking some photographs of the class activities you are doing. I will take all photos from over your shoulder so no one will see your face, and I will not use your real name so no one will find out which discussions you were involved in.

If you have any questions, please come and talk to me, or your teacher, at any time. Can you please colour in the faces below as we discuss each part in class. You can change your mind at any time over the next few weeks that I am in your class. Just come and see me or your teacher.

Thank you for helping.

Kind regards,

Jason Morgan

Child Permission Form

Child's Name:

Date:

I am happy for Jason to audio-record me as part of his project.		
I am happy for Jason to use my comments from classroom discussions.		
I am happy for Jason to take photos of the classroom activities we are doing.		

Appendix E: Teacher Interview Schedule

Curriculum Integration

1. Can you tell me about your teaching philosophy?
2. How would you define curriculum integration?
3. What student-centred practices do you engage throughout your classroom programme?
4. How do you empower student voice in your classroom curriculum?

Possible Probing Questions:

- What processes do you use to negotiate curriculum with your students?
- How do you differentiate your classroom programme?
- How do you encourage these practices?

Digital Technologies

5. How do you integrate digital technologies into your classroom curriculum?
6. What types of digital technology do you utilise in your classroom?
7. How does having access to digital technology in the classroom benefit student ownership of learning?

Possible Probing Questions:

- Has integrating digital technology into your classroom curriculum transformed your pedagogy?
- Do you see this as purposeful and meaningful to your students' learning?
- What barriers can you identify that hinder the use of digital technologies in the classroom in your school?

Professional Development and Leadership

8. How does you school offer its staff professional development in curriculum/in pedagogy/with digital technologies?
9. How do you evaluate your student-centred pedagogy?
10. How are partnerships established and maintained with the school's wider community?

Possible Probing Questions:

- Are you actively encouraged to take risks/experiment with your classroom pedagogy?
- How are you supported in this process? Do you feel that this is adequate?
- How do you identify that you are meeting the needs of all your students?